Ubiquitous and Mobile Computing
CS 525M: Mobile Fall Event Collection and Display System

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The problem we are trying to solve:

- Falls among the elderly are debilitating and costly
- A literature search reveals the domain of mobile based fall detection is already saturated with solutions
- Presenting fall event data to the elderly and their caretakers still presents research and app development opportunities
- Such an app can collect fall data from a base of users
- It can warn a particular user of locations where they have had a history of falls, or where users with their fall risk profile have fallen
- Caretakers can search a user’s log for unreported falls. These can warn of an increasing frequency of falls or even the need for treatment of injuries
What we have done so far:

- From a literature search, and discussions, we have recognized that mobile fall detection is saturated.

- We have changed focus to the design of 2 apps:
  - A presentation/collection app to detect and log fall events and to display fall history and geolocations in various formats. Note that for purposes of our project and for safety, our fall events are simulated.
  - An admin app to administer (add/edit/delete) user profiles for the presentation.

- We have defined a high level architecture for these apps, and researched the abilities of AppInventor to provide a solution.
  - The apps will share a set of Web based databases using TinyWebDB.
  - The DB’s are partitioned into user profiles and fall event logs.
  - Preliminary schemas have been defined.
What we plan to do to finish the project:

- Review and refine the architecture and functions of the system
- Implement the required Web based DBs
- Implement and test the 2 apps
- Real life fall data can be hazardous and time consuming to collect. The collection and presentation app will collect data of simulated falls for a simulated group of users
- Perform a small user study of the collection and presentation app to potential end users to gather qualitative opinions of the app and its interface
Thank You!

Questions?