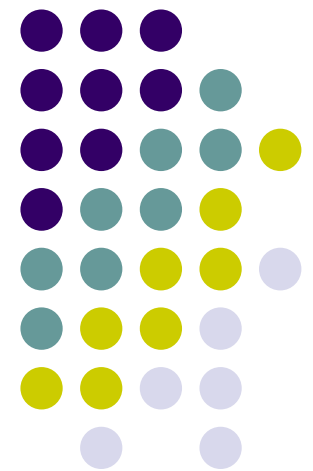
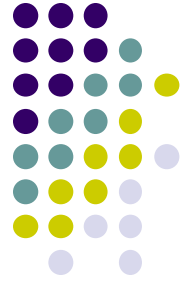


Computer Science MQP Interests

Emmanuel Agu





My General Areas of Interest

- Graphics/rendering
- Mobile graphics
 - Energy efficient, small screens
- Mobile computing/apps
 - Especially healthcare
- Today:
 - 5 mobile app projects
- Open to other ideas



MQP 1: Mass Police Incident Reporting App



- Currently manually take pictures, generate reports
- Slow, reports over 20 pages (pictures, text)

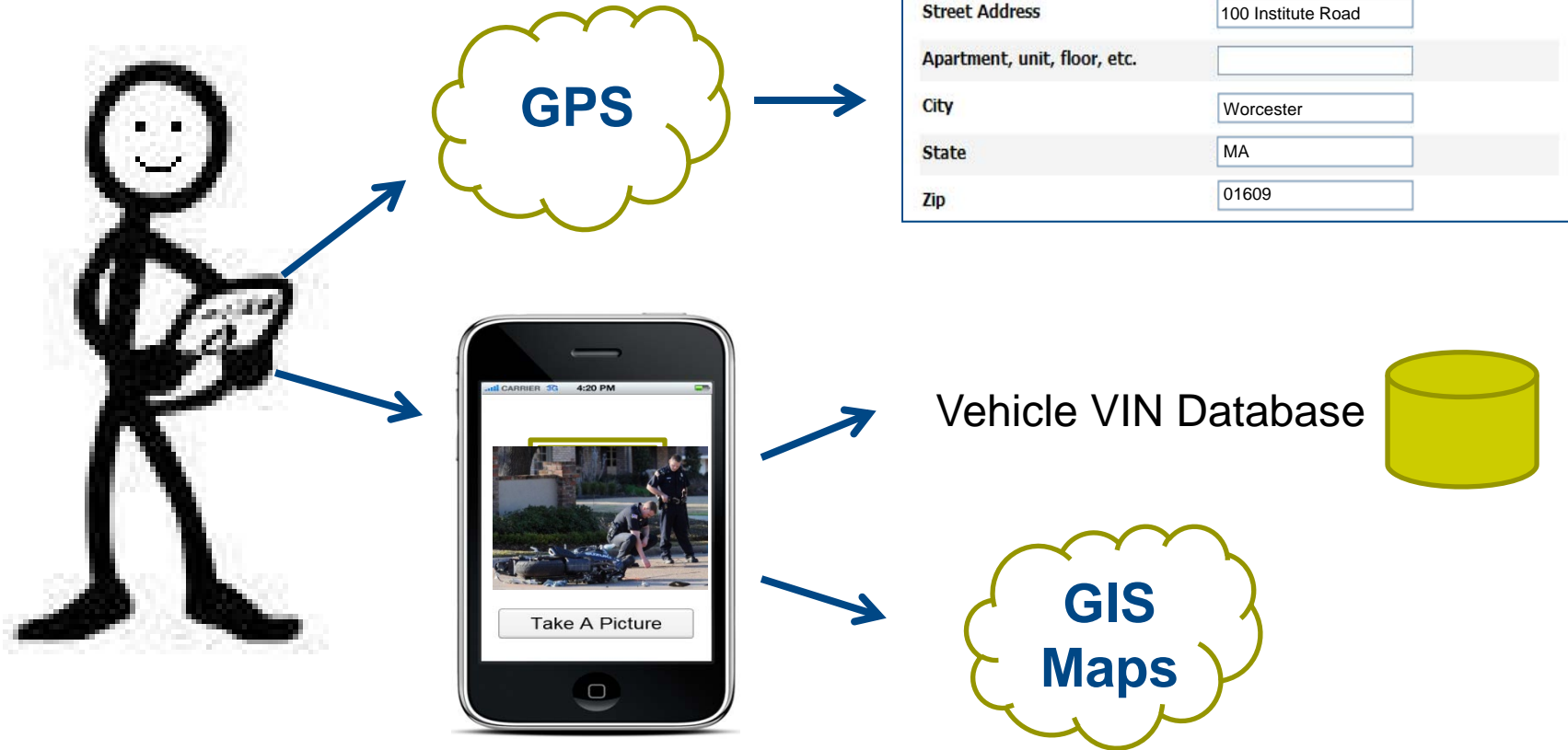


MQP 1: Envisaged Solution

Mobile App uses device sensors + pictures to derive necessary information.



“That was really easy!”



Wellness Smart (Bluetooth) Devices



Eating/calories



Weight



Sleep

MQP 2: Sponsor Connect For Cures: Biofeedback Bluetooth Hub

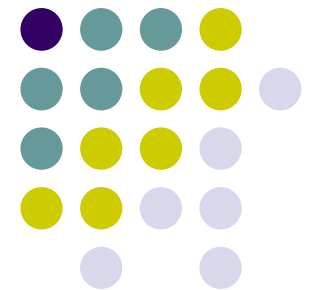
User seeks to use **multiple bluetooth biofeedback devices simultaneously**

Multiple apps are needed to display readouts from multiple biofeedback devices through one smartphone



Need for a **single app** that aggregates, presents and shares readouts from multiple biofeedback devices

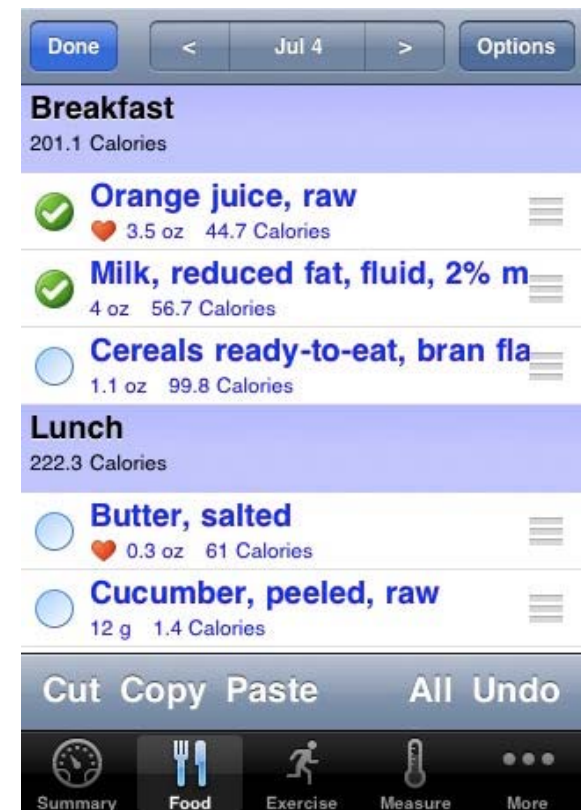
This app would interface with existing devices, and provide a means for easily incorporating newly-developed devices



MQP 3: Order Recognition



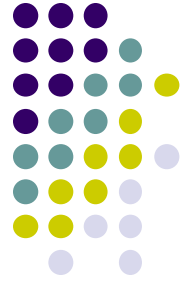
- Health-conscious users record their diet in mobile app
- Tedious, eventually give up
- MQP: Use voice recognition, recognize orders, automatically fill
- Note: Voice recognition error prone
- Improvement:
 - Detect location (e.g. dunkin donuts, match spoken text to closest menu item => fill)



Body Worn Activity Trackers

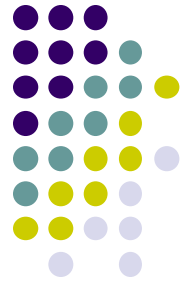


MQP 4: Twitter mining for Health



- Many fitness tracking devices post user stats onto twitter (running time, pace, start/stop time, etc)
 - *I just finished a 5.72 km run with a pace of 4'56"/km with Nike+ Running. <http://t.co/someurl> #nikeplus*
- Twitter has API to download tweets
- **Theory:** games trick people to exercise more
- Geocaching is virtual treasure hunt game
- MQP:
 - Analyze walking tweets + geocaching
 - Compare stats of geocaching users vs non-geocaching users

MQP 5: Develop an app for Worcester Radio station (WICN)



- WICN, local public jazz radio station wants to develop mobile app
- Radio app features include streaming, but project will explore listener song requests, playlists and DVR-like functionality
- Implementations will either be from scratch or using radio app software development kits