



CS MQP Interests 2010-2011

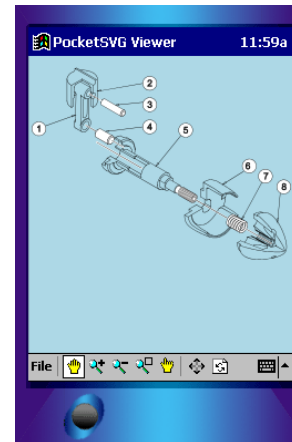
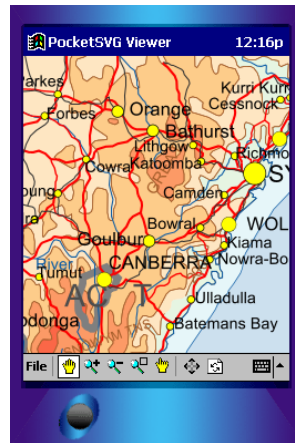
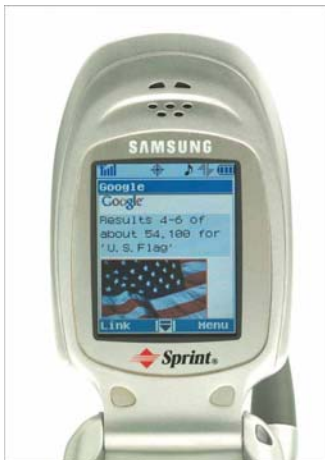
by Emmanuel Agu

General interests

- Graphics rendering of any kind
 - Photorealistic: Looks real, takes time to render
 - Real-time: such as graphics in games
- Mobile computing applications using WPI campus as testbed
- General Purpose Computing using Graphics Processing Units (GPUs)
 - Using graphics cards to do non-graphics compute-intensive applications
 - Program using specialized GPU language called CUDA or OpenCL

3 MQP topics

- Exploiting change blindness in games
- Mobile application 1: Distress student help
- Mobile application 2: Mobile blogging/campus monitoring application



MQP 1:Change Blindness

- Fact: Humans focus so much on tasks, they are blind to change/degradation in other parts of screen
- Question: which types of degradation can we get away with/reduce quality, improve rendering speed
- Modify game (C4), user experiments:
 - Study architecture of available game engine (e.g. C4)
 - Change lighting
 - Add fog
 - Add smoke
 - Vary resolution
 - Substitute textures with images
 - Many variables!! Which one affect players most?

MQP 2: iCanHelp

- Distress student help
- WPI Student development and counseling center
- Develop mobile app to help distressed friend:
 - Facts about mental health topics
 - Interactive conversation practicing mode
 - Location-aware: Use GPS to find nearest resources
- SDCC will provide information, resources

MQP 3: Mobile blogging & campus monitoring

- Build campus wide mobile blogging system
 - Upload pictures
 - Track friends locations
 - Tag locations with comments
 - Follow campus events, find resources
- Participatory sensing
 - Also use system for security monitoring
 - E.g. man carrying a suspicious big bag
 - One person uploads picture
 - Many comments later: turns out it's a student's dad

Contact/More info

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- MQP interests page:
www.cs.wpi.edu/~emmanuel/slides/mqps_2010.pdf