**CS3733-D21 Project Description**

**Project Introduction**

The professor will work as the Vice President of Software Engineering directing overall strategy – determining overarching goals and planning to achieve those goals – and managing the teams by assigning students to the teams, training of positions, and monitoring and evaluating each team’s work. The teams themselves are in charge of tactical execution – the creation of the application by gathering requirements, conducting analysis, formulating designs, writing code, and testing. Team coaches will assist with technical logistics by confirming that teams have necessary software resources, helping teams overcome technical obstacles, and guiding teams to success.

Over the course of this term, your team will create a desktop application for patients and employees at Brigham & Women’s Hospital in Boston. Visitors will not be included in the application because of the current COVID pandemic. The base requirements (not a complete set) for the desktop application are

1. Pathfinding. Users can select a starting and an ending location from a directory list of places on the hospital maps, including the parking lots, and the application will visually display the path to their destinations. Text directions will also be available.
2. A graphical map editing tool to handle floor maps, paths, and locations.
3. A COVID symptoms survey for a patient to take prior to entering the hospital. Depending on the answers, the patient may be directed to use the emergency entrance if they might have COVID.
4. A collection of service request components (10 of them, one per teammate) that permit service requests to be made for a given location. For example, a language interpreter is needed in the walk-in clinic or custodial staff is needed to clean a spill in a hallway.
5. food delivery service
6. language interpreters
7. sanitation services – cleaning up spills, rooms, and public spaces
8. laundry services
9. gift delivery service for presents purchased at the hospital
10. floral delivery service
11. medicine delivery service
12. religious requests such as blessings or last rites. If you implement this component, be aware that multiple religions need to be taken into account.
13. internal patient transportation (transportation for a patient inside the hospital)
14. external patient transportation (ambulance, helicopter, etc) for a patient to be transported to a location outside of the hospital
15. security services
16. facilities maintenance requests including elevator and power issues
17. computer service requests
18. audio/visual requests
19. laundry services
20. Use of JFoenix (Material Design) for the user interface.

Towards the later development sprints, you will need to create a simulated mobile app using JavaFX just for the pathfinding and COVID survey components.

To give you an idea of future submissions, the project is divided into the following:

1. Architectural Spike
   1. Project A: team formation, software development environment and tools
   2. Project B: Project description, requirements gathering and functional model. Practice sprint in creating the Apache Derby and JavaFX/Scene Builder prototypes.
   3. Project C: Requirements Analysis and Design document. Practice sprint 2 to create a prototype that incorporates JavaFX/Scene Builder and a back-end database together.
2. Project Iteration 1 – minimal application
3. Project Iteration 2 – functional application
4. Project Iteration 3 – good application
5. Project Iteration 4 (Final) – excellent application with delighter features!  
   The final iteration is worth 50% of the team project grade!