EXECUTIVE SUMMARY

The Electronic Pre-Operative Anesthetic Plan (EPAP) is a proposed native mobile application prototype for the Android and iOS platforms. This proposed application will be designed to increase efficiencies between anesthesia healthcare professionals, technicians and pharmacists in an operating room (OR) setting.

The EPAP application will enable anesthesia professionals to create and communicate an anesthetic plan consisting of limited relevant patient data, operation procedural details, medication, and equipment. This plan will enable credentialed anesthesiologists to review the plan, designated pharmacists to fill requested medications earlier, and designated technicians to prepare the operating room with the necessary materials and equipment.

The system will produce benefits including reductions of procedure delays due to unavailable medications or materials, reduction of medication and material waste, and increased efficiency in the provisioning of high-demand equipment.

As of the end of the Fall 2017 semester, the core team has progressed through the first three phases of the project, including initiation, planning, and design. With the guidance of the project sponsors, the team created a thorough list of requirements for the mobile application, concisely summarized above. Subsequently, the project charter collected these requirements and outlined the vision, project scope, assumptions, risks, and management plans.

In the planning phase, the team defined a project plan and work breakdown structure, which further set a timeline for deliverables and overall work, along with member responsibilities. Use case diagrams were also generated to indicate potential users and their requirements of the application. Finally, several options for the technology stack were compared and plans for the front- and back-end development were made.

For the design phase, the team created a prototype-style, functional, and interactive set of wireframes to visualize the application and capture key functionality. A detailed data model showing the relevant information to be processed and their connections was also made. Thinking ahead to the later stages, preliminary input-process-output (IPO) tables also helped the team consider how the data would be processed by the application.

In the time between semesters, the team plans to review a self-designed curriculum intended to acquaint the members with the technologies and programming languages to be used in the coding phase. This phase is planned to begin at the start of the Spring 2018 semester in January and will include the building of the application, database development, generation of documentation, and testing. Testing is expected to be finalized by early March with deployment in April and handover to the sponsors in May.