My Mobility Test

THE DESIGN LAB at Rensselaer

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Background

- Over 1/3 of all people over 65 fall each year
- Falling is the leading cause of death among seniors
- 30 billion dollars spent per year in medical expenses resulting from falls
- 25% of seniors have a smartphone

Project History

- Android and web application developed and functioning, iOS application not fully implemented
- Step counting algorithm implemented
- Security issues identified
- Timed Up and Go Test successfully used for analysis

Purpose

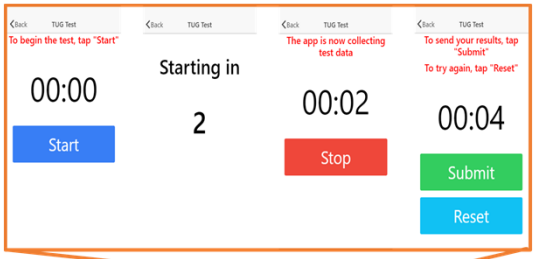
- Provide an application that collects accelerometer data while taking a TUG test
- Provide a website to access the data collected by the application

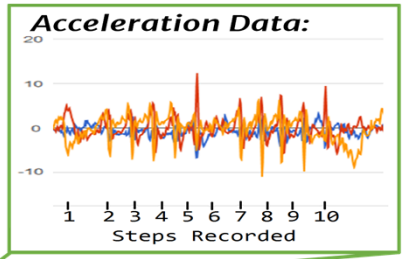
Semester Objectives

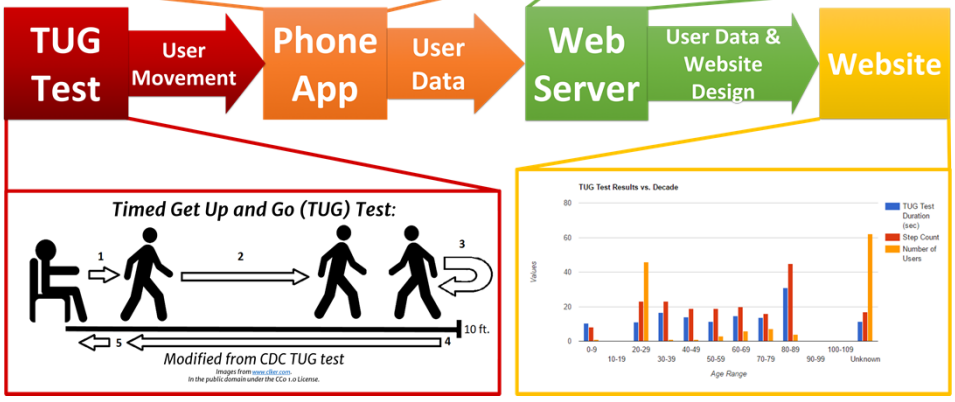
- Deploy website to AGS server
- Create cross-platform application with Ionic
- Update MyMobilityTest.com to fix bugs & failures
- Strengthen website to ensure compliance with HIPAA Title II
- Collect experimental data from senior citizens

Technologies

Twitter Bootstrap | Django Framework | Ionic Framework | MySQL







Technical Accomplishments

Testing/Marketing

- Performed tests on senior citizens before IRB expiration
- Created a marketing video to showcase the My Mobility Test platform
- Collected UI feedback from senior citizens

Apps

- Created a hybrid app for iOS using Ionic
- Implemented all Android functionality
- Superseded the existing Android application

Server

- Transferred the Django website to an external server
- Purchased and set up a valid SSL certificate
- Performed security testing using OWASP ZAP and patched security issues

Website

- Fixed all outstanding security issues
- Properly implemented SSL and HTTPS
- Updated content on out of date pages
- Fixed UI bugs
- Added new functionality such as filtering and password reset