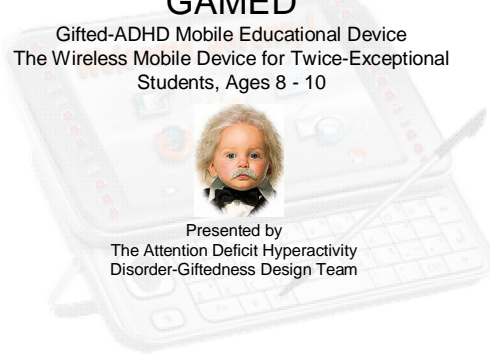


## GAMED

Gifted-ADHD Mobile Educational Device  
The Wireless Mobile Device for Twice-Exceptional Students, Ages 8 - 10



Presented by  
The Attention Deficit Hyperactivity  
Disorder-Giftedness Design Team

EDIT 730 Fall 2007

## What is the Problem?

- Current methods focus on the “typical” student
  - Instruction
  - Evaluation
- Physiological difference
- ADHD-gifted students’ strengths are not valued or utilized
  - Creative, divergent thinking, multi-tasking, higher reading level, learn quickly, reasoning and problem-solving skills, advanced vocabulary, superior retention
- Lack of teacher knowledge/understanding of ADHD-giftedness

## What is our goal?




- Meaningfully engage these students while being sensitive to teacher needs and the typical classroom environment
- Create an enhanced environment using a mobile device

## Why a mobile device?

- Technology is motivating and exciting
- Opportunity to explore beyond what is presented in the classroom
- Alerts on the device can be used by the teacher to engage the student
- Provide way for teacher to evaluate the process of the student and give input and feedback

## Target Audiences

ADHD/Giftedness Personas Summary Page

Primary Target Audience	Secondary Target Audience	
<p><b>Student with ADHD and Giftedness</b></p>  <p><i>Jeremy</i></p> <ul style="list-style-type: none"> <li>• Struggles consistently to accept gifts or assistance, without being told and with poor motivation</li> <li>• Assumes adults and teachers have with right blend of verbal abilities and creative thought</li> <li>• Avoids and procrastinates with written assignments because of difficulty with written language</li> <li>• Is eager to learn tasks that challenge him</li> <li>• Is engaged with video games and internet work</li> <li>• Craves sensory feedback in multiple modes of simultaneous input</li> <li>• Is readily distracted on topics of interest</li> <li>• Is excited by working in restaurants and video games and video games that engage his creative thoughts</li> </ul>	<p><b>Elementary General Education Teacher</b></p>  <p><i>Ms. Pleasants</i></p> <ul style="list-style-type: none"> <li>• Is devoted to providing the best learning for all her students</li> <li>• Is concerned with high on-line testing, student acquisition of academic materials and skills</li> <li>• Is torn between the diverse needs of all students</li> <li>• Wants better tools to reach those students with unique learning and keep them motivated</li> <li>• Seeks constant and subtle opportunity to engage, awe, project, and feel excited</li> </ul>	<p><b>Parent</b></p>  <p><i>Mr. Hope</i></p> <ul style="list-style-type: none"> <li>• Proud of his son's creative talents yet is embarrassed with his inability to succeed in school</li> <li>• Remembers similar negative school experiences from his own childhood</li> <li>• Successfully employs strategies to offset his own tendencies to discipline</li> <li>• Is frustrated with limited resources available to his son</li> <li>• Craves to multitasking</li> <li>• Constantly searches for resources that will help his son at school</li> <li>• Struggles at times to perform menial tasks</li> <li>• Family approaches situations completely but is stressed by his son's school difficulties</li> </ul>

## Features of Existing Technologies

- Wireless internet connection
- IR or RF beaming capability
- Ability to install and run software
- Multiple alert systems (vibration, light, sound)
- Synchronization with other mobile devices and PC system
- High-end graphics card
- Text-to-speech capability
- Multiple modes of input (beaming, mini-keypad, stylus, touchpad, voice)
- Text and voice messaging capabilities



## Theoretical Grounding

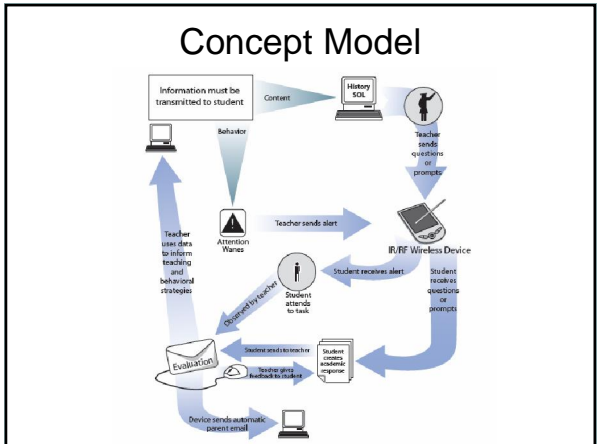
- A combination of epistemological perspectives

<p><b>Constructivism</b></p> <p>Meaning is created by individuals. Learning is an active, creative, and contextual response to experiences and interactions. There are multiple perspectives of the world and events. The focus in a constructivist classroom is on the learner. The teacher acts primarily as a facilitator. Learning is shaped by prior knowledge and is based on inquiry, exploration, and reflection.</p>	<p><b>Objectivism</b></p> <p>Instruction is based upon selective reinforcement of behavior. Learning is defined as evincing particular responses to environmental cues and stimuli. It is both observable and measurable. The focus in an objectivist classroom is the acquisition of predetermined knowledge and skills. The teacher is the transmitter of knowledge and skills, and the student is the receiver.</p>
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- Public schools instruction – primarily objectivist in nature

- ## Constructivist Models of Instruction
- Authentic Learning Model**
    - Application of practical, everyday knowledge in real-world context
    - Collaborative activities
    - Explanation and elaboration of ideas
  - Anchored Instruction Model**
    - Collaborative problem-solving of realistic problems
    - Learning situated in narrative
    - Embedded resources

- ## Objectivist Models of Instruction
- Behaviorist Instruction Model**
    - Instruction = knowledge transmission, teacher to student
    - Demonstrated skills and knowledge
    - Pre-determined goals and objectives
    - Lesson plans
  - Individualized Instruction Model**
    - Assessment of strengths and needs
    - Targeted instruction
  - ARCS – Attention, Relevance, Confidence, Satisfaction**



## Content Inventory


Topic	Subtopic	More Details	URL for more information	User with Main Access to Cached site-when
Reminders		visual- vibration- soft sound-		User with Main Access to Cached site-when
	Specific positive reinforcement	This should be included as often as possible. Too often these messages from the teacher	<a href="http://sparksforgenius.wordpress.com/2007/04/23/great-parenting-advice-especially-for-adult/">http://sparksforgenius.wordpress.com/2007/04/23/great-parenting-advice-especially-for-adult/</a>	Student- Intermittent access
	Attention	Intermittent-visual- vibration- soft sound student checks & talks		Student- Intermittent access
	On task			
	Off task			
		The data automatically creates a graph of on task behavior		
		Teacher sends text message from a pool of messages		
		Specific praise-text- wow you have been working hard!		
		Quiet reminder to return to task-		
	visual			
	vibration			
	soft sound			
	Text			

### Content: Virginia History

- **Virginia History VS 4 c.** Explain how geography influenced the relocation of Virginia's capital
  - Hardships experienced by colonists at **Jamestown**
  - drinking water was contaminated
  - Marshy
  - contained diseases
  - had some salt water seeping in it


### Content Inventory

- **Other Learning Opportunities**
  - Research other aspects of Virginia History
  - Primary sources
  - Video clips
  - Graphics libraries
- **Activities**
  - Cause & Effect
  - Compare & Contrast
  - Interpret ideas




### Content Inventory

- **Tools**
  - Software
    - Word processing
    - Presentation
    - Paint
  - Voice recorder
  - Camera
  - Visual timer
  - Classical music
  - Student resources
  - Parent/teacher resources



### Content Inventory

- **ADHD Information**
  - Description
  - Role models
  - Strengths
- **Strategies**
  - Healthy habits
  - Organization
  - Building on strengths
  - Positive self talk
  - Self-advocacy



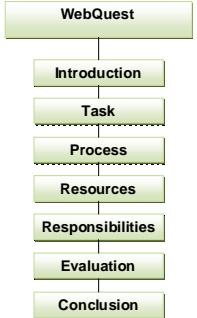
**brain gym**

### What is a WebQuest ?

- Inquiry-oriented online tool
- Information comes from the World Wide Web
- Teacher directs and coaches students to utilize preselected information
- Students learn how to work in a team, with a peer, or individually to finish tasks
- Students spend their time USING information, not LOOKING for it

### WebQuest Components

- Introduction
- Task
- Process
- Resources
- Responsibilities
- Evaluation
- Conclusion



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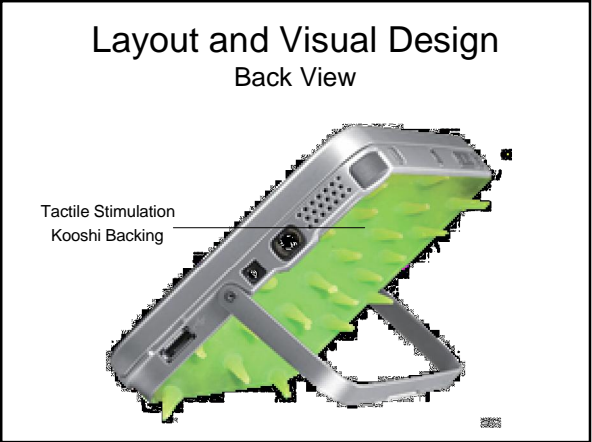
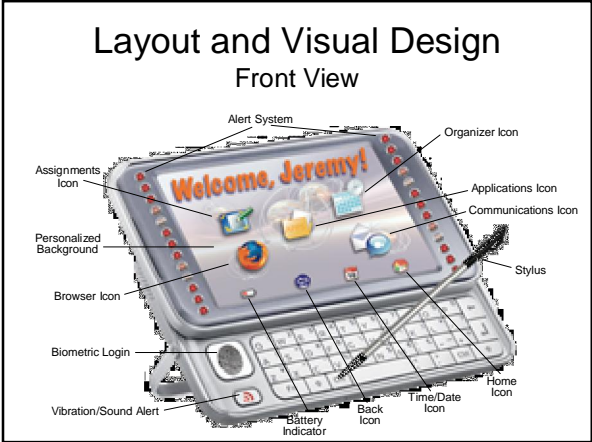
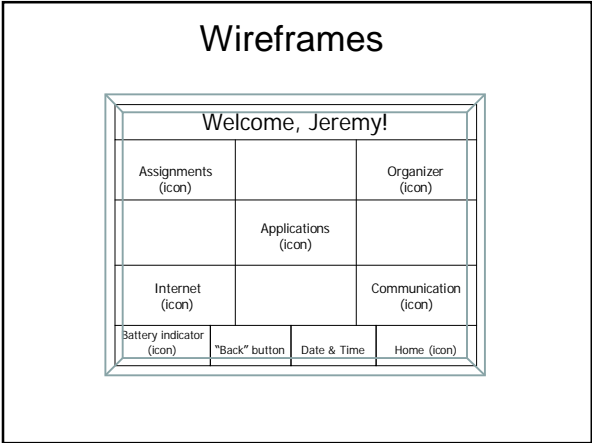
graph TD
  A[WebQuest] --> B[Introduction]
  B --> C[Task]
  C --> D[Process]
  D --> E[Resources]
  E --> F[Responsibilities]
  F --> G[Evaluation]
  G --> H[Conclusion]
  
```

### Why WebQuest?

- WebQuest fits a constructivist paradigm of education
- Through WebQuest, student would take advantage of several built-in features of this device such as:
  - Voice recognition
  - Keyboard
  - Graphic software
  - Camera
  - Internet
  - Peer communication
  - Teacher and parent reporting
  - Feedback

### WebQuest and Virginia History

- Collect data from the preapproved web-sites
- Use preferred input mode to compose two paragraphs responding to prompts
- Access and use multimedia materials
- Collaborate and communicate with a peer
  - Discuss moving the capital
  - Develop a strategy plan to protect capitals from the English army attack



## Layout and Visual Design Assignments Page



## Any Questions?

