

VA Family Special Education Connection

Instructional Design Document

Presented to:

Virginia Department of Education

Presented by the 2010-2011 George Mason University Immersion Team:

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I. Executive Summary

The Training and Technical Assistance Centers (T/TAC) Online, which is sponsored by the Virginia Department of Education, provides a web-based community linking people and resources to help children and youth with disabilities. T/TAC Online has partnered with the George Mason University (GMU) Instructional Technology Immersion Program to enhance the value of the current website by re-purposing the site's content and identifying additional content needed to meet the needs of parents and families of children with special needs. The redesign will provide resources to parents and families to facilitate their involvement in their children's education.

To identify and address the needs of parents and families, the GMU 2010-2011 Immersion Design Team has followed the User Centered Instructional Design process (O'Grady & O'Grady, 2009; Brown & Green, 2006). The Design Team utilized a structured approach beginning with a review of information gathered during meetings with the Project Sponsor, Subject Matter Experts (SMEs), and by reviewing existing T/TAC Online content. Using statistical data from the Virginia Department of Education (available at http://www.doe.virginia.gov/special_ed/reports_plans_stats/child_count/2009.pdf) and information gathered from SMEs, the Design Team identified parents of children with special needs from the following six target audience groups:

- Speech/Language Learning Disability/ADD & ADHD
- Autism
- Intellectual Disability & Developmental Delay
- Emotional Disability/ED
- Sensory (Hearing Impairment/Sight Impairment)
- Homeschooled Students

The Design Team chose to use focus groups and conduct T/TAC Online walk-through sessions as research methods. The focus groups allowed for interpersonal communication and interaction between parents, and provided a platform for dialogue on new topics of discussion originally unforeseen by the Design Team. The walk-through sessions of T/TAC Online allowed the team to record parents' behaviors and observe how parents research information using the current T/TAC Online site (O'Grady & O'Grady, 2009).

The first three audience groups represent the largest proportion of the special needs population, and served as target participants for focus groups. Parents who participated in the focus groups and parents from the remaining three audience groups were recruited to participate in T/TAC Online walk-through sessions. Participants were recruited from the Northern Virginia area because the Design Team consisted of students who were located in the area who did not have access at that time to parents outside of Northern Virginia.

The Design Team conducted three focus group sessions, then analyzed and synthesized the data into common themes. Following the focus groups, the team conducted three T/TAC Online walk-through sessions. After reviewing the written responses from sessions, the team divided the responses into four separate categories: Areas of value on the site; information missing from the current site; additional resources requested, and; navigation challenges.

The consolidated results of the focus groups and walk-throughs identified that parents would like the following information:

- A “roadmap” from the time of diagnosis to expectations over time
- Help transitioning the child from one stage to another through the school system
- One stop shopping – the parents asked for a single source of information
- Policy information at the state and local level
- Legal information, understanding the federal vs. local application of the law
- Consistency of information and procedures to parents and educators
- Currency of time sensitive information
- Language options
- Ability to share information and have information shared with them
- Reliability and validity of resources
- Guidance on interacting with educators
- Current research
- Help in mainstreaming their children

The research results were documented in a Performance Analysis/Needs Assessment document and presented to Virginia Department of Education in December 2010.

The research results were used to conduct a Task and Content Analysis, which identified the broad activities parents perform to support their children’s education. This in turn informed the design of the website. The following was the procedure for conducting the Task and Content Analysis:

- Tied the "must haves" of the Performance Analysis/Needs Assessment document to individual tasks/needs of the users.
- Identified the specific content/information needs of parents on a macro level.
- Deconstructed the parents’ needs into functional behaviors including tasks and subtasks. Structured two scenarios: Parents of a recently diagnosed child and parents who need ongoing support, based on data from Focus Groups as well as from surveys.

Using the Task and Content Analysis results, the Design Team worked with the SMEs and the T/TAC Technical Team to create a prototype of the new website.

In order to evaluate the prototype throughout the design process, the Design Team formed two research panels: An Experts Panel and a Parents Panel. Both of these panels communicated with the Design Team electronically.

The Experts Panel included 11 professionals in the field of special education, some of whom work for T/TAC. All the members are key stakeholders who are experienced with or have participated in previous T/TAC implementations. The Experts Panel provided the Design Team with suggestions for naming the website and feedback on the content.

The Parents Panel includes 16 parents of children with special needs, two from each region in Virginia. The usability testing was conducted among the members, who participated remotely. One of the Design Team's SMEs with expertise in Assistive Technology helped recruit a parent with a visual impairment to test the website for accessibility.

As the next step in the design process, the Design Team conducted usability testing. The usability test objectives were:

- Determine design inconsistencies and usability problem areas within the user interface and content areas.
- Test the website under controlled conditions with representative users to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.
- Establish baseline user performance and user-satisfaction levels of the user interface for future usability evaluations.

The Design Team conducted two separate rounds of usability testing. In the first round, the participants were asked to review the prototype, perform a series of tasks provided in an online task booklet and answer a series of questions. This first round of testing measured prototype design and usability and included questions regarding the participants' perceptions and recommendations for additional content. Using the feedback gathered from the first round of testing, the Design Team made recommendations for fixes that were implemented prior to the second round of testing. New task booklets were constructed based on participants' feedback from the first round.

As the design process is an iterative and recursive process (Piskurich, 2006), the Design Team has used formative evaluation throughout the instructional design process to gather data that can be used to provide feedback on the process. The Design Team also has specific recommendations for the summative evaluation. ***The summative evaluation will not be carried out by the Design Team as the prototype will be further developed after the 2010-2011 Immersion Program has concluded.***

The Design Team has completed the design of the website, including navigation, an improved search engine, an advanced search engine, suggested content for one portion of the site, and a

product name. Future recommendations for branding, features, and ongoing marketing support were also developed for the new product.

II. Introduction

In academic year 2010-2011, the Virginia Department of Education (VDOE) and their Training and Technical Assistance Centers (T/TAC) partnered with the Instructional Technology Immersion Team (the Design Team) at George Mason University. The initial goal of this project was to enhance the value of the current T/TAC Online web site by re-purposing the site's content and identifying additional content needed to meet the needs of parents of children with special needs. Following preliminary research and stakeholder consultations, the goal was revised to design a site that is (a) inclusive of all adults who are the legal guardians of children with special needs, reflecting the dynamics of modern family structures, and (b) provide a solid foundation for creating a product with its own brand identity that is distinct from the educator- oriented T/TAC Online and that appeals specifically to parents and families of children with special needs.

User Centered Design is the instructional design approach that was followed by the Design Team. The essential premise of user centered design is that the learner (user) analysis should be an ongoing activity throughout the process of designing and developing, for example, a website (Brown and Green, 2006.). User centered design addresses concerns that go beyond standard ease of use and satisfaction (Van Duyne, Landay and Hong, 2007) and considers the end user's characteristics, focuses on gathering, analyzing and specifying user personas, their tasks, their work environment and usability requirements (see Figure 1).



Figure 1. User Centered Design

In fall 2010, the Design Team began targeting users by developing a formal research plan and conducting a Performance Analysis and Needs Assessment. Activities in spring 2011 included a

task analysis, preliminary design of the prototype, formative evaluation and recommendations for a future summative evaluation.

The Design Team knew from the Project Charter approved by the Virginia Department of Education (see Appendix A) that the outcome of the project would be a website. This allowed the team to focus on the appropriate aspects of website development throughout the various phases of the project. The design document begins with the process used by the Design Team to target users, conduct a needs analysis, begin the design phase, and then evaluate the process. The final section of the design document includes recommendations for future development of the website.

Project Stakeholders

Stakeholders for the 2010-2011 George Mason University Immersion Project include: John Eisenberg, Dir., ISSRS/VADOE and the TTAC Client Sponsor; Professor Michael Behrmann, Executive Sponsor; Dr. Shahron Williams van Rooij, Faculty Project Manager; Dr. Kevin Clark, Collaborating Faculty; Cherie Takemoto and Kristine Neuber, Subject Matter Experts; the Design Team - Dalia Abdulmeguid, Colleen Halverson, Jeff Sears and Christy Stanley, and; the Virginia parents and families of children with special needs.

Background of the Project

T/TAC Online (<http://www.ttaonline.org/>) is designed for educators working with students with special needs. The site provides information, resources and training. As such, the content, key messages and benefits under those links are not targeted to parents. The Design Team's charge was to enhance the value of the current T/TAC Online website by re-purposing the site's content and identifying additional content needed to meet the specific needs of parents and facilitate their involvement in their children's education.

III. Problem Identification

The Design Team followed the Instructional Design Process which, according to Brown & Green (2006), is the systematic development of instructional specifications that utilize learning and instructional theory to ensure quality of the design. The Design Team defined the problem by uncovering critical success factors. Factors included the information that parents need, when the information is needed, how information will be obtained and who will provide the information.

The Design Team conducted focus groups to uncover the informational needs of the parents. Next steps included implementation of the process of analysis of parents' needs (critical factors) and goals as well as the development of a delivery system to meet the needs of the parents. The Design Team assessed the parents' needs, conducted walk-throughs of the T/TAC Online website to gain insight into content that could be re-purposed as well as to determine new, parent-specific content.

Review of Extant Data

Data collected from the first sponsor meeting in fall 2010, meetings with the Subject Matter Experts and the T/TAC Online content drilldown were used as directives in determining the next steps for data collection and analysis (Brown & Green, 2006) (See Appendix B).

Minimum Resource Needs for the Design Team

These resources served to leverage what the team initially knew about T/TAC Online as well as to continue offering information and support to the team.

- Access to the Mason T/TAC Technical Support Team for coding/programming of the website facilitated the job of the Design Team. The Design Team focused its efforts only on gathering data, analyzing it and finding what the parents' needs are in order to design the website.
- Ongoing project sponsorship from the Mason T/TAC Team helped the Design Team in various ways, such as providing the Design Team with recording devices to record the focus groups and with assistance in recruiting parents for the walk-throughs.
- Content analysis of the existing T/TAC Online website served as an indicator pointing to avenues for further exploration.
- Consistent access to Subject Matter Experts and the Technical Team provided the Design Team with ongoing interaction.

Limitations and Constraints for the Design Team

The Design Team found the following to be potential barriers:

- Lack of direct contact with the client, hindering clarity and accuracy of communication.
- Lack of direct access to target audiences, limiting immediate feedback.
- Language used, including acronyms and terminology, on T/TAC Online website that is not necessarily understandable to the non-technical user.
- Project scope had to be completed by May 2011, the end of the Mason academic year.

Research Objectives

- Gain an understanding of parents educational information needs for the site
- Information must come from the source (parents are end users)
- Fill data gaps via usability testing of existing T/TAC web site

Research Questions

- How do parents of children with special needs articulate/verbalize their special education information needs (language used)?
- Why do they deem some pieces of information to be important?

- How do parents find information they need? Why do they search in the way they do?
- What do parents believe is missing in terms of available content? Why is that missing information important?
- What value, if any, do parents see in the existing T/TAC Online site? What is that value? Which sections of the site are valuable? Why are they valuable?

Methods/Types of Research

The Design Team chose to use focus groups as a research method to allow for interpersonal communication and interaction between parents. This research allows dialogue of new topics of discussion originally unforeseen by the team. Additionally, parents know that their opinions are valued, or that they are considered experts—leading them to feel ownership of the process and provide possible solutions (O’Grady & O’Grady, 2009; Morgan, 1996; Witkin & Altschuld, 1995). See Appendix C for the complete Focus Group Discussion Guide.

Focus Groups and Participants

The following three (3) groups were chosen as they are the largest of the six (6) special needs groups in terms of parent members. The background data for the number of children in specific special needs groups in Virginia can be accessed on the Virginia Department of Education website (http://www.doe.virginia.gov/special_ed/reports_plans_stats/child_count/2009.pdf).

1st Group: Arlington Parents Resource Center– Autism

Group Contact: Julie Crawford/Kathleen Donovan

Arlington Public School

8 parents participated

Tuesday, October 19, 2010 10am-12pm

2nd Group: ID/DD

Intellectual Disability/Developmental Delay

Group Contact: Lynn Ruiz

Arc of NoVA

7 parents participated

Wednesday, October 20, 2010 12pm-2pm

3rd Group: ADHD

Speech/Language/Learning Disability PEATC

Group Contact: Irene Moore

Parent Educational Advocacy Training Center

4 parents participated

Thursday, October 21, 2010 10am-12pm

Results of Focus Groups

In terms of data analysis, the Design Team compiled and reviewed all focus group notes, participants' answers and audio from the three focus groups. After analyzing and synthesizing the focus group data, the Design Team found common themes among parents. The major themes, with quotes cited from parents, are outlined below:

- Parents had mixed experiences with professionals, teachers and principals, in the educational system.
 - “The earlier they receive the diagnosis, the sooner the parents are able to seek resources and get help.”
- The majority of parents agreed that early intervention is key.
 - “The earlier they receive the diagnosis, the sooner the parents are able to seek resources and get help.”
- Parents spend a lot of time doing intensive research without finding their needs.
 - “The models that are out there (for autism) are mainly for boys, I have a daughter.”
 - “You know, you want to find some information and you could find something but it’s not exactly what you want. “
- Parents need a “road map” in order to help guide them through the necessary processes for their children.
 - “I wish I had known how the system worked ahead of time. A flow chart, something that says what a referral is and how long it will take and how to know if your child is eligible {for special services} and there is going to be an IEP.”
 - “We need a manual for parents including all materials.”
- Parents wanted to have a brief and simple overview of federal state and local policies including a commentary in simple English.
 - “Give me all that legal stuff with an explanation (in English) so we’re not recreating the wheel and so I can explain it to a teacher in a non-confrontational way.”
 - “Fairfax County often has policies that don’t coincide with federal regulations.”
- Parents who are non native speakers of English face additional challenges in finding resources for their children.
 - “There is a definite language barrier, I recently had a long conversation with a Spanish-speaking parent who doesn’t know what her options are or where to turn”
 - “English as a second language children are not getting any services. Parents are not aware of the services that are available.”

Field Study/Walk-throughs

The Design Team conducted walk-through sessions of T/TAC Online in November 2010 to uncover the attitudes and perspective of parents (see Appendix D). The walk-throughs allowed

the team to record parents' behaviors and observe how parents research information using the current T/TAC Online site.

Results of T/TAC Online Walk-through Sessions

The team divided the responses into four separate categories: Areas of value on the site; information missing from the current site; additional resources requested, and; navigation challenges. The individual categories, with quotes cited from site walk-through participants, are provided below:

Areas that participants identified to be of value:

- The “Check it out” box.
 - “Easy to find links.”
- The list of activities T/TAC provides.
 - “Interested in the services under “TTAC meets needs through activities”.
- The T/TAC online user guide.
 - In response to the question to parents who have not used the site before: “What information do you find valuable?” Response: “The TTAC user guide.” No additional comments were made.
- The description of assessments and the additional information on assessments.
 - “Though designed for a teacher, it is most helpful for parents to understand methodology.”
- The Standards of Learning (SOL) pages.
 - “It is interesting to see all the different strategies listed under SOL.”
 - “I find the breakdown between English, Math, and History to be very helpful. I was able to go directly to the section I was most interested in viewing.”
- The online training resources.
 - “Terrific resource for folks with limited free time away from home.”
 - “I liked how there is a choice in viewing the trainings as webshop video only, etc. The left hand breakdown of the disabilities is very helpful.”

Areas that participants identified as missing, not current, or incomplete:

- A definition list of disabilities was not included on the site. To find specific definitions users had to locate links listing definitions on external sites.
 - “Search, no luck but did get to lots of resources, no specific info and “Resources” and on the left I could choose a disability. But still, no definition. No luck, I give up.”
- The online training section of the site displayed unrelated topics under the parents and family link.

- “When I clicked on the Parent/Family” sort under “or choose” (alternative to choosing a disability) I found 3 web-shops that were totally unrelated to topics of parent/family interest.”
- The list of events was incomplete and/or not up to date.
 - “The only result was mention of a conference /seminar held in 3/2005.”
 - “When I went back in and typed in the “Search”, I did get 2 workshops but they were old-2008, 2007.”
 - “No Events listed (ADHD)”
 - “There was at least one event that gave incomplete info, no location mentioned, just day & time.”
 - “The list is “very thin, I know of many more events, conferences, workshops in the DC metro area.”
- Some specific disability resources were missing.
 - “I was surprised that a common learning disability (DYSCALCULIA) was not covered by some form of information source. I also felt that a search for “dyslexia” should have generated more links.”
- The online training page for ADHD was blank.
 - “Need more on ADHD-it affects a lot of kids and is often find together with Spectrum (ASD) Behavioral Disorders, and Speech and Language Disorders.”

Additional Resources that participants would like to have if possible:

- Provide access to standard assessments to compare with alternative assessments.
 - “It would be useful to first mention all the Virginia assessments as some students with special needs take the “normal” assessments. As our goal is for kids to be taking these regular assessments as much as possible, they should be listed as well. Then, one can read why one of the alternatives might be appropriate instead, but also know what the “normal” assessment is.”
- Provide access to age specific resources.
 - “No age or grade specific resource.”
- Provide a list of available government funding.
 - “Is government funding available?”
- Provide links to community and specialist resources.
 - “I’d like to know if any of the courses qualify toward continuing ed/prof. development for teachers and assistants so that I can recommend the course to professional who are teaching my son. There is nothing listed for para-professionals-are they not eligible for the other courses?”

Identified Navigation Challenges:

- Participants had difficulty using the search engine.

- “NO but much info out of date. Sparse. There is LOTS more info on ADHD than is here. Not good in ADHD, but then went to the (3) Resources- (these are links that go to NIMH, Prufrock Press, Jonathan Mooney) But when I went back to Resources and clicked on ADHD it took me to a wealth of info. The link from “Search” does not take you there. ?? to go to Resources. When I went back in and typed in the “Search”, I did get 2 workshops but they were old-2008, 2007.”
- Participants noted that small fonts were being used in the tool bar.
 - “Finally found the “view all” but very small letters”
- The tool bar view by disability could not be viewed on every page.
 - “Finally found the “view all”. Was frustrated that Autism was not on the left sidebar. Wrote Autism in Search box & found list of resources.”
- Participants could not access the home page after entering the site.
 - “Would like to be able to click on logo (banner) to get back to HP”
- Participants described the content presentation as long and heavy.
 - “Logical organization, though a lot of information for one to go through.”

Consolidated Results

The consolidated research results include focus group results and, walk-through results. The findings address the five initial research questions and research objectives.

What do parents want?

- A “roadmap” from the time of diagnosis to expectations over time
- Help transitioning the child from one stage to another through the school system
- One stop shopping – the parents asked for a single source of information
- Policy information at the state and local level
- Legal information, understanding the federal vs. local application of the law
- Consistency of information and procedures to parents and educators
- Currency of time sensitive information
- Language options
- Human factor – look that appeals to parents
- To be able share information and have information shared with them
- Reliability and validity of resources
- Guidance on interacting with educators
- Current research
- Help in mainstreaming their children

The extent to which the current T/TAC online addresses parents’ needs and wants:

- The research demonstrates that approximately 70% of the content from the current TTAC Online site is valuable to parents

- The Design Team estimates that approximately 30% of new site content needs to be created, including but not limited to: Legal information; policy information; human interaction; age-specific information; current events and workshops, and; more direct access to current research.

Challenges of the Current T/TAC Online Site

Navigation problems

Participants documented challenges with using the tabs, for example, SOL Enhanced, navigating back to the home page and finding their way around the site. The Design Team addressed these issues in the design and development phase by combining best practices and user feedback.

No language option

Participants mentioned additional challenges for parents who do not speak English as a first language. However, this is beyond the scope of the Design Team.

Consistency of toolbar (size and appearance)

When viewing the top navigation bar on, for example, the Resources page, the font is very small. In addition, the top navigation bar does not appear on every page. The Design Team deemed this issue to be fixable.

Search engine functionality

The search engine does not function the way standard search engines do. Searches within a category failed to kernel results. The search engine does not search the body of text in articles and it doesn't offer an intuitive interface. The current Design Team explored how this could be addressed.

Layout of pages

Viewing page results includes needless and tedious scrolling. This is inconsistent with industry practices of web design. The Design Team addressed this in the design phase.

Maintenance of pages:

Additional human resources must be dedicated to the ongoing maintenance and monitoring of the website. Broken links, blank pages and mislabeled links were identified.

Research-Based Personas

In order to make these results tangible and realistic, the Design Team created research-based personas or portraits of parents of children with special needs. The Design Team created the current personas (see Appendices F-I) using the following steps:

- Each team member recalled a parent that stood out in his/her mind.
- Using sticky notes, team members wrote characteristics of those parents individually.

- The team members lined up their notes in separate columns on the whiteboard, so that each column of sticky notes represented a member's description of a parent.
- Team members asked each other for further clarification on some points, in order to make sure everybody had a common understanding of what was on each sticky note.
- As a group, the team members clustered similar characteristics together.
- As a group, the team members examined unique characteristics to make sure they were not similar to previously clustered ones.
- Individually, team members used the characteristics to form mental models of one portrait.

Initial Recommendations for Prototype

In light of the Needs Assessment findings, the Design Team proposed the following recommendations, including the rationale behind them. The recommendations were divided into the minimum user requirements, "Must-Haves" and the added-value user requirements, "Nice-to-Haves" (Rossett, 2009).

Must-Haves (The minimum to establish a positive user experience)

- Parents need "a road map on the website". They are looking for a way to navigate the system and help set their expectations throughout the child's life stages.
- Parents would like a single source for information, "one stop shopping."
- The information on the parents' website must be chunked. The idea of chunking is to break down the mass of content displayed on a web page and break it up into pieces that are easy to digest (Piskurich, 2006). T/TAC for educators involves a lot of scrolling. The Design Team recommended dividing the information into smaller pieces to allow parents to avoid scrolling. This will also improve the visual presentation and layout of the website.
- Parents need a better functioning search engine. The Design Team recommended providing a more user-friendly engine per the design layout.
- The current information on the website has to be up to date.

Nice-to-Haves (To maintain positive user experience over time)

- Include a bookmarking/tagging system on the website, similar to My T/TAC Online on the current T/TAC website.
- Allow parents to rate what they find useful.
- Develop a T/TAC-based interaction system for parents.
- Include other languages on the website.
- Develop more local resources, workshops in particular, specifically for parents.

IV. December Presentation

The Design Team documented the research methods and results in the Performance Analysis /Needs Assessment document, and presented the findings to the stakeholders in December 2010. In addition to the findings, the Design Team presented mockups of the website for approval. During the presentation, an agreement was made in principle concerning the design, which resulted in a change in scope of the Project Charter. It was determined that the Design Team would focus on the following elements of the design the parents' website: The navigation systems; an improved search engine; an advanced search engine; the build out with content of one portion of the site ("Plan My Child's Education"), and; creation of a product name with recommendations for branding the new product.

Parents Panel and Experts Panel

In order to be able to evaluate the prototype throughout the design process, the Design Team formed two research panels: An Experts Panel and a Parents Panel. Both panels communicated with the Design Team electronically. The Experts Panel included 11 professionals in the field of special education, some of whom work for T/TAC. All the members are key stakeholders who are experienced with or have participated in previous T/TAC implementations. The Design Team worked with this panel from January to May, 2011. The panel members committed approximately two hours per month. The tasks assigned to the Experts Panel included usability testing, naming suggestions and confirming content.

The Parents Panel included 16 parents of children with special needs, two (2) from each of the eight (8) Virginia regions. The Design Team worked with this panel from January to April, 2011. Panel members committed to three (3) hours of work per month. The Parents Panel provided feedback about the Design Team's research findings from the fall 2010 semester. The panel members participated in two (2) rounds of testing to check the usability, content direction of the new prototype, and complete the site naming process. Results of both rounds of usability were shared with the panel members. A list of these participants is available in Appendix E.

V. Content and Task Analysis

Purpose of Task Analysis in Instructional Design

The purpose of conducting task analysis is to clarify the outcomes of instruction, decide which outcomes should be further analyzed and developed, analyze the components and requirements of those outcomes, arrange or rearrange those components into an instructional sequence, and determine the cognitive/affective/skill/learning requirements of those component tasks (Jonassen, Tessmer, & Hannum, 1999). The result of task analysis is a blueprint for instruction. The instructional designer uses task analysis as a framework for building an instructional lesson or a learning environment. After completing the task analysis, the designer usually identifies

instructional strategies and activities to engage and facilitate the learning requirements that were identified by the task analysis (Jonassen, Tessmer, & Hannum, 1999).

Task Analysis for this Project

The Design Team followed these procedures to conduct the Task Analysis:

1. Deconstructed the parents' needs into functional behaviors including tasks and subtasks.
2. Tied the "must haves" of the Performance Analysis/Needs Assessment document to individual tasks/needs of the users.
3. Identified the specific content/informational needs of parents on a macro level.

The next step was structuring two scenarios: A parent of a recently diagnosed child and a parent who needs ongoing support. The scenarios were based on data from focus groups as well as from surveys sent to the Parents Panel.

Task Analysis Method

Taxonomies

The learning-outcome taxonomy is used to classify different types of learned capabilities, and is used to link tasks identified by the task analysis to the assessment of those tasks (Jonassen, Tessmer & Hannum, 1999). The taxonomy also provides an outline of the instructional or learning strategies used to develop the tasks. Jonassen et al (1999) believe that current learning-outcome taxonomies should be reconsidered in light of recent developments in education research and instruction technology. They also believe that advances in learning theory and technology have warranted a reconsideration of the standard classifications of learning outcomes.

Selected Taxonomies

The team selected methods using the "Procedure for Selecting and Using a Taxonomy for Classifying Knowledge and Skill" outlined by Jonassen et al (1999). Using this procedure, the team selected procedural and information processing analysis methods to conduct the task analysis.

Procedural analysis analyzes tasks by describing the procedure that must be executed to complete them. This method is used for tasks that are predefined and consist of a linear sequence of steps that are observable. This method was used for specific tasks that parents must perform, for example, entering the site, using search engine, and becoming a member.

In contrast, information-processing analysis (IPA) is one of the few task analysis methods that describe covert thinking performance. As such, it is particularly well suited for the analysis of complex tasks that have few overt indications of task performance. This method takes into consideration that parents do not have a predefined path or end goal when conducting research or gathering information concerning their children. Also, this method recognizes that the tasks the parent is performing represent a cognitive process; the parent is making the choices as opposed

to being predefined by a job being performed. The task being performed is largely an internal thought process.

Task Deconstruction

The included tasks are based on results of the fall 2010 research and reviews by the Subject Matter Experts. Specific tasks were outlined in the T/TAC Online walk-through sessions held in the fall. The participants' comments and strategies from these sessions were then documented and analyzed, and combined into the "List of Tasks".

The included tasks are listed in the logical order according to how a parent might look for information. A parent whose child is "Recently Diagnosed" would most likely look for the definition of the child's special need, look for resources and then attempt to find education information. A parent who has been living with a diagnosis, "Ongoing Support", would be more likely to look for specific information on education and, potentially, rules and regulations.

The tasks are broken down into two different categories, Recently Diagnosed and Ongoing Support. Recently Diagnosed is based on the Portrait of John (see Appendix I) and Ongoing Support is based on the Portrait of Diane (see Appendix H).

For the complete Task Chart and Task Analysis, see Appendix K and Appendix L respectively.

VI. Use Cases

According to usability.gov, a use case is a description of how users will perform tasks and describes a sequence of interactions between a user and a website. The Design Team created the following use cases to determine which features to implement into the prototype and communicated those features to the T/TAC Online technical staff. Below is an example of a Use Case. Please see Appendix M for all use cases.

Advanced Search

User Action	System Response
1. User clicks on advanced search button	2. System displays advanced search page
3. User selects appropriate disability and/or category and/or grade	
4. User enters search terms into “have all these words”	
5. User enters search terms into “ have this exact wording or phrase”	
6. User enter search terms into “have one or more of these words”	
7. User selects unwanted disability, category or grade	
8. User enters terms into “unwanted words”	
9. User clicks on drop down menu to choose number of results per page	10. The system displays a list of results per page, 10 results, 20 results, 30 results, 50 results or 100 results
11. User clicks on drop down menu to choose file type	12. The system displays a list of files’ format; Any format, Adobe Acrobat PDF (.pdf), External Website or Internal Article.
13. User clicks on drop down menu to choose date of page	14. The system displays a list of date; past 24 hours, last week, last month or last year.
15. User clicks on drop down menu to choose distance from city/county	16. The system displays a list; any distance, 5 mile or 10 miles.
17. The user clicks the “Advanced Search button” to submit search	18. The system displays results

VII. Flowcharts/Wireframes/Storyboards

The Design Team created flowcharts, wireframes and storyboards to illustrate the proposed content and navigation of the new website. The Flowchart illustrates the interconnectedness of the website. The wireframe is a visual guide that lacks style and color, as the main focus is on functionality and priority of content. The storyboard is used to describe the flow of events; the objective is to describe in detail what the end product will be. For the purposes of this project, the design team combined wireframes and storyboards. See Appendix N for additional wireframes and storyboards. The following flowchart is the sitemap of the prototype. The boxes show the navigation and content, the arrows illustrate the flow of the process. The colors indicate specific sections of the website. Content areas actually changed throughout the sitemap development and content is predicted to continue to change throughout the development of the website as information is streamlined and further organized according to the needs of the users.

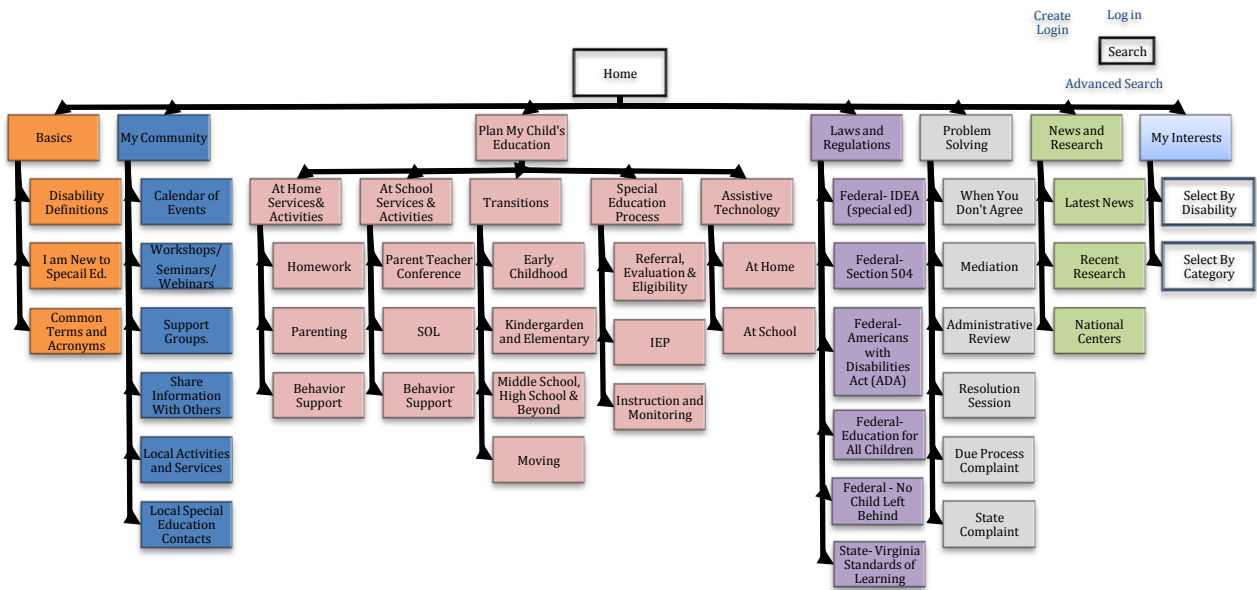
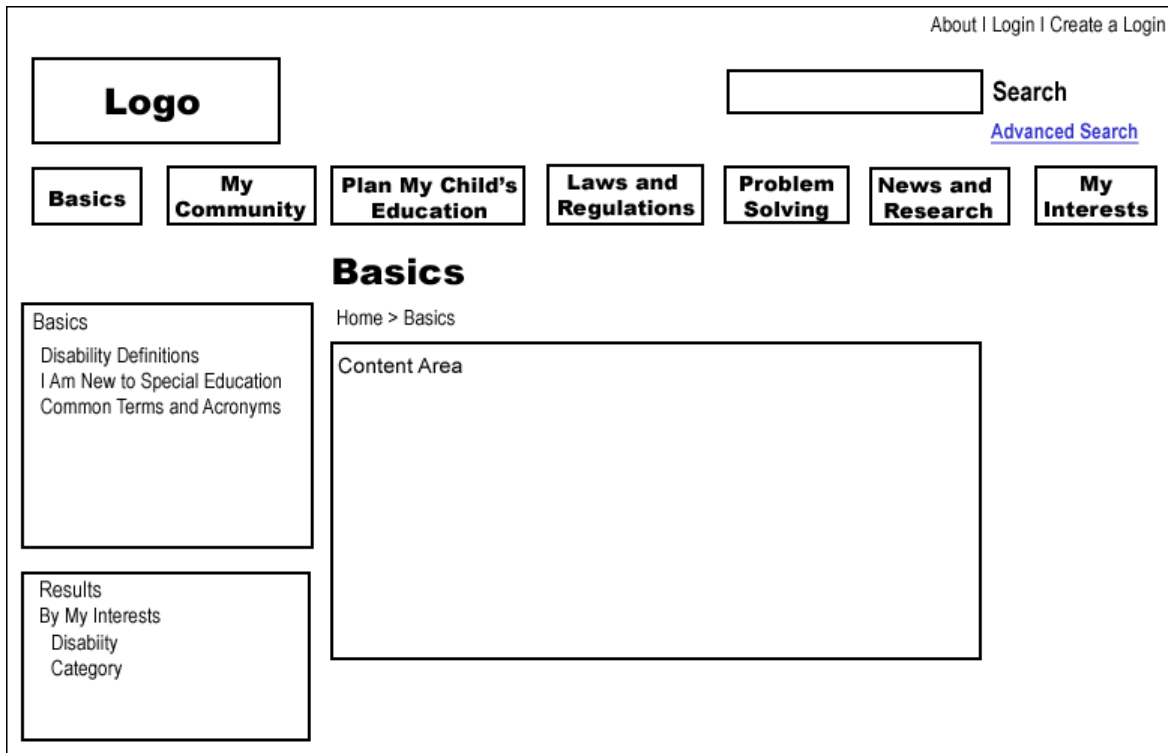


Figure 3. Prototype Flowchart

The Design Team created combined wireframes and storyboards based on the proposed content of the website. Content areas that were hierarchically above other content areas were identified as landing pages, providing first information to preface the subject and then links to the appropriate sub-pages.



Note: Content on this page will be new content that will be provided by the Subject Matter Experts, including:

- Disability Definitions
- I Am New to Special Education
- Common Terms and Acronyms

Figure 4. Basics Wireframe/Storyboard

VIII. User Requirements

The following outlines the requirements for the prototype. Each requirement is noted as ‘must have,’ or ‘mock-up’, or ‘later development’. ‘Must have’ items are intended to be programmed, mock-up items only currently have the appearance of functionality; and later development items will be addressed in the recommendations section.

Login	The user shall login to: <ul style="list-style-type: none"> • Make favorite • Rate • Report a broken link 	Mock up
Navigate	The user shall be able to seamlessly navigate any component within the website	Must have
Print	The user shall be able to: <ul style="list-style-type: none"> • print documents in their native format • print screen in a print friendly version • print text versions of all audio 	Later development
Download	The user shall be able to download: <ul style="list-style-type: none"> • information in its native format to a user specified location • a webpage • a media file 	Must have
Search	The user shall be able to: <ul style="list-style-type: none"> • Receive prompts as keywords are typed in • Select suggested keywords without retyping • Enter multiple keywords without Boolean operators 	Later development
Advanced search	The user shall be able to <ul style="list-style-type: none"> • Choose what disability, category or grade to display in results • Choose from options for word search • Choose number of results per page • Choose file types to be displayed • Choose date (how recent the page is) • Choose distance 	Mock up
Facebook	The user shall be able to <ol style="list-style-type: none"> 1. Recommend a link on his/her Facebook account 	Mock up

Twitter	The user shall be able to 2. Share a link on his/her Twitter account	Mock up
Tagging	The user shall be able to 3. personally define and categorize information on the website	Later development

IX. Namestorming

What is it?

Namestorming is the creative process used to generate a name for something, i.e. a website, blog, book, etc. For the purpose of the 2010-2011 Immersion Project, a name needed to be created for the product, a website for parents and/or families of children with special needs. The name had to reflect who the site is for (the users) and the purpose it would serve, providing searchable special education information for Virginia families. Creating an identifiable and understandable name is the first step demonstrating that a website provides visitors with something that is important and unique (Van Duyne, D., Landay, J. & Hong, J., 2006)

Purpose

The naming of the parents’ website followed the two parameters initially established by the project sponsors. Specifically, the website will have a new and unique brand identity, one that will differentiate it from its sister site, T/TAC Online. The goal of the new website is to be the first stop for parents and families searching for information on special education in Virginia.

Namestorming Principles

- The name must be easy to remember
- The name must be easy to pronounce/spell
- The name must be culturally neutral
- The name must be relevant to the target audience (parents and families of children with special education needs)

Participants

The external session was composed of the Expert Panel members. Out of the 11 members, nine submitted names via email. The internal session consisted of key internal stakeholders, the Design Team, and subject matter experts. Because this part of the requirements process doesn’t rely on research data, the design team was able to leverage its many stakeholders to get a wide range of ideas (Goodwin, 2009).

Process

The namestorming process consisted of two sessions:

1. External Session with the Expert Panel communicated their names via email:
 - The Expert Panel was shown the current website map for review. They were reminded of the namestorming principles and the need for a new brand identity for the parents portal
 - The Expert Panel's charge was to provide us with five names per person
2. Internal Session with the Design Team and Subject Matter Experts:
 - The Design Team incorporated the names provided by the Expert Panel into the in-person namestorming session
 - The process began with participants jotting down five names each on sticky notes, names that just came to mind
 - Participants then lined up their notes in separate columns on the board, so that each column of sticky notes represented a participant's names
 - Participants then gave a brief explanation of why they wrote the name they did
 - Participants asked each other for further clarification on some names, in order to make sure everyone had a common understanding of what was on each sticky note.
 - As a group, the participants clustered similar names together, and then into three groups:
 - Descriptive/literal
 - Metaphors/evocative
 - Non-verbal, imagery
 - As a group, the participants further narrowed down the names, eliminating names for various reasons, such as, not specific enough in terms of targeted group (i.e. special education), no mention of the term "family", no mention of State (Virginia)
 - Participants eventually narrowed down the list to three names
 - Additional names were kept and recorded as options for a tagline

Namestorming Results

The namestorming sessions and subsequent sponsor meeting yielded four candidate names. These four names were included in the first round of usability testing. Parents voted on these names in the online task booklet. The name chosen was **VA Family Special Education Connection**, selected by eight out of nine parents who responded to the naming question.

X. Formative and Summative Evaluation

Evaluation is a data gathering process that determines the worth, strengths and weaknesses of instruction (Tessmer, 1993). The purpose of evaluation is to determine what, in terms of a project, needs to be improved or revised. Oftentimes evaluation is not requested and time is not

allowed to complete a proper evaluation. This was not the case for the Design Team. Ongoing evaluation was conducted throughout the project, in keeping with the instructional design process.

There are two stages of evaluation; formative and summative. Formative evaluation, according to Tessmer (1993), is the developmental stage of a program (or website), wherein data gathering takes place to determine the value, strengths and weaknesses of the process. As stated by Kirkpatrick (1998), summative evaluation refers to the evaluation of a program after it has been offered, to determine if the goals set by the team were achieved.

Formative Evaluation

The Design Team had specific goals in terms of the Virginia Department of Education: To determine, from parents, where and how they currently obtain information about special education; the specific information they seek, and how best to deliver this information to them. Evaluation of the parents' website included two rounds of Usability Testing (See section XI Usability Testing). Improvements to the prototype were made in response to feedback from the parents. Designing and implementing effective evaluation helps inform decision makers on the success level of a product (Brown & Green, 2006).

As noted by Tessmer (1993), evaluation is conducted by collecting data about the project from a variety of sources using a variety of data gathering methods and tools. The Design Team formed two panels - a Parents Panel and an Expert Panel. Usability testing conducted with the panels contributed feedback on content and site design.

To make a product usable and compelling, conducting research is vital. Design teams must align the design of the product and the users' needs. "Unless the benefits and techniques of user-centered design and research are ingrained in the process, tools, and mind-set of the company, knowledge will do little to prevent problems" (Kuniavsky, 2003). According to Kuniavsky (2003), simply knowing what the users want is not enough to get users to continue using the product. In order for a designer to understand the customers' experience, they must value it and know how to act on it.

Objectives of Formative Parents' Website Evaluation

The purpose of the evaluation strategy is to determine whether the parents and families of children with special needs perceive the new website to be efficient, useful, and usable.

In order to implement the evaluation strategy, the Design Team first agreed upon objectives that state what the team needs to achieve initially, in order to accomplish the above-mentioned strategy:

1. Determine what questions will allow the Design Team to verify if the system meets the project goals.
2. Identify content, design and technical experts who are qualified to review the system.

3. Develop expert review questions that will address the system in terms of content, design, and technicality.
4. Develop usability goals.
5. Develop realistic task scenarios that users will follow in order to test the system during usability testing.

Summative Evaluation

As noted by Goodwin (2009), the summative evaluation is meant to help you clean up odds and ends and persuade people about the design. This is most effective when you have a complete or nearly complete design. The Design Team has been charged with completing the design of the parents' website, to include the navigation systems, an improved search engine, an advanced search engine, the build out of one portion of the site ("Plan My Child's Education"), and a product name with recommendations for branding the new product. . The Design Team has specific recommendations for the summative evaluation. *The summative evaluation will not be carried out by the Design Team because the prototype will be further developed after the 2010-2011 Immersion Program has concluded.*

Level One

Level one, evaluating reaction: According to (Kirkpatrick, 1998) "evaluating reaction is the same as evaluating customer satisfaction." The goal of the Design Team is to have the user react positively to the website and then tell others about their positive experience with the website.

Continuing to evaluate the website for effectiveness is key to user retention and validity, and is recommended by the Design Team. Website metrics may be used to obtain feedback on usage patterns. Feedback from surveys will confirm user satisfaction. Surveys should be sent after the initial site launch.

Level Two

In determining level two, according to (Kirkpatrick, 1998), evaluating learning is important, without learning, no change in behavior will occur. Design Team objectives for the parents' website include ensuring that the "must haves" uncovered in the team's research have been met; relevant information is provided; information is correctly categorized; and parents can easily find the information. Conducting focus groups with parents who have used the site for a year or more is recommended. Parents may be grouped by region or disability of interest. Structured questions as well as open-ended questions should be asked to obtain parents' feedback about the website and suggestions for future improvements of the site.

Level Three

Level three attempts to evaluate behavior, or the transfer of knowledge, skills and attitudes (Tessmer, 1993). Levels three and four can be more difficult to achieve than the first two levels.

The Design Team's suggestion for evaluating level three is a popup survey. A popup survey

would allow the web designer to ask questions quickly and easily. Survey questions should reflect the effective completion of the tasks that were uncovered in the Design Team's Task Analysis and use cases. The purpose of the survey is to quantify parents' transfer of skills and knowledge and would provide a brief "check" by capturing their response to questions referring to the "must haves."

- Are users able to find the definitions of special needs?
- Are users able to locate policy information on local special education laws and regulation?
- Did users find reliable research on their child's special education needs?

Sufficient time should be allocated to allow for a change in behavior, and the popup survey should be given to returning users only, not first time users.

Advantages of a level three evaluation include identification of parents' activities on the site, where parents are going on the site and what they do once they get there. This information would be useful in building out new sections of the site. The "My Community" section in particular would be an area to watch in the future. Ideas such as adding a community forum have been mentioned, allowing parents to communicate directly with each other. A challenge of implementing a level three evaluation would be the time it may take to implement and analyze results of the survey.

Level Four

Level four refers to the final results that occur because of attendance and participation in a project (Tessmer, 1993). It may be difficult to provide proof that parents and families using the parents' website become better informed over time about special education; however, there are ways to show usage results. From these results, projections can then be made as to the effects of time spent on the site and information acquired from the site.

There are two ways the Design Team recommends determining usage results:

- Web analytics using software tools such as Google Analytics and/or Webtrends
- Assessing parents' usage via surveys

Web Analytics Measurements:

- Page views
- Repeat visitors
- Amount of time spent on the site
- Number of searches
- Conversions (e.g. visitors who opted in to the T/TAC newsletter)
- Use of features (bookmarking, tagging, rating, etc.)

Assessing parents' usage:

- Contact area school administrators and Parent Resource Centers (PRCs)
- Ask for consent to query parents
- Send surveys to school administrators and PRCs
- Survey questions include:
 - Where do parents find information regarding special education needs?
 - How do parents go about searching for information regarding special education needs?
 - How do parents find out about PRCs?
 - How do parents know to request services for their child?
 - How do parents find out about available services?
 - How do parents prepare when approaching educators?

The impact of the parents' website will be apparent if the results show that the parents are getting their information from the site.

The advantages of level four are that it would give the administrators of the parents' website actual results based on the usage of the site and would provide them information on the impact of the site on parents over time. Challenges might include not having a web standard analytics program and lack of time and budget to implement the survey.

XI. Usability Testing

The goals of usability testing include revealing the true needs and expectations of users, establishing a baseline of user performance, and identifying potential design concerns to be addressed in order to improve the efficiency, productivity, and end-user satisfaction. Usability testing is an iterative process of discovering issues in the user interface (Krug 2006). "The best way to answer questions about your customers is to recruit some participants, run a quick test, and see what they say and do" (Van Duyne et al, 2006: p.825). If done properly, it could prevent an organization from spending money on a poorly designed product. "If you want a great site, you've got to test" Krug (2006; P.133).

The usability test objectives for this project were:

- Determine design inconsistencies and usability problem areas within the user interface and content areas. Potential sources of error may include:
 - Navigation errors – failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
 - Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.
 - Control usage problems – improper toolbar or entry field usage.

- Testing the website under controlled conditions with representative users. Data will be used to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.
- Establish baseline user performance and user-satisfaction levels of the user interface for future usability evaluations.

The usability testing was conducted among the members of the Parents Panel, which included 16 parents. The Parents Panel participated remotely. A SME specialized in the field of Assistive Technology helped recruit a parent with a visual impairment to test the website for accessibility.

Methodology

The Design Team conducted two separate rounds of usability testing. The first round was conducted during the week of April, 11, 2011. During the first round, the Uniform Resource Locator (URL) address of the prototype, along with a link to an online task booklet was sent to the participants via email. The participants were asked to review the initial prototype. As they were reviewing the prototype, the participants were asked to perform the tasks in the task booklet and answer a series of questions. The parent testing for accessibility participated in a computer lab at George Mason University where she was observed by a member of the Design Team and her comments documented. Using the feedback gathered from the first round of usability testing, the prototype was revised and a second round was conducted April, 25th, 2011 using a similar methodology. New tasks were constructed based on the first round participants' feedback.

Remote Testing

The Parents Panel participants were seated at their computers in their work or home environment. Instructions on completing the tasks, along with a link to the online task booklet were sent via email. The online welcome message emphasized that the participants were evaluating the website, and that the participants themselves would not be evaluated.

Face to Face Tester

The face to face participant tested the website in a computer lab at George Mason University. The participant's interaction with the website was monitored by a Design Team member serving as facilitator. The facilitator briefed the participant on the testing process and emphasized that she was only evaluating the website and that she herself was not being evaluated.

Reporting Ethics

All persons involved with the usability test were required to adhere to the following ethical guidelines:

1. The performance of any test participant must not be individually attributable, and;
2. Individual participant names should not be used in reference outside the testing session.

Usability Tasks

The usability tasks were derived from test scenarios developed from the use cases. Due to the range and extent of functionality provided in the website, the tasks were the most common and relatively complex of available functions. The participants' responsibilities were to complete a set of task scenarios representing the splash page, the home page, the landing pages and the fully built out section, "Plan My Child's Education".

Because tracking user location was a requirement for this site, a splash page that asks the user to identify his or her region was implemented. A splash page is the first screen a visitor will see when navigating to a website. Splash pages are used to display welcome messages, graphics, or videos or request necessary data prior to site entry; they are frequently devoid of other content. It was suggested that users might be hesitant to release personal identification due to the sensitive nature of the subject matter. In addition, should the splash screen prove difficult to understand, visitors to the site might choose to navigate away from the site before seeing the content. In an effort to identify any barriers to site acceptance, the Design Team tested three different versions of the splash page. One of these designs was based heavily on the existing T/TAC Online splash page, while the other two we designed to be smaller and display content on the website (See Appendix O). The screen with the lowest number of drop offs would be selected for the second round of usability. If all three performed equally, the Design Team would utilize the same screen used on the current T/TAC Online.

Participants were divided as evenly as possible into three groups, each group given a link to a different version of the splash screen. Each group of participants saw only one splash page. With the exception of the splash page tasks, all tasks were identical for all participants in the study. See Appendix P for the Usability Testing Task Booklets.

Usability Metrics and Goals

Usability metrics refers to user performance measured against specific performance goals necessary to satisfy usability task completion requirements (www.usability.gov). Scenario completion success rates, adherence to dialog scripts, error rates, and subjective evaluations were used.

Participation Rate

A participation rate of 100% was the goal for this usability test.

Task Completion Rate

Each scenario required that the participant obtains or inputs specific data that would be used in course of a typical task. The scenario is completed when the participant indicates the scenario's goal has been obtained (whether successfully or unsuccessfully).

A task completion rate of 100% was the goal for each task in this usability test.

Critical Errors

Critical errors are deviations at completion from the targets of the scenario. Obtaining or otherwise reporting of the wrong data value due to participant workflow is a critical error. Participants may or may not be aware that the task goal is incorrect or incomplete.

In general, critical errors are design or technical flaws that prevent users from correctly completing a task. **All critical errors were addressed in round two of usability testing.**

Non-critical Errors

Non-critical errors are deviations that would not have an impact on the final output of the task but would result in the task being completed less efficiently. If not detected, they do not prevent the user from completing the task. Although non-critical errors can be undetected by the participant, when they are detected they are generally frustrating to the participant. These errors may be procedural, in which the participant does not complete a scenario in the most optimal means (e.g., excessive steps and keystrokes). These errors may also be errors of confusion (ex., initially selecting the wrong function). Noncritical errors can always be recovered during the process of completing the scenario. Exploratory behavior, such as opening the wrong menu while searching for a function, will not be coded as a non-critical error provided that they complete the task. **Based on severity and frequency non-critical errors were addressed for round two of usability testing.**

Error Free Rate

Error-free rate is the percentage of test participants who complete the task without any errors (critical **or** non-critical errors).

An error-free rate of 90% was the goal for each task in this usability test.

Subjective Evaluations

Subjective evaluations regarding ease of use and satisfaction were collected via the online task booklet, utilizing free-form responses, multiple choice questions and rating scales. These data were used to assess attitudes of the participants regarding the prototype.

Severity of Errors

To prioritize recommendations, a method of problem severity classification was used in the analysis of the data collected during evaluation activities. The approach treats problem severity as a combination of two factors - the impact of the problem and the frequency of users experiencing the problem during the evaluation.

Impact

Impact is the ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion. There are three levels of impact:

- High - prevents the user from completing the task (critical error)
- Moderate - causes user difficulty but the task can be completed (non-critical error)

- Low - minor problems that do not significantly affect the task completion (non-critical error)

Frequency

Frequency is the percentage of participants who experience the problem when working on a task.

- High: 30% or more of the participants experience the problem
- Moderate: 11% - 29% of participants experience the problem
- Low: 10% or fewer of the participants experience the problem

First Round of Usability Results

The following are the individual tasks performed for round one usability testing.

1. Splash Screen (Task 1)

The parents didn't report any problems regarding the splash screen task. A parent that tested the 1st version (current T/TAC Online) of the splash screen pointed out that people don't necessarily live where they work. The entry to the website, however, doesn't specify whether it's the work or home location.

2. Assistive Technology (Task 5)

Only 3 out of 11 parents managed to find information about assistive technology. The rest of the parents could not easily find assistive technology information.

3. Information for Parents New to Special Education (Task 2)

Parents managed to start at the right place, the "Basics" section.

4. Information about an IEP Meeting (Task 3)

Some parents were challenged in finding information about an IEP meeting, as they couldn't guess it would be under the "Special Education Process" Section.

5. Parents who don't agree on an Evaluation Report (Task 4)

Information for an evaluation report is currently located under "Referral, Evaluation and Eligibility", under the "Special Education" section. When the site is fully built out, there will be links for all content regarding problem solving under the "Problem Solving" section. The majority of parents followed a correct path to retrieve information about disagreement on an evaluation report ("Problem Solving" tab then "When You Don't Agree" tab). However, they didn't find content, as the page is still under construction.

6. Information about Standards of Learning (Task 7)

Parents followed a correct path to find information regarding standards of learning. However, they didn't find content, as the page is still under construction.

7. Activities to Help your Child at Home (Task 6)

The majority of parents followed the right path to find information regarding activities to help their children at home. However, not all of them were satisfied with the content.

8. Website Naming (Task 8)

The majority of parents chose *VA Special Education Connection* as the new name for the

website for parents of children with special needs. A summary of the key findings is displayed in Table 1

Table 1 – Task Completion						
Overall Task Completion	Total Tasks	Goal	Actual	Comment		
Users – were asked to complete 6 tasks in total and respond to the accompanying questions. There were 58 questions in total.	8	100%	69%	Of the 16 possible parents asked to complete the survey, 11 parents in total completed some or all of the survey questions.		
Participation in Task Completion						
Task	Task #	Goal	Actual	Severity of Errors	Frequency of Errors	Recommendations
Splash Screens – users were asked to comment on 3 different versions of the splash screen; the original splash screen, and 2 new versions of the splash screen	Task #1	100%	100%	None	None (*n=11)	Goal was to determine the splash screen with the least resistance. Users had no issues with any of the splash screens. Recommending no change to the current (TTAC) splash screen.
SOL – users were asked to look for information, re: Standards of Learning assessments.	Task #7	100%	100%	None	None (*n=8)	None at this time
Basics – users were asked where they would look for information if their child were just diagnosed	Task #2	100%	100%	None	None (*n=11)	None at this time
Evaluation – users were asked to suppose they did not agree with their child’s evaluation report and document where they would go on the site.	Task #4	100%	82%	Moderate	18% (*n= 11)	None at this time
Home Activities – users were asked to find activities they could do with their child at home.	Task #6	100%	78%	Moderate	22% (*n= 9)	Recommending the addition of more content in this area.
IEP – users were asked to suppose they’re a parent going to their child’s IEP meeting, and to find relevant IEP information.	Task #3	100%	63%	Moderate	27% (*n= 11)	Recommending adding a link for IEP under the “Basics” tab.
Assistive Technology – users were asked to suppose they were interested in purchasing (AT) software programs for their child to use at home.	Task #5	100%	36%	High	64% (*n= 11)	Add this topic to Top Navigation Bar
Naming – participants were asked to select the name they most preferred among 4 suggestions and if they had any additional suggestions.	Task #8	100%	89%	N/A	N/A (*n=9)	The name of the site should be Virginia Family Special Education Connection
Please note: all recommendations will be implemented and incorporated into the 2 nd round of Usability testing.						

- There are 16 parents on the Parents Panel. For the purpose of this table, n= the actual number of respondents for a particular question (ex. n=8 where eight of sixteen users responded to the question.)

Round Two Testing

Based on the key findings from round one, the Design Team recommended the following changes:

- Use the current T/TAC Online splash screen as the three versions performed equally. However, the Design Team did communicate one parent’s concern about indicating where they live vs. where they work on the Splash Screen to T/TAC.
- Move “Assistive Technology” to the top navigation menu, so that parents could easily find related content.
- Add a link for IEP under the “Basics” tab.
- Add more content under “At Home Services and Activities” section.

Face to Face Tester of Accessibility

The parent with the visual impairment primarily tested the website for accessibility issues. She reported two issues regarding the top navigation pull-down menu, which were addressed in the second round of usability. In addition, the text color on top navigation pull-down menu was light. The parent had difficulty accessing information using “ZoomText”, magnification and reading software for people with visual impairments, on the top navigation pull-down menu. When the parent clicked on SOL under laws and regulations, the top pull-down menu hovered over the text on the top 3rd level of this page and it was very distracting.

She also reported some issues regarding the content location and the language used on the website. The parent tested the 3rd version of the splash screen, the newly created screen with the image of a map on it. She reported that the login instructions were not clear. Based on the current instructions, the parent assumed that she had to create an account in order to login. Also when hovering over the “my community” section, the parent wasn’t sure if this area meant her local community or an Internet community. When clicking the “News & Research” tab, she didn’t understand what was meant by “National Centers” and, depending on what it meant, if it was appropriate to have it under “News & Research”.

To address these accessibility issues, the Design Team recommended:

- Use a solid color instead of the transparency on the top navigation pull-down menu.
- Reposition of the login message to line up with the Guest message, so that users don’t get confused when trying to login.
- Use a mega drop-down navigation bar, a drop down menu that is large enough to display secondary level and tertiary level links without having to do any additional hovering, to solve the issue with ZoomText.

Other suggestions made by test participants were:

- Call the “Problem Solving” section “Advocacy Resources” instead, as some parents are not sure when an advocate is necessary.

- Move “SOL” to a different location as parents might not guess that it is under “Laws & Regulations”.

Changes Made for Second Round of Usability

For the second round of usability, the following changes were implemented to the prototype:

- The name of the site was finalized and put onto all the pages
- Splash Page #1 was selected as the primary splash screen, and was the link that was sent to all participants
- The “Assistive Technology” section was relocated from the section “Plan My Child’s Education” to its own location on the main navigation bar.
- The “My Interests” section was removed from the main navigation and have the content displayed as a menu on the left side of the page
- The home page, “Plan My Child’s Education”, and all immediate sub-pages were populated with images to complement each page’s content
- Minor spelling errors and language issues were corrected
- The “Search” and “Advanced Search” features were implemented
- Color was changed and transparency was removed from the main navigation menus

Second Round of Usability Results

1. Overall Look of the website (Task 1)

Parents answered a series of questions, and rated their agreement regarding the overall look and feel of the website. The majority of the parents had positive feedback. They either strongly agreed or agreed on the overall look of the website. Only one parent disagreed that information on the website was easy to read. (see Table 2)

2. Assistive Technology (Task 2)

Parents did not have any challenges locating specific information about Assistive Technology in Round Two testing (see Table 5).

3. Information on Local Policies for Special Education (Task 3)

Parents were asked to find local special education policy information and had difficulties finding the information. Parents were looking for this information under “My Community” and “Laws and Regulations”. They assumed it would be under “My Community” because of the word “local” and they assumed it would be under “Laws and Regulations” because of the word policies. As the site is developed, subject matter experts will have an opportunity to rethink how to categorize and label this type of information (see Table 5).

4. Search Engine (Task 4)

Parents documented that they had trouble using the Search Engine; however, it was mainly as a result of the site not being fully populated with content. No recommendations are included the Results section (see Table 5)

5. Organization of the Website (Task 5)

Parents responded favorably to the organization of the site (see Table 3).

6. Content of the Website (Task 6)

Parents responded favorably to the proposed content and content areas. Only one parent disagreed that the website was designed with the parents of children with special needs in mind and the information is relevant to their child's educational needs (see Table 4).

The following three tables illustrate the complete results of questions asked in regard to; the overall look, organization and navigation of the website:

Table #2-Look and Feel of website	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Overall Look of the site	3(27.27%)	7(63.64%)	1(9.09%)	0(0%)	0(0%)
The Homepage is attractive and attention- getting	4(36.36%)	5(45.45%)	2(18.18%)	0(0%)	0(0%)
The overall site is attractive	3(27.27%)	6(54.55%)	2(18.18%)	0(0%)	0(0%)
The site's graphics are pleasing	3(27.27%)	6(54.55%)	2(18.18%)	0(0%)	0(0%)
The site has a good balance of graphics versus text	3(27.27%)	7(63.64%)	1(9.09%)	0(0%)	0(0%)
The typography (lettering, headings, titles) is attractive	3(27.27%)	6(54.55%)	2(18.18%)	0(0%)	0(0%)
Information is easy to read	3(27.27%)	6(54.55%)	1(9.09%)	1(9.09%)	0(0%)
Screens have the right amount of information	2(18.18%)	8(72.73%)	1(9.09%)	0(0%)	0(0%)

Table #3 – Organization of website	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
When I got lost during navigation, my mistakes were easy to Correct	4(36.36%)	5(45.45%)	2(18.18%)	0(0%)	0(0%)
It is easy to find my way around the site	4(36.36%)	5(45.45%)	2(18.18%)	0(0%)	0(0%)
I can get to information quickly	2(18.18%)	6(54.55%)	3(27.27%)	0(0%)	0(0%)
It is easy to remember where to find things	3(27.27%)	5(45.45%)	3(27.27%)	0(0%)	0(0%)

Table #4 – Content of website	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The site effectively communicates the purpose of serving parents of children with special needs	3(27.27%)	6(54.55%)	2(18.18%)	0(0%)	0(0%)
The site is designed with parents of children with special needs in mind and the information is relevant to my child’s educational needs	3(27.27%)	6(54.55%)	1(9.09%)	1(9.09%)	0(0%)
The site’s content interests me and would keep me coming back	3(27.27%)	5(45.45%)	3(27.27%)	0(0%)	0(0%)
The site is well-suited to first time visitors	5(45.45%)	5(45.45%)	1(9.09%)	0(0%)	0(0%)
The site is well-suited to repeat visitors	6(54.55%)	3(27.27%)	2(18.18%)	0(0%)	0(0%)
The homepage’s content makes me want to explore the site further	4(36.36%)	4(36.36%)	3(27.27%)	0(0%)	0(0%)
Information is written in a style that suits me	2(18.18%)	7(63.64%)	2(18.18%)	0(0%)	0(0%)

Table 5 – Task Completion						
Overall Task Completion	Total Tasks	Goal	Actual	Comment		
Users – were asked to complete all 6 tasks and respond to the accompanying questions. There were 27 questions in total.	6	100%	69%	Of the 16 possible parents asked to complete the survey, 11 parents in total completed all of the survey questions.		
Task	Task #	Goal	Actual	Severity of Error	Frequency	Recommendations
Look/Feel of website	Task 1	100%	100%	n/a	n/a	None at this time
Assistive Technology	Task 2	100%	100%	None	None *n=11	None at this time
Information on Local Policies for Special Education	Task 3	100%	9%	High	91% *n=11	*See below for explanation
Search Engine	Task 4	100%	45%	High	55% *n=11	1.Lack of content is a part of the issue as the site is not fully populated with content. 2.Tagging and cross linking, which will be added later, will allow users to find information by the terminology they're most familiar with.
Organization of website	Task 5	100%	100%	n/a	n/a	None at this time
Content of website	Task 6	100%	100%	n/a	n/a	None at this time

XII. Future Recommendations

One section of the prototype delivered to the Virginia Department of Education has been populated with content, to demonstrate how the site would function once it is developed. Moving forward toward product, the Design Team recommends the following:

Pre-launch Capabilities to Strengthen Usability and Promote Adoption

- An autofill suggestion box for the search field and the location field when registering a new account. This box would provide suggestions for the user to select as they are typing in a search query to assist the user in quickly filling in the box, to help spell items correctly, and to allow users to search for keywords that already exist in the system.
- A language correction feature for search results. If a user enters a word that is not a tag or word in the system's dictionary, the system will also return a link to a search that replaces the "misspelled" word with the closest matched word in the system's dictionary or tag list.
- A kerneling system that will reorder search results such that selecting a certain keyword would cause the results with that keyword to rise to the top of the results list. (See Use Case)
- A bookmarking system that will allow members of the site to select any content item throughout the system to save in that member's unique personal queue for future reading.
- A rating system by which members can indicate the usefulness of a given entry in the database. These results would be displayed to all site users and would serve as an informal method of peer review and provide feedback to content developers as to what content is helpful or unhelpful.
- A tagging system that would allow users who bookmarked a database entry to add personal freely typed keyword, or "tags", that would enable users to label and categorize content to their wishes while simultaneously contributing to overall site organization by displaying to all users the most frequently used tags on every item. Such a tool should only publicly display tags that have reached a certain minimum threshold of occurrences and should be administrator approved (viewing for inappropriate language). On the individual level, tags should not be controlled.
- A privacy policy should displayed somewhere on the site and indicate that users data will be kept confidentially. Additionally, this section should explain how information collected by the site is used.
- Bread crumbs should be displayed on articles on the website. These bread crumbs are links to the page one level up in the content hierarchy
- An introduction to the various tools on the website and how to use them
- Underneath articles in the system should be a section of search results that have been identified as related to the article.

Compatibility Changes between Prototype and Initial Launch

Certain items included in the prototype were included without all intended functionality present either to show concept or indicate process flow of the site. The following is a list of issues with existing features:

- The Facebook “Recommend” link does not currently post items to Facebook.
- The drop down menus occasionally do not disappear upon moving the cursor away from them menu for some versions of Internet Explorer.
- The “Report Broken Link” feature does not yet send an email to the site administrator.
- The title of the site should be a link that returns the user to the homepage.
- The Bookmarking Systems should provide for a method to remove bookmarks
- The ellipsis (“...”) that truncates descriptions of search results should be a link that takes the user to a page where he or she can view all of the information about that item.
- Internal articles on the site should be visually indicated with a light colored transparent background
- The titles of items on full description pages should open in a new window
- Articles should have a link to allow users to bookmark that article
- For searches lasting over 3 seconds, the system should display a “searching” message

Parents’ Recommendations for Content

The following items are suggestions reported by the Parents Panel during usability testing in the language originally used.

- **Basics**
 - Information on how to enroll one’s child in school.
 - Helping parents understand how Special Education is organized from OSEP all the way to the local department and where funding comes from.
 - Overview of IDEA
 - Child’s Evaluation report-a page on independent educational evaluations would be helpful as a link
 - Provide information by age group
 - Add information about “Disabilities History”
 - Beginners need more information pieced out for them
 - Add/try to break out “I am new to special education.”
 - Link to other sections in the site.
 - Add a section about timelines
- **My Community**
 - Add parents’ organizations.
 - Add advocacy groups.
 - Add Structure of SPECED.

- Add purpose of different organizations
- Add information to enable parents to view other communities in the site
- **Laws and Regulations**
 - Add translations of the laws in ways parents can understand, e.g. Wrightslaw website.
 - Add information about getting in touch with local representatives/senators
 - SOL- provide users with released SOL tests (available online). Have access to (ex. for site impaired users) adaptive tests & accommodations
 - (SOL) Information about alternate assessment – create a page for this site with the VA Alternate Assessment page (on TTAC Online)
 - Add Content for Laws & Regulations; Seeking Guidance Advocacy Group Link .
- **Problem Solving**
 - Add a section called “If I don’t understand the language in my child’s IEP”
- **News and Research**
 - Add methods and strategies on how to incorporate research-based, evidence-based research into the parents’ children’s education.
- **IEP**
 - Add content that teaches parents what to expect at an IEP and techniques on how to be a respected and active participant in your child’s IEP team.
- **At Home Services and Activities**
 - Add more specific activities to do with one’s child at home.
 - Involve parents and students with special healthcare needs.
 - Add more content on services; tutoring, private services like speech therapy.
 - The name “At Home Services & Activities” is odd. Recommendation: possibly changing name to ex. “Your child at home”.
- **Assistive Technology**
 - Additional resources for financial assistance for Assistive Technology.
 - More than one option to read/think about, a parent mentioned wanting to be able to link back to information on obtaining Assistive Technology services privately, through doctors, etc., in the event the disability services coordinator does not recommend them.
 - Show various options for communication using an iPad or iPod, they are such versatile teaching and communication tools.
 - Information on Assistive Technology for college students.
 - A.T. Tools could be added and organized by disability (ex. voice output devices)
- **My Interests**
 - Parents want to be able to find information by disability.
- **Transitions**

- Parents expected that there will be a definition of the age at which transition should be reinforced in order for a parent to understand what should be happening for a child to successfully graduate and prepare to enter the workforce or college.
- A parent mentioned the fact that the website provides PowerPoint and other articles, however, parents would like to see a very simple article that communicates to a family the age at which their child should have a transition plan, and exactly what should be happening in their school and their plan.
- Adding information on situational assessments and how they may benefit their child in a school setting, would be helpful.
- **Other**
 - Add ESL language options
 - Add information about bilingual children and the ESOL systems. How does being bilingual affect the special education system?
 - Information on regulations and procedures for ESL students in special education, how parents are accommodated during child studies and IEP meetings, would be helpful. It would also be very helpful to have the documents translated into various other languages (E.g., Spanish) so that all parents can have access to information regarding their children.
 - Add Information about local SEAC chairpersons.
 - A parent suggested a different font for all the caps titles. It's very boxy.
 - The state endorses the Self-Determination Project. A link to this would be helpful.
 - Spell out IDEA acronym.

Additional Features

- The splash screen should also offer the user a method to log in using their username and password.
- The descriptions of items in search results should display and highlight the text that is relevant to the search criteria
- A “print view” link at the top of every page that, when clicked, would take a user to a page that would display only page content and not display site navigation content (e.g. top or side navigation, log-in links, search box, etc).
- A method for ordering search results on the search results page in both ascending and descending order by such criteria as:
 - Average User Rating Score (as mentioned in initial results recommendations)
 - Distance to location for database items having a location, such as workshops and events. Location distance should be available for members who have entered their address.
 - Date item was added to the system
 - Number of members who have bookmarked an item
 - Number of page “Tweets”

- Number of page Facebook “Recommendations”
- A method for filtering search results on the search results page by the following criteria:
 - Type of database item (external link, internal article, event, PDF, etc).
 - Bookmarked status, allowing a user to see items he or she has already bookmarked or only search results that person has not bookmarked.
- A method for controlling how the user views search results, allowing for the display or removal of the following features or types of information on each search result item:
 - The Facebook “Recommend” button
 - The Twitter “Tweet” button
 - The Tags associated
 - The “Bookmark This Item” link
 - The Rating Tool
 - The Aggregated Rating
 - The Item Description (by full description, by truncated view [the first 250 Characters of Item Description], or by no description)
- The implementation of cookies such that the system can identify members who have previously entered their location on the site within the last 24 hours or who have logged in within the last 24 hours.
- A method by which users can request content from the site
- A method by which users can suggest content to be posted on the site
- The ability to see the content in languages beyond English
- A method for parents to share information with other parents
- A map interface to indicate the location of items that have physical locations
- A feature that automatically suggests tags for users to place on bookmarks
- A method by which the system can automatically detect users who are adding tags for the sole purpose of increasing the likelihood an item will be returned in a search on the community and prevent such users from affecting publicly displayed tags.
- A feature that would suggest additional or alternate search terms to user searches based on the relatedness of different tags (i.e. if multiple tags frequently occur on the same items they are related).

Ongoing marketing support

- **Facebook:**
Facebook is a widely reaching tool with great capability for interactivity. Creating a page or group on this website would allow VDOE to increase awareness and branding of the portal, while allowing them to post news and information about it.
- **Virginia Schools:**
Providing information through public schools will help educators to distribute information where it is needed most. Publishing information about the website in school newsletters, asking principles to promote the site, as well as providing some distribution

media (e.g. fliers, brochures, etc.) to local Parent Resource Centers would all be avenues to use existing VDOE contacts to distribute information to parents.

- **Advocacy Groups:**

Many of the parents the Design Team has interacted with during this project have been members of one or more Advocacy Groups. These groups are interested in getting information to parents who need it. Providing information to these groups and some distribution media would allow them to pass information to parents as they need it.

- **Other websites (such as the following state agencies already linked to VDOE)**

Other State Agencies Linked to VDOE would provide a convenient method for information to be distributed to those who need it through channels they already use to receive information.

Some initial suggestions include:

- Virginia Office for Protection and Advocacy
- Virginia Department of Blind and Vision Impaired
- Virginia Department for the Deaf and Hard of Hearing

- **Magazines/Newsletters**

Publishing information in print media, such as EP Magazine (Exceptional Parent), could be a valuable way to reach potential users who may not yet be as technologically connected.

- **Webpage Optimization**

Web search engines, such as Google and Bing use bots to search the web and discover information about websites. Meta-tag information that accurately and explicitly describes the content on this website will allow these search engines to successfully offer this site as a recommendation for various user searches. This could help new users find and use this website.

Style and Accessibility Guide

In an effort to maintain usability of content articles over time, it is recommended that a Style and Accessibility Guide be developed for all content created for this website. Some recommended practices include:

- Every link to a PDF document shall be indicated within the link either through text or a PDF Icon with appropriate alt text.
- Every link that causes text to expand or disappear shall be indicated in line with a downward facing arrow.
- Headings in every article should indicate hierarchy. The title of the article should be the largest heading and all other headings within the content should be smaller (e.g. The title should have a heading 2 tag, or <h2>, and the sub headings should be heading 3 tags, <h3>, or smaller).
- Large segments of text within an article should be able to have content disappear or appear by clicking on the heading.

- All audio on the site shall have accompanying text versions.
- Articles that have related content should have links to each other.

XIII. References

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XIV. Appendices

Appendix A: Original Project Charter

PROJECT CHARTER

Immersion 2010-2011

George Mason University T/TAC ONLINE FOR PARENTS

Version: 1 Revision Date: June 2, 2010

Approval of the Project Charter indicates an understanding of the purpose and content described in this document. By signing this document, each individual agrees work should be initiated on this project and necessary resources should be committed as described herein.

Problem Statement

The Virginia Department of Education is seeking to leverage and expand the content in its T/TAC Online web site (http://www.ttaonline.org/staff/s_home.asp) to serve and inform the parents of children with disabilities. T/TAC Online is designed for educators working with special needs children and provides information, resources and training in a timely manner. As such, the content under those links is not targeted specifically to parents with key messages and benefits that address their particular needs/wants. Consequently, the extent to which parents deem the site to be relevant and usable to them is unclear.

Project Description

This project will enhance the value of the current T/TAC Online web site by re-purposing the site's content and identifying additional content needed to meet the needs of parents of children with disabilities.

Project Goals/Objectives

The overall goal of this project is to create a T/TAC Online for Parents portal that seamlessly integrates current T/TAC Online content and new and/or modified parent-specific content for a positive user experience for parents.

Project Approach

This project will be undertaken as an authentic, real-world project for students in the 2010-2011 full-time Immersion program at George Mason University. The Immersion Program is designed to allow small teams of full-time students to immerse themselves in several project-based experiences that require them to utilize their instructional design, development, and management skills through authentic practice. Professors, instructors, and representatives from the sponsoring organization support students through the project experience.

T/TAC has been sponsoring various Immersion projects for more than a decade. Immersion teams have created prototyped deliverables including the original TTAC Online design, the SOL Enhanced searchable database, and other no longer used elements such as enhancements to the School Improvement section of the web site (2004-2005) and the creation of the Alternative Assessments section (2005-2006).

Project Scope

Project includes:

Examination of the current T/TAC Online site and identification of the content elements that parents of children with disabilities deem to be of value to them.

- Specific elements that parents like (and why)
- Extent to which parents find the site usable in terms of efficiency (e.g., ease of use) and effectiveness (provides what it says it provides)
- Missing elements that need to be added
- Existing elements that need to be modified or removed from their portal
- **Client deliverable:** Performance Analysis Report that analyzes research conducted among parents and includes recommendations for prototype design and development
- Design and develop a preliminary prototype T/TAC Online for Parents site based on the Performance Analysis Report and feedback on that report from the client
 - **Client deliverable:** Prototype presentation that includes the results of research and testing among parents conducted during the design process, as well as a walk-through of the preliminary prototype itself
- Refinement and implementation of “live” T/TAC Online for Parents prototype based on client feedback about preliminary prototype
 - **Client deliverable:** Final presentation that includes tasks addressed from previous client deliverable, formative and summative evaluation techniques and results, as well as a walk-through of the “live” prototype

Project excludes the creation by the project team of a fully operational product that is “rollout ready” to the intended target audience.

Critical Success Factors

A written client (T/TAC)-Mason team communications plan that indicates ...

- Who needs what
- When information is needed
- How information will be given
- Who will provide the information

Assumptions/Constraints

- T/TAC Online for Parents prototype will utilize the same technology platform/environment as the current T/TAC Online site
- Project scope must be completed by May 2011, the end of the Mason academic year
- Project team will have access to all products and human resources required to complete the project as documented in a project plan to be developed by the Immersion Team

Major Milestones

Milestone/Deliverable	Target Date
Project Charter Approved	July 2010
Immersion Team Project Site Available to Client	September 2010
Performance Analysis Report to Client	October 2010
Client Feedback on Performance Analysis Report	October 2010
Preliminary Prototype Presentation to Client	December 2010
Client Feedback on Preliminary Prototype	December 2010
Updated Project Scope to Client	January 2011
Identification of client and end-user participation for usability testing	March 2011
Final Presentation of “Live” Prototype to Client	May 2011

Project Stakeholders

Role	Name/Title/Organization	E-mail
Executive Sponsor	Prof. Michael Behrman/Principal Investigator, Region 4 Training and Technical Assistance Center/George Mason University	mbehrman@gmu.edu
T/TAC Client Sponsor	John Eisenberg, Director Instructional Support and Related Services, VADOE	john.eisenberg@doe.virginia.gov
T/TAC Client Sponsor	Gloria Dalton, Parent Specialist, Instructional Support and Related Services, Virginia Department of Education	gloria.dalton@doe.virginia.gov
Faculty Project Manager	Dr. Shahron Williams van Rooij/Assistant Professor/George Mason University	swilliae@gmu.edu
Collaborating Faculty	Dr. Kevin Clark/Associate Professor/George Mason University	Kclark6@gmu.edu
Subject Matter Expert (SME)	Cherie Takemoto/George Mason University	crtake@gmail.com
Project Team	George Mason University Immersion Team: <ul style="list-style-type: none"> ○ Dalia Abdumeguid ○ Colleen Halverson ○ Jeffrey Sears ○ Christy Stanley 	

Appendix B: Extant Data

Information from Project Sponsor

The Design Team discussed the following questions with Dr. Michael Behrmann.

Is T/TAC the standard site for special needs educators in VA?

It is the state supported site for professionals in VA. It is designed to be the focal point for educators. Educators tend to find their own favorites however. In addition to T/TAC Online, every regional T/TAC has its own website, and there are many different private websites. T/TAC Online is the only website Virginia pays to operate.

What percentage of educators use the current T/TAC Online?

There is no data showing what percentage of educators use T/TAC Online. T/TAC Online gets about 1000 hits a day, 300,000 hits a year. The front page map identifies the distribution of users in superintendant regions. The largest region is region 4 (Northern Virginia) with 23-24%. The smallest regions are 3, 7, and 8, mostly in southern areas.

How do people find out about T/TAC Online? (marketing/promotion)

Mary Wilds is the State Representative for T/TAC Online. Other T/TAC staff conduct presentations and attend conferences to promote T/TAC Online. There are also printed brochures. Virginia Department of Education (VDOE) also promotes T/TAC Online. Our research plan includes conducting end user focus groups and T/TAC Online walk-throughs. Has previous research for T/TAC Online projects utilized audio recordings? Is there budget available for refreshments for focus groups and walk-through participants (72 participants in both phases)?

What kind of digital recorders are available?

Mike might have a Dragon Recorder; Kristine also has a Dragon Recorder; T/TAC has Livescribe, but that may not be the right choice at this point.

What is behind the T/TAC Online password-protected portion of the site?

The staff login lets people into the editing system and uploading system. There are also things in T/TAC Online that the public does not see. The Design Team will be receiving a staff login.

Inventory of Existing T/TAC Online Site

An inventory of our current site drill down is available at:
<http://immersion.gmu.edu/ttac/fall2010/Deliverables.html>

Do we need to be sensitive to the language we use? For example, special needs vs. disability.

Yes. Use people first language. Kristine will give the Design team a document that will help them choose the best phrasing.

Information from Subject Matter Expert

Through ongoing meetings with Cherie Takemoto, as well as input from Kristin Neuber, the Design Team obtained the following information:

Target Audience Groups:

Target Audience Groups	Support Organization
1. Speech/Language Learning Disability/ADD & ADHD	Parent Educational Advocacy Training Center (PEATC)
2. Autism	Arlington Parent Resource Center
3. Intellectual Disability & Developmental Delay/MRID	Arc of NoVA
4. Emotional Disability/ED	
5. Sensory (Hearing Impaired/Sight Impaired)	
6. Homeschooled Students	

According to the Virginia Department of Education, the first three audience groups represent the largest proportion of the special needs population and consequently, should serve as our target participants for the focus groups (“Special Education Child Count Reports,” 2009). Parents from these focus groups and parents from the remaining three audience groups should be recruited to participate in the walk-throughs.

Cherie Takemoto provided the Design Team with the contacts for each group in Northern Virginia, the initial communication with the contacts, and the rationale for dividing the group according to the type of special need. Each organization is focused on a particular category of disabilities and parents participate in the organization relevant to the special needs of their children. Parents’ individual information needs vary depending on the type and severity of the child’s special need. Understanding the various information needs of each group of parents is vital to successful completion of the design project.

Appendix C: Focus Group Discussion Guide

PARENTS FOCUS GROUP DISCUSSION GUIDE

Fall 2010

1. Welcome, help selves to refreshments (Write names on Name Tents)
 2. Introductions from Shahron, Team, Participants
 3. Introduce purpose of research and specific objectives of focus groups
 - a. T/TAC Online (Training/Technical Assistance Centers), the Virginia Department of Education's resource for educators serving children with special needs, has asked the System Design Team at George Mason University to expand the website to include parents.
 - b. Gain an understanding of parents **educational** information needs; where and how they currently obtain information about special education, the specific information they seek, and how it might best be delivered to them.
 4. Few housekeeping issues before we begin
 - a. focus group discussion ground rules – all voices, comments important, courtesies
 - b. audio recording – results reported in the aggregate only, no names
 - c. Summary of group results will be made available for those interested
 - d. Ask for questions; let's get started
-

- As parents, you are all very interested in the education of your children and have probably had a wide variety of experiences in the area of special education. It would be very helpful to our design team to gain an understanding of **questions/issues/positive experiences** you've had as a parent of a child with special education needs. A good way to do that is to share a story that is **typical** of your experiences. That story could relate your best experience or your worst experience, whichever you feel most comfortable sharing. Who would like to share with us first? (Acknowledge volunteer). Tell us about your experiences as a parent in dealing with educational needs of a child with (NEED).
- (SUMMARY:) Based upon what I have heard you all love and believe in being engaged in your children's education. This requires **information**. Where do you get your information about special education? What kind of information/sources you use? Why do you use this? How do you use it? What doesn't it have?
- (SUMMARY:) It seems some folks use *source x* and others *use y*. Do all of these sources you've mentioned address all of your special education information needs? What is missing?
- We know today people are busy and involved. However, we were wondering, of the needs you just mentioned that were not being fulfilled, what would be the ideal way in which they would be filled. To help you verbalize your thoughts, I'd like you to close

your eyes, relax and imagine an "Alice in Wonderland" - like mirror which allows you to step through to a broadened reality. On the other side of the mirror, we see a door marked "Everything I need to help my child's education. Open up that door, and tell me what you see. Let's start with (participant).

- If no one mentions the Internet, ask: Could your information needs be fulfilled via the internet?

MODERATOR SUMMARIZES KEY THINGS HEARD

The next step of our research involves getting the opinions of parents like yourselves about an existing website that addressed special education and determining the extent to which the information on that site is of value to parents.

To do that, we are scheduling a review of that site on another day/time, but we would love for those of you who participated this evening to also participate in the website review. We have prepared a sign-up sheet with a choice of dates/times and will pass it around. If you need to think about this that is fine. We will provide a reminder note to our contact here. We hope that you participate.

Closing

Thank you

T/TAC Site Walk Through

The following list has questions regarding the tasks that you will do, please answer the questions in the order you see them.

1. Please type in the following URL into the browser : TTACOnline.org

2. Have you seen/used this website before? Yes No

3. Please click on the region number on this map where you live or work.

4. Take a few moments to read the page (please don't click on anything), then answer the following questions:

i. Who do you think is the intended audience for this website?

ii. Does this page describe any topics that would be of interest to you? If so what are they? If not, why not?

Task One

Find the various types of Virginia Assessments for children with special needs

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.
 - a. Yes (Proceed to question 3)
 - b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Task Two

Find current definition of (disability name)

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.

- a. Yes (Proceed to question 3)
- b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Task Three

Go to the SOL tab and find the instructional strategy for Math/Science/English for Children with (disability name)

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.

- a. Yes (Proceed to question 3)
- b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Task Four

Find the resources available for parents of children with (disability name)

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.

- a. Yes (Proceed to question 3)
- b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Task Five

Please find any conferences or meetings for parents of children with (disability name)

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.

- a. Yes (Proceed to question 3)
- b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Task Six

Please locate online training webinars or workshops for (disability name)

1. What was the first thing you clicked on or typed?

2. Did you find what you expected to find? Circle your answer.

- a. Yes (Proceed to question 3)
- b. No (Raise your hand for facilitator)

3. Take a few moments to read that page. Is there anything else on that page that is of interest to you? If it is not of interest also please say why?

4. Is there anything else you want to say about this task?

Appendix E: Panel Members

Parents Panel

Regions	Name
1	Mauretta Copeland
1	Maria Isabel Frangenberg
2	Sandy Hermann
2	Donald Skrinjorich
3	Becca Leggitt
3	Sandy Sprague
4	Guiovanna Berni
4	Charlie House
5	Lula Bowyer
5	Mona Holmes
6	Linda Caldwell
6	Becky Silvey
7	Kerry Kochelek
7	Christy Worley
8	Norma Draper
8	Anu Upadhyaya

Experts Panel

Name	Agency/Affiliation
Gloria Dalton	Family Involvement Specialist (VDOE Client Lead)
Nancy Anderson	Family Involvement Network TTAC Representative from GMU
Brad Bizzell	Virginia Tech TTAC
Peggy Dougherty	PRC Region 3
Diann Eaton	Virginia Tech TTAC
Rosalia Fajardo	PEATC
Eileen Hammar	Center for Family Involvement
Dawn Hendricks	VCU Autism Center for Excellence
Gail Holloman	Fairfax County Parent Resource Center
Ruthann Newton	PRC Newport News
Sandra Woodward	Care Connection at UVA Children's Hospital

Appendix F: Portrait of Jan

Jan is 41 years old. She has two daughters, her older daughter is 14 years old, her name is Maya and she has Down syndrome. Jan's younger daughter, Suzanne, is 10 years old and does not have special needs. Maya was diagnosed at birth. Since Maya was diagnosed at birth, Jan was able to consult her various doctors and specialists early on. Jan has been engaged in researching her daughter's disabilities, including moderate intellectual disability, attention issues, difficulty using a pencil or pen, and speech articulation issues. Maya also has a heart murmur and she worries about how she is doing in physical education.

Jan is a member of a support group in her area and several online communities on special education and Down syndrome. She is an advocate online for children with special needs.

Jan has a high school education and some college. She is not working currently so that she can spend time taking care of Maya, who misses school frequently. Her wish is to someday continue her education and work towards a Master in Education so that she can work with/teach children with severe disabilities.

Recently, Jan heard that there are new programs for kids with Down syndrome to go to college. She would like Maya to go to college, but because they have limited income and Maya still doesn't know how to read, she doesn't know if this is realistic. She worries about high school and what Maya will do after high school, but has no idea where to start.

The household has one computer on dial up and the whole family needs to use it. Although Jan is not able to spend a lot of time online, she conducts most of her research online.

Appendix G: Portrait of Mary

Mary is a 39 year old mother. She has an 8 year old son, Johnny, who was diagnosed with autism at the age of 2. Jonny understands what is being said to him, but is only able to say a few words and has trouble articulating them. When upset, he either pinches or tries to run away. Mary is a college graduate with a CPA. She spent the last six years researching treatment options and resources related to autism and special education on the Internet. She works closely with advocacy organizations and runs a support group for parents of children on the autism spectrum. She advocates for children with autism and their families.

Mary is involved in her sons' education. She is always in contact with the school principal and teachers to follow up on his progress. She thinks that her son would be better served in a self-contained classroom, with more behavioral support than he is currently receiving. She is concerned that he does not have more than a rudimentary communication system with limited picture symbols to say "yes" or "no" "hungry" and "bathroom". She tries to share strategies she has learned about in her extensive research, but doesn't think that they are listening to her. She wants to know more about the Federal and State regulations to get a better idea of what her rights are so she can be a better advocate for her child.

Appendix H: Portrait of Diane

Diane is a 46 year old working mom. She is an office manager for a small local business. Before having children, Diane worked as a media specialist at the local community college. Her child, James, now 16, was diagnosed with ADHD at the age of 6. James' first grade teacher noticed that he had difficulty paying attention in class, and recommended testing him for ADHD. Over the past ten years, Diane has had a mix of positive and negative experiences with the school system. When he was younger, James would act up in class, often jumping out of his seat and talking to the other children when it was inappropriate. Now that he is older, (and physically bigger) his behavior has become more of an issue at school. James is currently in 11th grade, but is testing at a 9th grade reading level. He tends to get frustrated if he doesn't understand something and he can become aggressive, often acting on his aggressions verbally and physically. He is then asked to leave class for long periods of time. On the days when James forgets to take his medication, his behavior is worse.

Diane knows that her son's success in school is important for the development of healthy self-esteem and confidence. For this reason, she works with his teachers and school personnel to keep them informed about his needs and progress. She currently helps other parents to be better advocates for their children by participating in a local support group. Diane has also actively researched medical and educational resources concerning ADHD, and she openly shares the information she finds with other parents and with members of James' IEP team. James is about to move on to college, and, as with most of the transitions in her son's life, she is anxious to find out how to help her son transition to this new environment. She wants to know what, if anything, she should prepare for and where to obtain the resources to support her son in this new environment.

Appendix I: Portrait of John

John is a father of three. He has recently retired and is a stay-at-home caretaker for his 4-year-old daughter, Sarah. Sarah is the youngest child and was diagnosed with cerebral palsy. Finding affordable daycare and services for Sarah has been a struggle for the family. John's recent decision to retire and become Sarah's caretaker has placed an additional financial strain on the family. Sarah's older brother, Mark, is 16 years old and is looking forward to attending college in the near future. He loves his sister, but is resentful of the time and resources required for her care. He is concerned with how he will be able to afford to continue his education without financial assistance from his parents. Sarah's sister, Meg, is 10 years old. She is protective of Sarah, but resents the constant attentions she requires from her parents. Both John and his wife, Carol, are aware of the family dynamics, however they feel overwhelmed. They hope that John's decision to stay-at-home will improve the situation.

Appendix J: Revised Project Charter

PROJECT CHARTER

Immersion 2010-2011

George Mason University

Project Name: T/TAC Online for Parents

Product Name: TBD

Version: 1.7

Revision Date: January 19, 2011

Approval of the Project Charter indicates an understanding of the purpose and content described in this document. By signing this document, each individual agrees work should be initiated on this project and necessary resources should be committed as described herein.

Approver Name	Title	Signature	Date
J. Eisenberg	Dir., ISSRS/VADOE	Via e-mail (Version 1)	06/02/2010
J. Eisenberg	Dir., ISSRS/VADOE	Via e-mail (Version 1.7)	01/19/2011

1. Problem Statement

The Virginia Department of Education is seeking to leverage and expand the content in its T/TAC Online web site (http://www.ttaonline.org/staff/s_home.asp) to serve and inform the parents of children with disabilities. T/TAC Online is designed for educators working with special needs children and provides information, resources and training in a timely manner. As such, the content under those links is not targeted specifically to parents with key messages and benefits that address their particular needs/wants. Consequently, the extent to which parents deem the site to be relevant and usable to them is unclear.

2. Project Description

This project will enhance the value of the current T/TAC Online web site by re-purposing the site's content and identifying additional content needed to meet the needs of parents of children with disabilities. The project will also (a) be inclusive of all adults who are the legal guardians of children with special needs, reflecting the dynamics of modern family structures, and (b) provide a solid foundation for creating a product with its own brand identity that is distinct from the educator-oriented T/TAC Online and that appeals specifically to those who are the legal guardians of children with special needs.

3. Project Goals/Objectives

The overall goal of this project is to create a parents portal that seamlessly integrates current T/TAC Online content and new and/or modified parent-specific content for a positive user experience for parents.

4. Project Approach

This project will be undertaken as an authentic, real-world project for students in the 2010-2011 full-time Immersion program at George Mason University. The Immersion Program is designed to allow small teams of full-time students to immerse themselves in several project-based experiences that require them to utilize their instructional design, development, and management skills through authentic practice. Professors, instructors, and representatives from the sponsoring organization support students through the project experience.

T/TAC has been sponsoring various Immersion projects for more than a decade. Immersion teams have created prototyped deliverables including the original TTAC Online design, the SOL Enhanced searchable database, and other no longer used elements such as enhancements to the School Improvement section of the web site (2004-2005) and the creation of the Alternative Assessments section (2005-2006).

5. Project Scope

Project includes:

- Examination of the current T/TAC Online site and identification of the content elements that parents of children with disabilities deem to be of value to them.
 - Specific elements that parents like (and why)
 - Extent to which parents find the site usable in terms of efficiency (e.g., ease of use) and effectiveness (provides what it says it provides)
 - Missing elements that need to be added
 - Existing elements that need to be modified or removed from their portal

- **Client deliverable:** Performance Analysis Report that analyzes research conducted among parents and includes recommendations for prototype design and development
- Design and develop a preliminary prototype based on the Performance Analysis Report and feedback on that report from the client
 - Additional research to include remaining audience segments (e.g., parents of children with visual impairments, parents beyond the Northern Virginia region), as well as advice/recommendations from the Experts Panel chaired by VDOE
 - Liaise with Mason’s T/TAC Technical Team throughout the design and development phases to capitalize on the latest technology and web design trends and capabilities
 - Application of the instructional design processes (task analysis, storyboarding/wire-framing, writing user requirements, etc.) throughout the design and development process.
- Refinement and implementation of “live” prototype based on user feedback
 - **Client deliverable:** Final presentation that includes tasks addressed from previous client deliverable, new product name, formative and summative evaluation techniques and results, as well as a demonstration of the “live” sections of the prototype

Project excludes the creation by the project team of a fully operational product that is “rollout ready” to the intended target audience.

6. Critical Success Factors

- A written client (T/TAC)-Mason team communications plan that indicates ...
 - Who needs what information
 - When information is needed
 - How information will be given
 - Who will provide the information

7. Assumptions/Constraints

- Prototype will utilize the same technology platform/environment as the current T/TAC Online site
- Project scope must be completed by May 2011, the end of the Mason academic year
- Project team will have access to all products and human resources required to complete the project as documented in a project plan to be developed by the Immersion Team

8. Major Milestones

Milestones/Deliverables	Target Completion Date
Scheduling of internal cross-functional collaborative tasks/activities	January 2011
Updates to public project web site, located at http://immersion.gmu.edu/ttac/fall2010/	February 2011
Panel research	March 2011
Usability and name testing	April 2011
Final presentation of “live” product prototype to Client	May 2011

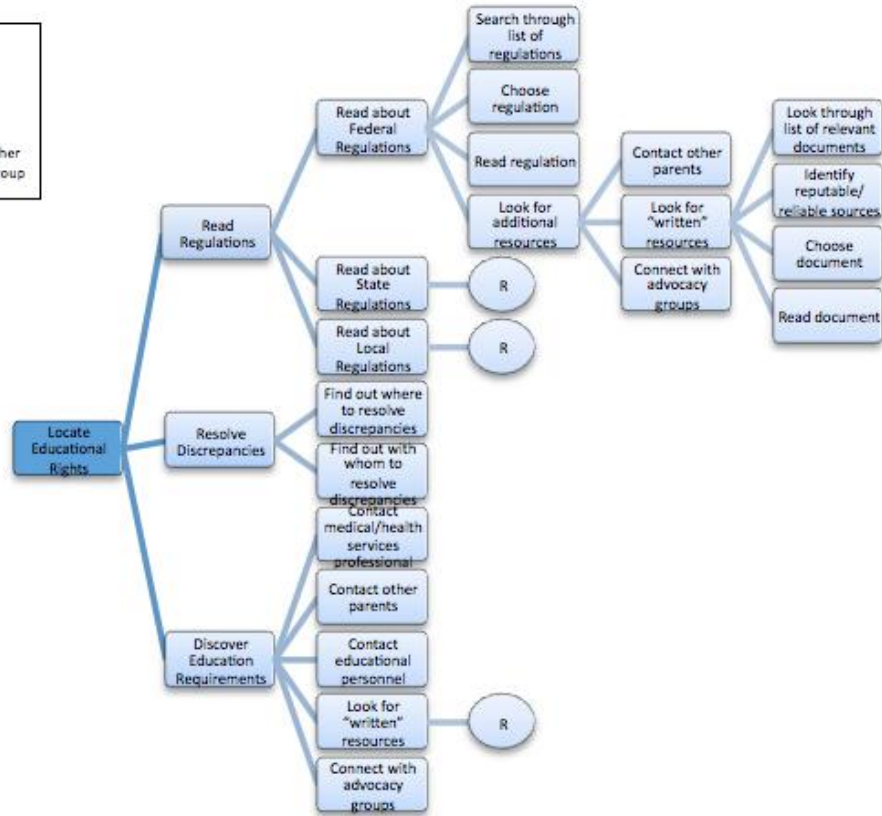
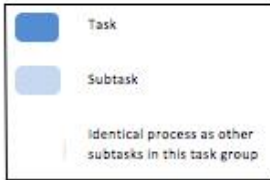
9. Project Stakeholders

Role	Name/Title/Organization	E-mail
Executive Sponsor	Prof. Michael Behrmann/Principal Investigator, Region 4 Training and Technical Assistance Center/George Mason University	mbehrman@gmu.edu
Virginia Department of Education Sponsor	John Eisenberg, Director Instructional Support and Related Services, VDOE	john.eisenberg@doe.virginia.gov
Virginia Department of Education Client Lead	Gloria Dalton, Parent Ombudsman, VDOE	Gloria.Dalton@doe.virginia.gov
Faculty Project Manager	Dr. Shahron Williams van Rooij/Assistant Professor/George Mason University	swilliae@gmu.edu
Collaborating Faculty	Dr. Kevin Clark/Associate Professor/George Mason University	Kclark6@gmu.edu
Subject Matter Expert s (SME)	<ul style="list-style-type: none"> • Cherie Takemoto/George Mason University • Kristine, Neuber/AT Parent Information Technology Coordinator/Keller Institute for Human Disabilities/George Mason University 	<ul style="list-style-type: none"> • crtake@gmail.com • kneuber@gmu.edu
Project Team	George Mason University Immersion Team: <ul style="list-style-type: none"> • Dalia Abdumeguid • Colleen Halverson • Jeffrey Sears • Christy Stanley 	

10. Revision History

Version	Date	Name	Description
1	06/02/2010	M. Behrmann	Version approved by VDOE
1.5	10/18/2010	S. Williams van Rooij	Immersion Team membership finalized
1.6	12/09/2010	S. Williams van Rooij	Addition of VDOE contact name
1.7	01/19/2011	S. Williams van Rooij	Updates based on results of January 19, 2011 internal stakeholders' meeting

Appendix K: Task Chart



Appendix L: Task Analysis

Recently Diagnosed

1.0 Find Definitions

- 1.1 Search through list of definitions
 - 1.1.1 Choose definition
 - 1.1.2 Read definition
- 1.2 Look for additional resources
 - 1.1.1 Contact medical/health services professionals
 - 1.1.2 Contact other parents
 - 1.1.3 Look for “written” resources
 - 1.1.3.1 Look through list of relevant documents
 - 1.1.3.2 Identify reputable/reliable sources
 - 1.1.3.3 Choose document
 - 1.1.3.4 Read document
 - 1.1.4 Connect with advocacy groups

2.0 Determine impact of diagnosis on education

- 2.1 Contact local schools
- 2.2 Contact medical/health services professionals
- 2.3 Contact other parents
- 2.4 Look for special needs research
 - 2.4.1 Look through list of relevant documents
 - 2.4.2 Identify reputable/reliable sources
 - 2.4.3 Choose document
 - 2.4.4 Read document
- 2.5** Connect with advocacy groups

3.0 Research additional information about specific disability

- 3.1.1 Contact medical/health services professionals
- 3.1.2 Contact other parents
- 3.1.3 Look for “written” resources
 - 3.1.3.1 Look through list of relevant documents
 - 3.1.3.2 Identify reputable/reliable sources
 - 3.1.3.3 Choose document
 - 3.1.3.4 Read document
- 3.1.4 Connect with advocacy groups

4.0 Identify next steps

- 4.1 Research healthcare options
 - 4.1.1 Contact health professionals
 - 4.1.2 Look for "written" healthcare resources
 - 4.1.2.1 Look through list of relevant documents
 - 4.1.2.2 Identify reputable/reliable sources
 - 4.1.2.3 Choose document
 - 4.1.2.4 Read document
 - 4.1.3 Connect with advocacy groups
 - 4.1.4 Contact other parents
- 4.2 Research education options
 - 4.2.1 Look for "written" research
 - 4.2.1.1 Look through list of relevant documents
 - 4.2.1.2 Identify reputable/reliable sources
 - 4.2.1.3 Choose document
 - 4.2.1.4 Read document
 - 4.2.2 Contact other parents
 - 4.2.3 Contact advocacy groups
 - 4.2.4 Contact local schools
- 4.3 Identify home activities/recreation options
 - 4.3.1 Contact other parents
 - 4.3.2 Look for relevant resources online
 - 4.3.2.1 Look through list of relevant documents
 - 4.3.2.2 Identify reputable/reliable sources
 - 4.3.2.3 Choose document
 - 4.3.2.4 Read document
 - 4.3.3 Contact community groups
 - 4.3.4 Search local resources

Ongoing Support

1.0 Contact other parents

2.0 Discover how to move through Pre-K to 12

- 2.1 Discover how to move through Pre-K (Refer to 2.3)
 - 2.1.1.1 Research impact of diagnosis on education (See 2.0)
 - 2.1.1.2 Research transition to K
- 2.2 Discover how to move through K-3 (4-6/7-9/10-12)
 - 2.2.1.1 Research tutoring

- 2.2.1.2 Find list of services
- 2.2.1.3 Contact medical/health services professional
- 2.2.1.4 Contact other parents
- 2.2.1.5 Connect with advocacy groups

3.0 Locate Educational Rights

3.1 Read Regulations

3.1.1 Read about Federal Regulations

- 3.1.1.1 Search through list of regulations
- 3.1.1.2 Choose regulation
- 3.1.1.3 Read regulation
- 3.1.1.4 Look for additional resources
 - 3.1.1.4.1 Contact other parents
 - 3.1.1.4.2 Look for “written” resources
 - 3.1.1.4.2.1 Look through list of relevant documents
 - 3.1.1.4.2.2 Identify reputable/reliable sources
 - 3.1.1.4.2.3 Choose document
 - 3.1.1.4.2.4 Read document
 - 3.1.1.4.3 Connect with advocacy groups

3.1.2 Read about State Regulations

- 3.1.2.1 Search through list of regulation
- 3.1.2.2 Choose regulation
- 3.1.2.3 Read regulation
- 3.1.2.4 Look for additional resources
 - 3.1.2.4.1 Contact other parents
 - 3.1.2.4.2 Look for “written” resources
 - 3.1.2.4.2.1 Look through list of relevant documents
 - 3.1.2.4.2.2 Identify reputable/reliable sources
 - 3.1.2.4.2.3 Choose document
 - 3.1.2.4.2.4 Read document
 - 3.1.2.4.3 Connect with advocacy groups

3.1.3 Read about Local Regulations

- 3.1.3.1 Search through list of regulation
- 3.1.3.2 Choose regulation
- 3.1.3.3 Read regulation
- 3.1.3.4 Look for additional resources
 - 3.1.3.4.1 Contact other parents
 - 3.1.3.4.2 Look for relevant resources
 - 3.1.3.4.2.1 Look through list of relevant documents

- 3.1.3.4.2.2 Identify reputable/reliable sources
 - 3.1.3.4.2.3 Choose document
 - 3.1.3.4.2.4 Read document
 - 3.1.3.4.3 Connect with advocacy groups
- 3.2 Resolve disagreements
 - 3.2.1 Find out where to resolve disagreements
 - 3.2.2 Find out with whom to resolve disagreements
 - 3.2.3 Find out how to resolve disagreements
 - 3.2.4 Find and agree on available services
- 3.3 Discover Education Requirements
 - 3.3.1 Contact medical/health services professional
 - 3.3.2 Contact other parents
 - 3.3.3 Look for “written” resources
 - 3.3.3.1 Look through list of relevant documents
 - 3.3.3.2 Identify reputable/reliable sources
 - 3.3.3.3 Choose document
 - 3.3.3.4 Read document
 - 3.3.4 Connect with advocacy groups
 - 3.3.5 Contact educational personnel

4.0 Find availability of services/facilities

- 4.1 Contact other parents
- 4.2 Look for relevant resources
 - 4.2.1 Look through list of relevant documents
 - 4.2.2 Identify reputable/reliable sources
 - 4.2.3 Choose document
 - 4.2.4 Read document
- 4.3 Contact community groups
- 4.4 Search local resources

5.0 Find Post Secondary Opportunities

- 5.1 Research Programs
 - 5.1.1.1 Look through list of relevant programs
 - 5.1.1.2 Identify reputable/reliable programs
 - 5.1.1.3 Choose program
 - 5.1.1.4 Read about program
- 5.2 Contact other parents
- 5.3 Contact advocacy groups

- 5.4 Research non-educational opportunities
 - 5.4.1 Research employment opportunities
 - 5.4.2 Research housing options

6.0 Find News & Research

- 6.1 Find News
 - 6.1.1 Search through list of news
 - 6.1.2 Choose news
 - 6.1.3 Read news
 - 6.1.4 Look for additional resources
 - 6.1.4.1 Contact medical/health services professional
 - 6.1.4.2 Contact other parents
 - 6.1.4.3 Look for “written” resources
 - 6.1.4.3.1 Look through list of relevant documents
 - 6.1.4.3.2 Identify reputable/reliable sources
 - 6.1.4.3.3 Choose document
 - 6.1.4.3.4 Read document
 - 6.1.4.4 Connect with advocacy groups
- 6.2 Find Research
 - 6.2.1 Search through list of research
 - 6.2.2 Choose research
 - 6.2.3 Read research
 - 6.2.4 Look for additional resources
 - 6.2.4.1 Contact medical/health services professional
 - 6.2.4.2 Contact other parents
 - 6.2.4.3 Look for “written” resources
 - 6.2.4.3.1 Look through list of relevant documents
 - 6.2.4.3.2 Identify reputable/reliable sources
 - 6.2.4.3.3 Choose document
 - 6.2.4.3.4 Read document
 - 6.2.4.4 Connect with advocacy groups

7.0 Design and implement unique services for my child

- 7.1 Request services
- 7.2 Request an IEP
- 7.3 Resolve a disagreement
- 7.4 Contact advocacy groups

Appendix M: Use Cases

Splash Screen: Enter Location Use Case Preconditions: None

User Action	System Response
1) The user enters the system	2) The system prompts the user to sign in, indicate location, or sign up
3) The user decides to indicate location OPTION 1, 2, and 3 are different designs to indicate location	
4a) OPTION 1: User types County/School District location	5a) While typing the system provides closest matches of locations already in system.
6a) User Selects a system suggestion. OR User continues typing their location. (e.g. Albemarle, Fairfax, Out of State) OR User selects "Opt Out" option	7a) System verifies location is in list. If it is, system displays homepage OR If location is not in list, system displays message "That location is not in our database. Please select a county of your child's school district so that we can better allocate resources to serve your region." System prompts user to re-enter location, select from closest matches, or opt out (Return to step 6a)
4b) OPTION 2: User selects a region of the map off existing T/TAC Map Splash Page	5b) System verifies location is in list. If it is, system displays homepage
4c) OPTION 3: User selects a region of the map off Secondary Map page OR User selects "Opt Out" option	5c) System displays homepage

Multiple Keywords in Search Engine Use Preconditions: User is already using the system.

User Action	System Response
1. User starts typing a search term	2. While the user is typing, the system displays a list of keyterms that match the letters typed so far by the user, ranked from top to bottom by most frequently searched
3. User finishes typing their first search term by typing a space	4. The system continues to display a list of keyterms that match letters entered so far
5. User starts typing a second search term	6. While the user is typing, the system displays a list of keyterms that contain all the letters typed so far, ranked by frequency of search, followed by a list that contains the first search term as it is typed and keyterms that only match the set of letters typed after the space.
7. User selects a suggestion of the list	8. The search box is populated with the selected suggestion and suggestion box disappears
9. User continues typing a third search term	10. While the user is typing, the system displays keyterms that contain the letters of the last term and as many words preceding the search term as possible. Keyterms with the most number of matched letters in sequence in all words are ranked highest, secondarily ranked by most popular.
11. User finishes typing their third search term	12. The system continues to display a list of keyterms that match letters entered so far
13. User submits their search	14. The system spell checks the search terms by checking if any of the terms is not a word in its dictionary. If the term is not a word in its dictionary, the system replaces it with the closest match word in its dictionary, and repeats this for every term.
	15. The system returns to the user a page of results that contain any of the search terms entered, ranked by number of matched search terms. Above the results, the system displays the "corrected" search phrase as a link and the original search phrase as a link
16. The user indicates a preferred keyword	17. The system orders the search results such that entries with that are given greater priority than entries without that keyword.
18. The user selects a remove keyword	19. The system removes from the search results all entries that have that keyword
20. The user removes a preferred keyword	21. The system orders search results to original priority system
22. The user removes a remove keyword	23. The system replaces all entries that were originally removed

Membership Use Case Preconditions: None

User Action	System Response
1. User chooses sign up	2. The system displays the sign up screen
<p>3. User enters user name /email/password/user name/list of regions</p> <p>OR</p> <p>User selects "opt out"</p>	<p>4. If an invalid # of characters for password was entered, the system will prompt user to re-enter an appropriate password by displaying the message, "you have entered an invalid password, please read the creating a password directions again" message</p> <p>OR</p> <p>If an invalid user name was entered, then the system will display a "The user name is already in use, please choose an alternate user name" message</p> <p>OR</p> <p>If an invalid email address is entered, then the system will display a "An invalid email address was entered, please enter a valid email address" message</p>
5. User clicks submit button	6. If a valid name/email/password/user name/list of regions is entered, the system will display the "An email confirming your sign up has been sent to your email address, please check your email and respond" message
7. User opens email and responds	8. The system creates a user account and displays the "Your attempt to set up a user account was successful" message. The system displays the Homepage link

Splash Screen: Sign In Use Case Preconditions: None

User Action	System Response
1. User enters system	2. The system prompts the user to sign in, indicate location, or sign up
3. User types username and password	
4. User selects the sign-in button	5. System verifies user information OR If system is unable to verify information system displays error message and user is prompted to reenter password. (Return to step 2)

Advanced Search Preconditions: User is in the system

Notes: Each field in this use case is optional. The user can enter all or none of the fields available

User Action (Each actions is a user options)	System Response
1. User clicks on advanced search button	2. System displays advanced search page containing: <ul style="list-style-type: none"> • Same disability as in T/TAC (e.g. Autism, ADD/ADHD, Deaf/Blind), same category as in T/TAC (e.g. assessment, assistive technology), grade (preschool, grade 1-5, grade 6-8m grade 9-12, post-secondary) • Options for word search
3. User selects appropriate disability and/or category and/or grade keywords or <ul style="list-style-type: none"> • user enters search terms into “have all these words” or • user enters search terms into “ have this exact wording or phrase” or • user enter search terms into “have one or more of these words” or • User selects unwanted disability and/or category and/or grade keywords or • User enters terms into “unwanted words” 	
4. User clicks on drop down menu to choose number of results per page	5. The system displays a choice of results per page: 10 results, 20 results, 30 results, 50 results or 100 results.
6. The user chooses a number	7. Number displays in option box.
8. User clicks on drop down menu to choose file type	9. The system displays a choice of file formats: Any format, Adobe Acrobat PDF (.pdf), External Website or Internal Article.
10. The user chooses a format	11. Format displays in option box

12. User clicks on drop down menu to choose date of page	13. The system displays a list of date ranges: past 24 hours, last week, last month or last year.
14. The user chooses a date	15. Date displays in the option box
16. User clicks on drop down menu to choose distance from city/county	17. The system displays a choice of distances: any distance, 5 mile or 10 miles.
18. User selects distance	19. Distance displays in option box
20. The user clicks the “Advanced Search button” to submit search	21. The system responds with a page of results sorted in the order in which the user selected

Bookmark and Tagging Use Case Precondition: User is in system and on a search results page.

User Action	System Response
1. The user finds a result to bookmark	
2. The user clicks “add bookmark”	3. The system prompts the user to enter tags associated with the content ("Please enter keywords to help you organize and find your bookmarks. E.g. transitions, SOLs, Homework.")
4. The user enters whatever text he or she wants to serve as keywords	5. The system checks to see if the tags contain invalid characters. IF it does, system returns user to step 4 indicating prohibited characters. Otherwise, system accepts keywords moves user to step 6.
6. User clicks save bookmark.	7. System saves bookmark to database

Adding Tags to Existing Bookmarks Preconditions: User is on bookmarks page and has bookmarks already listed

User Action	System Action
1. User clicks on a small text box next to the existing tags that has written inside it “Add a tag”.	2. The box expands and the text inside disappears.
3. The user types another tag to associate with the given item and presses enter	4. The tag is added to the list of existing tags, and a new text box appears next to the newly added tag with text written inside it: “Add a tag”

Rating Use Case Preconditions: User can see a resource

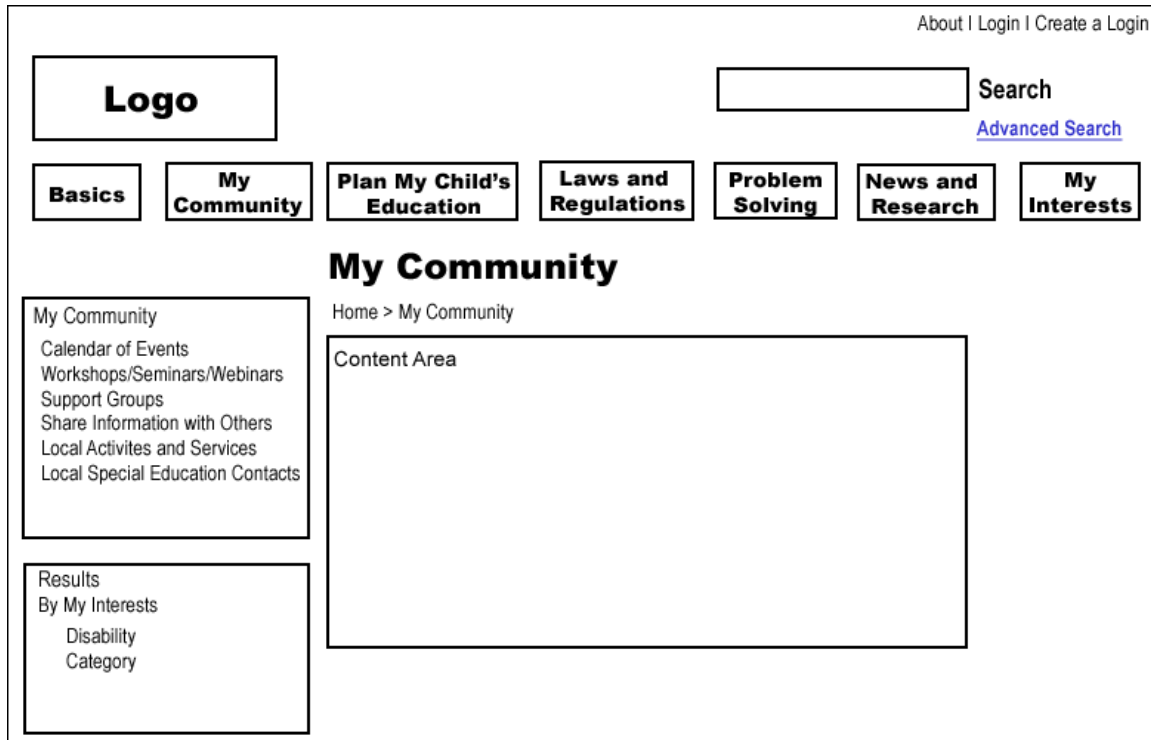
User Action	System Response
1. The user hovers over the rating indicator of a specific resource	2. The system displays what they are rating it
3. The user clicks to indicate their rating	4. The system indicates the rating they have just entered and records the rating.

Report a Broken Link Use Case Preconditions: User can see a resource

User Action	System Response
1. The user clicks the report a broken link for a given resource.	2. The system displays a confirm screen saying “Report this as a broken link?” with two buttons: “Report” and “Cancel”
3. The user clicks report (4a) OR User clicks cancel (4b)	4. a. The system displays “Thank you for reporting this problem” temporarily and then disappears. The system sends an email to the portal administrator containing formation about the link with an error. b. System displays “Report link cancelled” and then disappears.

Appendix N: Wireframes and Storyboards

My Community



Note: This page display a welcome message, and provide links in the left hand navigation that will link to pages that provide:

- Calendar of Events by region (information currently in T/TAC Online)
- Workshops/Seminars/Webinars by region (information currently in T/TAC Online)
- Support Groups by region (information will be provided by SME's)
- Share Information with Others (Possible forum for parents to communicate)
- Local Activities and Services by region (information will be provided by SME's)
- Local Special Education Contacts by region (information will be provided by SME's)

*The information provided in this section requires users to create a login in order to filter content by region.

Plan My Child's Education

[About](#) | [Login](#) | [Create a Login](#)

Logo

Search

[Advanced Search](#)

Basics

**My
Community**

**Plan My Child's
Education**

**Laws and
Regulations**

**Problem
Solving**

**News and
Research**

**My
Interests**

Plan My Child's Education

Plan My Child's Education

- At Home Services and Activites
- At School Services and Activites
- Transitions
- Special Education Process

Home > Plan My Child's Education

Content Area

Results

- By My Interests
- Search by Disability
- Search by Catagory

Note: Content on this page, At Home Services & Activities, At School Services & Activities, Transitions and Special Education Process, will be new content and will be completed by the Subject Matter Experts. Draw the existing list of Categories and Disabilities from TTAC Online, allowing user to choose one or more from each.

Laws and Regulations

The screenshot shows a website interface with a top navigation bar containing links for 'About', 'Login', and 'Create a Login'. Below this is a 'Logo' box on the left and a search bar with a 'Search' button and a link to 'Advanced Search' on the right. A horizontal menu contains seven categories: 'Basics', 'My Community', 'Plan My Child's Education', 'Laws and Regulations', 'Problem Solving', 'News and Research', and 'My Interests'. The main content area is titled 'Laws and Regulations' and includes a breadcrumb trail 'Home > Laws and Regulations'. On the left side of the main content area, there is a list of laws and regulations: 'IDEA (special ed)', 'Section 504', 'Americans with Disabilities Act (ADA)', 'Education for All Children', 'Federal - No Child Left Behind', and 'Virginia Standards of Learning'. Below this list is a 'Results' section with the text 'By My Interests', 'Disability', and 'Category'. A large empty box labeled 'Content Area' is positioned to the right of the list.

Note: This page will display information regarding different federal and state laws and regulations for children with special needs. Draw the exiting list of categories and disabilities from current T/TAC enabling the user to choose one or more from each.

Problem Solving

Logo

Search
[Advanced Search](#)

Basics | **My Community** | **Plan My Child's Education** | **Laws and Regulations** | **Problem Solving** | **News and Research** | **My Interests**

Problem Solving

Home > Problem Solving

Problem Solving

- When you don't agree
- Mediation
- Administrative Review
- Resolution Session
- Due Process Complaint
- State Complaint

Results

- By My Interests
- Disability
- Category

Content Area

Note: This page will display information about solving problems formally and informally. The subject matter experts will provide content about when you don't agree, mediation, administrative review, resolutions session, due process complaint and how to file a state complaint.

News and Research

The wireframe shows a page layout for 'News and Research'. At the top right, there are links for 'About | Login | Create a Login'. Below this is a 'Logo' box on the left and a search bar with a 'Search' button and a link to 'Advanced Search'. A horizontal navigation bar contains seven menu items: 'Basics', 'My Community', 'Plan My Child's Education', 'Laws and Regulations', 'Problem Solving', 'News and Research', and 'My Interests'. The main content area is titled 'News' and includes a breadcrumb 'Home > News'. On the left side, there are two vertical boxes: the top one lists 'News' categories like 'Latest Special Education News', 'Recent Research', and 'National Centers'; the bottom one lists 'Results' options like 'By My Interests', 'Search by Disability', and 'Search by Catagory'. The right side of the main content area is a large 'Content Area' box.

Note: This page will draw the Recent Research from VDOE, Newsletters and Latest Special Education News information from TTAC Online and National Centers from TTAC Online. Draw the existing list of Categories and Disabilities from TTAC Online, allowing user to choose one or more from each.

My Interests

About | Login | Create a Login

Logo

Search
[Advanced Search](#)

Basics **My Community** **Plan My Child's Education** **Laws and Regulations** **Problem Solving** **News and Research** **My Interests**

My Interests

Home > My Interests

My Interests
Select by Disability
Select by Catagory

Note: Content on this page will draw from the existing list of Disabilities and Categories from TTAC Online, allowing user to choose one or more from each.

Search Results Wireframe

[About](#) | [Login](#) | [Create a Login](#)

Logo

Search
[Advanced Search](#)

Basics

**My
Community**

**Plan My Child's
Education**

**Laws and
Regulations**

**Problem
Solving**

**News and
Research**

**My
Interests**

Search Results For "XXXXXX"

Organize My Results By

- Disability
- Category

Did you mean "[xxxxxxxxxx](#)"?

ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder (Book)

Description: The revised edition is edited by Patricia O. Quinn, MD. This concise handbook is packed with practical information and advice for the smoothest possible transition to college life.

Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition

[Bookmark This Item](#)

Rated: ★★★★★ (12)

[Tweet](#) [Share](#)

Your Rating: ☆☆☆☆☆

[Report Broken Link](#)

Bookmarking Wireframe

About | Login | Create a Login

Logo

Search
[Advanced Search](#)

Basics

My Community

Plan My Child's Education

Laws and Regulations

Problem Solving

News and Research

My Interests

My Bookmarks

Search In Your Bookmarks

View only items with these tags:

- Tag 1
- Tag 2
- Tag 3

Bookmark

Bookmark

Bookmark

Bookmark

Bookmarking Storyboard

About | Login | Create a Login

Logo

Search [Advanced Search](#)

Basics **My Community** **Plan My Child's Education** **Laws and Regulations** **Problem Solving** **News and Research** **My Interests**

My Bookmarks Search In Your Bookmarks

Organize My Results By
Disability
Category

ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder (Book)

Description: The revised edition is edited by Patricia O. Quinn, MD. This concise handbook is packed with practical information and advice for the smoothest possible transition to college life.

Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition

[Bookmarked](#)

Rated: ★★★★★ (12) Your Rating: ☆☆☆☆☆ [Report Broken Link](#)

[Tweet](#) [Share](#) [Facebook](#)

Clicks Add a Keyword Box

transition to college life.
Visit: www.maginationpress.com/4416630.html

transition to college life.
Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition

[Bookmarked](#)

User hits enter

transition to college life.
Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition, **HighSchool**

[Bookmarked](#)

User added tags should be indicated.

*Action:

- 1) User clicks "Add a Keyword" Box
- 2) User types in a new tag
- 3) User hits the enter key

Note: User Added Tags should be indicated



Search

[Advanced Search](#)

Basics

My Community

Plan My Child's Education

Laws and Regulations

Problem Solving

News and Research

My Interests

My Bookmarks

Organize My Results By

- Disability
- Category

ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder (Book)

Description: The revised edition is edited by Patricia O. Quinn, MD. This concise handbook is packed with practical information and advice for the smoothest possible transition to college life.

Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition

[Bookmarked](#)

Rated: ★★★★★ (12)

Your Rating: ☆☆☆☆☆

[Tweet](#) [Share](#)

[Report Broken Link](#)

Clicks Add a Keyword Box

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition

Type in New Tag

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition

User hits enter

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition, **HighSchool**

User added tags should be indicated.



Search

[Advanced Search](#)

- Basics**
- My Community**
- Plan My Child's Education**
- Laws and Regulations**
- Problem Solving**
- News and Research**
- My Interests**

My Bookmarks

Organize My Results By

- Disability
- Category

ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder (Book)

Description: The revised edition is edited by Patricia O. Quinn, MD. This concise handbook is packed with practical information and advice for the smoothest possible transition to college life.

Visit: www.maginationpress.com/4416630.html

Keywords: ADD/ADHD, External link, Transition

[Bookmarked](#)

Rated: ★★★★★ (12)

Your Rating: ☆☆☆☆☆

[Tweet](#) [Share](#)

[Report Broken Link](#)

Clicks Add a Keyword Box

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition, **HighSchool**

transition to college life.
Visit: www.maginationpress.com/4416630.html
 Keywords: ADD/ADHD, External link, Transition

Type in New Tag

User hits enter

User added tags should be indicated.

Rating Storyboard

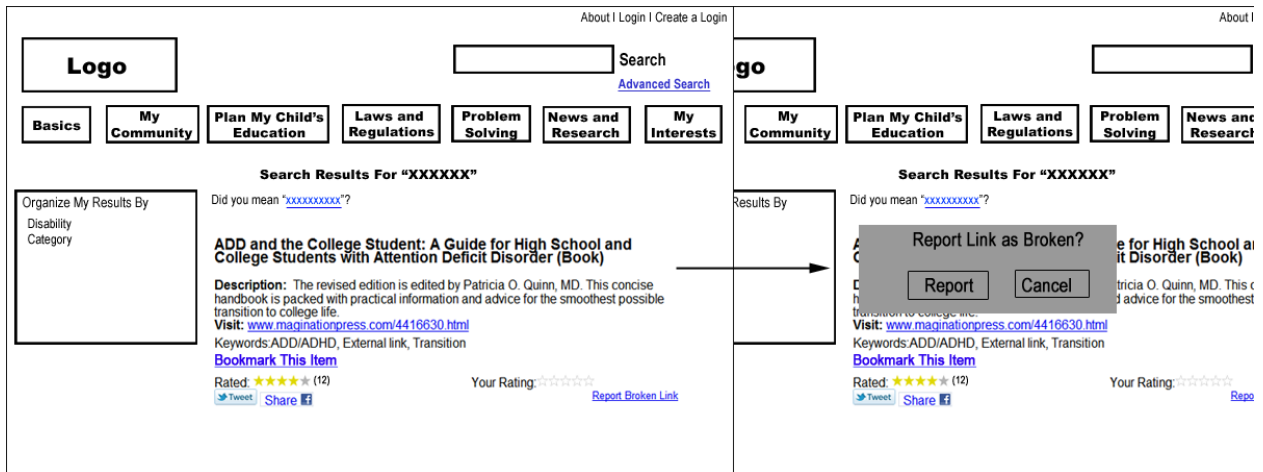
The screenshot shows a website interface with a top navigation bar containing a logo, a search box, and links for 'About', 'Login', and 'Create a Login'. Below the search bar are several category buttons: 'Basics', 'My Community', 'Plan My Child's Education', 'Laws and Regulations', 'Problem Solving', 'News and Research', and 'My Interests'. The main content area displays search results for 'XXXXXX', including a suggestion 'Did you mean "xxxxxxxxx"?' and a book listing: 'ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder (Book)'. The book listing includes a description, a visit link, keywords, and a rating section with five stars and a 'Report Broken Link' option.



*Action:

- 1) User hovers over stars next to your rating.
- 2) User clicks on star of choice and moves mouse away.

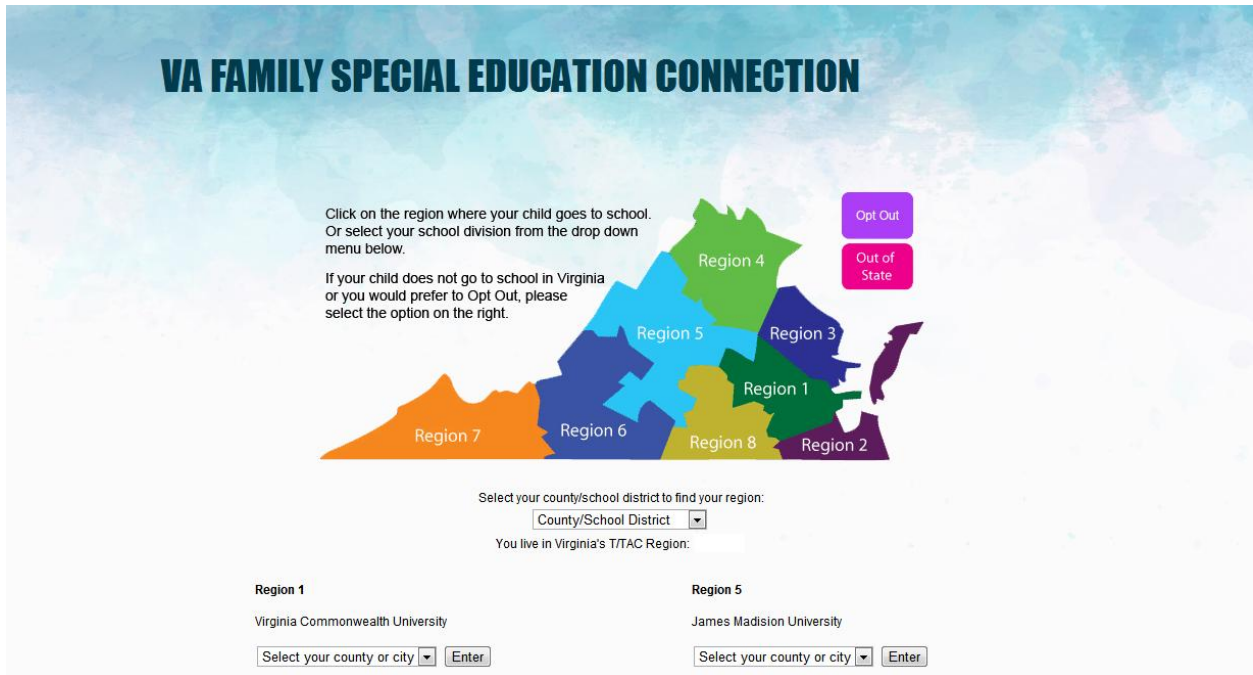
Report Broken Link Storyboard



*Action: User clicks on "Report Broken Link"

Appendix O: Splash Screens

Splash Page 1



VA FAMILY SPECIAL EDUCATION CONNECTION

Click on the region where your child goes to school.
Or select your school division from the drop down menu below.

If your child does not go to school in Virginia or you would prefer to Opt Out, please select the option on the right.

Region 4
Region 5
Region 3
Region 1
Region 7
Region 6
Region 8
Region 2

Opt Out
Out of State

Select your county/school district to find your region:
County/School District

You live in Virginia's TITAC Region:

Region 1
Virginia Commonwealth University
Select your county or city Enter

Region 5
James Madison University
Select your county or city Enter

Splash Page 2

About | Login | Create a Login

VA FAMILY SPECIAL EDUCATION CONNECTION

Home Basics My Community Plan my Child's Education Laws and Regulations Problem Solving News & Research My Interests

Search **WELCOME!**
Advanced Search

VA FAMILY SPECIAL EDUCATION CONNECTION

Guests	Log In
<p>Please indicate your county or school district so we can better know where to allocate resources. Learn More...</p> <p>City / County: <input type="text"/></p> <p><input type="button" value="Enter Site"/> <input type="button" value="Out of State"/> <input type="button" value="Opt-Out"/></p>	<p>Create a Log in to use some of the advanced features of the site. It's free and safe!</p> <p>User Name: <input type="text"/></p> <p>Password: <input type="password"/></p> <p>Forgot Password <input type="button" value="Log In"/></p>

PRECISION TEACHING- Rick Kubina, Ph.D.,
B.C.B.A-D
VCU Autism Center for Excellence (ACE)

Splash 3

Home | About | Login | Create a Login

VA FAMILY SPECIAL EDUCATION CONNECTION

Home | B

VA FAMILY SPECIAL EDUCATION CONNECTION

Members


[Create a Log in](#) to use some of the advanced features of the site. It's free and safe!

User Name: Password: [Forgot Password](#)

Guests

Please indicate your county or school district so we can better know where to allocate resources. [Learn More...](#)

If you are from Out of State or would prefer to opt out, please select the option on the right.



City / County:

B.C.B.A-D

VCU Autism Center for Excellence (ACE)

Association for Science in Autism

Usability Testing

This booklet presents 10 tasks that will provide valuable feedback to the Design Team concerning the parents' website. A prototype has been created to give you an idea of the website layout and structure. ***However, this is only a prototype. Only one section of the prototype includes information for you to review.*** The other sections are placeholders only.

Please complete the tasks below, and provide any additional information that you feel would be beneficial for the Design Team. As you are completing the tasks, please keep in mind that we are ***testing the website***. This is not a test of your skills. If you have trouble finding information this is something we need to know.

Also, if you had any difficulty accessing any of the navigation, links or information and resources on the site while completing the 10 tasks, please comment on the difficulties so we can address them before the site goes live.

Thank you for your help!

The following list has questions regarding the tasks that you will do, please answer the questions in the order you see them.

Task One

5. Please type in the following URL into the browser:

6. Please follow the directions on the page to enter the site.
 - I. Are the directions clear?

It looked like I needed to login & create an account.

How did you enter the site?

- a. _____ Select your Region number
- b. _____ Type in your County or School District name
- c. _____ Select on Out of State button
- d. _____ Select the Opt Out button

2. Take a few moments to read the page (please don't select anything), then answer the following questions:

i. Who do you think is the intended audience for this website?

ii. Does this page describe any topics that would be of interest to you? Mark your topics of interest. (Mark as many that apply)

1. ___ Basics
2. ___ My Community
3. ___ Plan My Child's Education
4. ___ Laws and Regulations
5. ___ Problem Solving
6. ___ News and Research
7. ___ My Interests

1. Select the **BASICS** tab on the main navigation bar at the top of the page.
 - i. Are the topics listed what you expected to find?
 1. ____ Yes
 2. ____ No
 - ii. Do you recommend adding a specific topic to this section?

2. Select the **MY COMMUNITY** tab on the main navigation bar at the top of the page.
 - i. Are the topics listed what you expected to find?
 1. ____ Yes
 2. ____ No
 - ii. Do you recommend adding a specific topic to this section?

3. Select the **LAWS & REGULATIONS** tab on the main navigation bar at the top of the page.
 - i. Are the topics listed what you expected to find?
 1. ____ Yes
 2. ____ No

 - ii. Do you recommend adding a specific topic to this section?

4. Select the **PROBLEM SOLVING** tab on the main navigation bar at the top of the page.
 - i. Are the topics listed what you expected to find?
 1. ____ Yes
 2. ____ No
 - ii. Do you recommend adding a specific topic to this section?

5. Select the NEWS & RESEARCH tab on the main navigation bar at the top of the page.

i. Are the topics listed what you expected to find?

1. Yes

2. No

ii. Do you recommend adding a specific topic to this section?

Task Two

Let's suppose you have just received your child's diagnosis and you are looking for information.

1. Where on the site would you start? What was the **first** thing you selected or typed?

2. Why did you start there?

Did you find what you expected to find on that page? Mark your answer.

a. Yes

b. No

6. Are there any specific topics you recommend adding to this section?

7. Is there anything else you want to say about this task?

6. Did you find what you expected to find on that page? Mark your answer.

h. _____Yes

i. _____No

7. Are there any specific topics you recommend adding to this section?

8. Is there anything else you want to say about this task?

Task Five

Suppose you are interested in purchasing software programs for your child to use at home.

1. Where on the site would you start? What was the first thing you selected or typed?

2. Why did you start there?

3. What were the pages you selected after that? Please list them below
 - a. _____

 - b. _____

 - c. _____

 - d. _____

 - e. _____

 - f. _____

4. Why did you choose that path?

5. What page are you currently viewing?

6. Did you find what you expected to find on that page? Mark your answer.

a. Yes

b. No

7. Are there any specific topics you recommend adding to this section?

8. Is there anything else you want to say about this task?

Task Six

Suppose you are parent looking for activities that can you do to help your child at home.

1. Where on the site would you start? What was the first thing you selected or typed?

2. Why did you start there?

a. _____

b. _____

3. What were the pages you selected after that? Please list them below

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

4. Why did you choose that path?

a. Reading in order _____

b. _____

5. Did you find what you expected to find on that page? Mark your answer.

a. Yes

b. No

6. Are there any specific topics you recommend adding to this section?

7. Is there anything else you want to say about this task?

Task Seven

Suppose you are parent looking for information about Standards of Learning (SOL) assessments.

1. Where on the site would you start? What was the first thing you selected or typed?

2. Why did you start there?

3. What were the pages you selected after that? Please list them below

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

4. Why did you choose that path?

a. _____

b. _____

5. Did you find what you expected to find on that page? Mark your answer.

a. Yes

b. No

6. Are there any specific topics you recommend adding to this section?

7. Is there anything else you want to say about this task?

Task Eight

We are currently looking for a name for the website. The following are recommendations we received from several experts in the field of Special Education. Please rank the names based on your preference in order from 1-4.

- _____ Virginia Family Special Education Online
- _____ Virginia Special Education Advisor
- _____ Virginia Family Special Education Connection
- _____ Family Advisor for Special Education - VA

Do you have any other suggestions of names for the website?
