EPAP MOBILE APPLICATION

Project Charter

Prepared for: Dr. Aalap Shah & Dr. Vikas O'Reilly-Shah, Project Sponsors

Prepared by: Team Crawford Long, Terry College of Business, University of Georgia

October 1, 2017

Proposal Version 1.0

INTRODUCTION OF PROJECT STAKEHOLDERS

Project Team Members

- **Ashley Reese**, Project Manager & Lead Developer
- **Ben Pitts**, Front End Developer & Test Analyst
- **Daniel Crittenden**, Assistant Project Manager & Back-end Developer
- **John Peeler**, Business Analyst & Full-Stack Developer
- **Justin Ucol**, Full-Stack Developer & Database Administrator

Sponsors

- **Dr. Aalap Shah, MD,** Subject Matter Expert, Cedars-Sinai Hospital
- **Dr. Vikas O'Reilly-Shah, MD, PhD,** Technical Liaison & Subject Matter Expert, Emory University

Project Advisors

- **Dr. Mark Huber, PhD**, Terry College of Business, University of Georgia
- **Dr. Nikhil Srinivasan, PhD**, Terry College of Business, University of Georgia

PROJECT DESCRIPTION

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.

PROJECT SCOPE STATEMENT

The following deliverables are considered to be within the scope of the project:

- The project team will create a prototype Electronic Pre-Operative Anesthetic Plan (EPAP) native mobile application that is able to run on iOS and Android platforms and that meets the requirements specified in this document.
- The application will pass user testing by the project stakeholders identified in this document.
- Where reasonable, the prototype application will be designed with consideration for:
    - Health Insurance Portability and Accountability Act of 1996 (HIPAA) compliance
    - Fast Healthcare Interoperability Resources (FHIR) compatibility
- The team will create user manuals, application documentation, and thorough code comments to be delivered to the project sponsor upon conclusion of the project.
- Basic user training will be provided to project sponsors.
- A transition plan will be created for the purposes of turning over the application and underlying codebase to the project sponsors upon conclusion of the project.

Unless specified, all other items are considered to be outside of the project scope, including:

- The project deployment into a production environment.
- The ongoing maintenance, development, and updates to the application.
- Full integration of the application with electronic health records (EHR).
- Assurance that the application is HIPAA-compliant or that the application meets any other medical-related government regulations.
    - Note: per the above “in-scope” statement, the team will make all reasonable efforts to build a strong foundation for future HIPAA compliance. However, the project team is unable to provide assurances that the prototype will meet HIPAA or other medical-related regulations.
- A web-based version of the application.
- Functionality that provides calculations for weight-based dosing.

BUSINESS REQUIREMENTS

The agreed upon requirements of the EPAP application are as follows:

- The application shall allow credentialed users to have administrative privileges, including the following:
    - The ability to give new users access to the application.
    - The ability to load new pharmaceuticals and medical supplies into the application
    - The ability to load new patient and procedure information in a plan in the application.
    - The ability to transfer all plans.
- The application shall allow the provisioning of specific user roles, including:
    - Physicians, who will have the ability to:
        - Load new patient and procedure information in a plan in the application.
        - Create plans by using patient, procedure, dosing, and other medically-relevant information.
        - Add free text notes to the plan that will be viewable by users in the workflow.
        - Save partially completed plans.
        - Route the plan to the next user or user group to begin the workflow.
        - Access existing plans for which the user is credentialed to view and/or edit.
            - Users will only be able to view, edit, and have access to plans that they have either created, been assigned, or have had transferred to them.
        - Edit existing plans for which the user is credentialed to view, including:
            - Changing or adding any pharmaceutical, equipment, or supply types and/or quantities.
        - Close or cancel the plan once the procedure has been completed or canceled.
        - “Claw-back” a plan that has been submitted to the workflow.
        - Transfer a plan from one user to another user within the same role.
        - Search for all plans the user is credentialed to view and/or edit.
    - Technicians, who will have the ability to:

    - Access existing plans for which the user is credentialed to view.
        - Users will only be able to view, edit, and have access to plans that they have either created, been assigned, or have had transferred to them.
    - Edit existing plans for which the user is credentialed to view and/or edit.
    - Add free text notes to the plan that will be viewable by users in the workflow.
    - Route the plan to the next user or user group in the workflow once task(s) have been completed.
    - Reject the plan so that it is returned to the prior user in the workflow chain.
    - Search for all plans the user is credentialed to view and/or edit.
- Pharmacists, who will have the ability to:
    - Access existing plans for which the user is credentialed to view.
        - Users will only be able to view, edit, and have access to plans that they have either created, been assigned, or have had transferred to them.
    - Edit existing plans for which the user is credentialed to view and/or edit.
    - Add free text notes to the plan that will be viewable by users in the workflow.
    - Route the plan to the next user or user group in the workflow once task(s) have been completed.
    - Reject the plan so that it is returned to the prior user or user group in the workflow chain.
    - Search for all plans the user is credentialed to view and/or edit.
- The application shall provide default pharmaceuticals, supplies, and equipment for request based on the selected procedure type.
- The application shall automatically archive all closed plans.
- The application shall employ a simple display of day-of-surgery (DOS) cases organized by operating room (OR).
- The application shall be written in English.

PRELIMINARY PROJECT SCHEDULE

Project Start Date: September 6, 2017 | **Project End Date:** May 9, 2018

Task/Milestone	Deliverable	Planned Completion Date
Project Charter	Project Charter	October 1, 2017
Project Plan	Work Breakdown Structure (WBS)	October 4, 2017
Identifying Content	Required Front-End Standards Required APIs	October 18, 2017
Project Requirements	Use Cases User Stories Technology Stack	October 25, 2017
Application Structure	Wireframes Framework Flow	October 25, 2017
Database Structure	Data Models	October 25, 2017
Program Structure	MVC Detailed Components	November 22, 2017
Database Built	Loaded Databases	November 29, 2017
Application Built	Application Ready to Test	April 11, 2018
Application Tested	Tested Application	April 11, 2018
Application Produced and Deployed	Deployed Application	May 2, 2018
Transfer Ownership to Client	User Manual Training Materials Application Electronic Files and Other Documentation	May 9, 2018
Final Presentation	Presentation Materials	May 9, 2018

PROJECT BUDGET AND RESOURCE REQUIREMENTS

The project deliverables are being generated by the student project team to fulfill requirements for graduation from the University of Georgia's Master of Business Technology program. For this reason, development labor is being offered gratis and the project has a budget of $0. Any additional resources required by the project are expected to be procured legally and at no cost to project team members.

In the event that the project team requires a tool that does not fit into the project budget, the project advisors will be notified immediately to determine next steps or alternate actions.

Resources Required:

Resource	Description
Project stakeholders	Project team (vendor), project sponsors (client), MBT faculty advisors
Technology and software	Personal computers, Basecamp collaboration software, programming software, GitHub version control system, Google Drive, Google Hangouts, MS Office, Lynda.com, UGA Terry College development servers, high-speed internet access, other no-cost software as needed.
Facilities	None required. Project meetings, presentations, and collaboration will be performed virtually using a combination of the above technology and software.

ASSUMPTIONS AND RISKS

Undertaking any information technology project is a risky endeavor. This is particularly true for a student project involving individuals who do not have professional experience developing software. In an effort to provide project transparency, the project team has provided a list of assumptions and risks for the project from the perspective of both the project team and the client.

Project Team:

- Many individuals on the team do not have professional programming and/or application development experience. Team members will be expected to learn new tools and technologies in order for successful delivery of the project.
- The Basecamp project management and collaboration tool must be checked daily. If a team member is unavailable for more than two days, the team should be notified as far as possible in advance of their planned absence. The team agrees to use Basecamp in lieu of any other communication platform, unless otherwise agreed upon.
- A GitHub repository has been created to serve as the team's version control system (VCS) for deliverables. The team members agree to keep the VCS synchronized with their personal project files within reasonable intervals.
- Members of the project team are expected to provide an average of 8 to 12 hours of work per week for the duration of the project.
- In the spirit and principles agreed upon during the formation of the group, team members are expected to proactively communicate, provide high-quality work, keep their commitments, provide constructive feedback, be willing to learn, and share knowledge.
- Team members will notify the project manager in a timely manner if they are unable to keep project commitments.
- Team members are expected to hold a weekly check-in meeting as a group to track progress and set goals for the upcoming week.
- The project team will provide updates to the project sponsor at 2-3 week intervals, or as needed by the phase of the project. Additionally, the project team will provide client access to specified areas of Basecamp so that the client can track the project phases in real-time.
- The project team may be inactive during periods where the University of Georgia is not in session. The project sponsor must be provided advance notice of these periods.

- The team will ensure that the client signs off on the final project requirements.

Client/Project Sponsor:

- The client will respond to project-related inquiries within a 72 hour time frame, unless otherwise specified.
- Client responses and feedback will be made via Basecamp and other collaboration tools in lieu of email, if reasonably possible.
- The client will provide all logos, images, copy, legal language, media assets, and medical-related data, that is required by the project. For any of these items that are not delivered, the client understands that placeholder content and/or data will be used.
- The client will verify that the deliverables meet the specifications outlined in the requirements.
- Although the project is being delivered as a non-production prototype, the client will provide review and advice on HIPAA requirements where reasonably possible.
- The client will bring up any questions, comments, and concerns to the project team within a timely manner. Open, constructive, and transparent communication is encouraged by the project team.
- After this document has been approved, no additional features should be added to the scope of the project unless they are deemed critical, negotiated, and agreed upon by all parties.
- After the final project delivery has been accepted, the client is responsible for placing the project into production environments and future maintenance.

Project Risks:

- One or more project members will be unable to dedicated the required time to the project.
- Sponsors will not be available to provide consultation, medically-relevant data, and application reviews.
- The requirements gathering process is unsuccessful and the project does not provide the needed functionality.
- Scope creep occurs during development.
- An inappropriate application development framework is selected, which results in an increased research workload and a corresponding decrease in project scope.

PROJECT ADMINISTRATION

Communication Plan

The Communication Plan provides guidance for how project information should be communicated between projects stakeholders.

- Written communication and collaboration between the team will take place on the Basecamp online project management tool. Team members are expected to check Basecamp daily.
- All meetings will take place on Google Hangouts. All team members are expected to be in attendance, unless they have notified the team in advance of their unavailability. All team members are expected to have video enabled in all meetings, if possible, and actively participate in the discussions.
- The team will have weekly virtual group meetings on Sundays at 7:30 PM ET. Any deviations from this time will be agreed upon by the group.
- Initially there will be a bi-weekly project meeting with the client (time and date varies based on client availability). Meetings may be less frequent depending on the need. The team will communicate with the clients via Basecamp or email as needed.
- Project updates will be presented one to two times a month to the professors during class live sessions.

Scope Management Plan

The Scope Management Plan outlines how project potential scope changes will be administered by stakeholders.

- Scope change request may be made verbally, through Basecamp, or via email.
- All requests for changes to project scope that may have a significant effect on project requirements must be formally documented and signed off
- Since the budget and timeline is fixed, scope changes will likely require scope reductions in other areas.
- Changes to the scope will be made only if approved by both the client and the project team.

Quality Management Plan

The Quality Management Plan defines the acceptable level of quality defined by the customer and how the project team will ensure this level of quality in all deliverables and work processes.

Project Manager Responsibilities

- To document customer expectations and gather consensus.
- To utilize the skills and expertise of the project delivery team in order to achieve target quality levels.
- To work with the customer in the early stages of the project to determine customer needs and define project scope and requirements.

Project Team Member Responsibilities

- To participate in the delivery a high quality product that fulfills the customer's needs.
- To execute tasks and produce deliverables in a high-quality manner.
- To ensure that all deliverables are reviewed and/or tested by a non-author.

Client Responsibilities

- To participate and be fully engaged in stakeholder reviews of deliverables.

Change Control Management Plan

The Change Control Management plan establishes how changes will be proposed, controlled, accepted, and monitored. It will govern changes to the baseline project scope including changes to the work breakdown structure and project requirements.

- Any member of the project team or the client can propose a change.
- Changes can be proposed verbally or through written communication.
- In order to be approved, it must be accepted by the members of the project team as well as the client.
- The impact of the requested change shall be analyzed and documented.
- Project documentation needs to be updated to account for approved changes.

Human Resources Plan

The project team is comprised of people with assigned roles and responsibilities for completing the project. Each team member's skills will be assessed and they will be assigned a role(s). The roles and responsibilities of each member of the team will change throughout the course of the project. This rotation of responsibilities will ensure that each member of the team gains the experience of working in different roles and that they get to see the project from different perspectives.

- **Project Manager:** responsible for leading the project, planning and organizing and monitoring execution of tasks

- **Business Analyst:** responsible for analyzing the business, gathering and documenting requirements
- **Front-end Developer:** responsible for implementing the visual elements that the users see and interact with in the application
- **Database Administrator:** responsible for installation, configuration, and design of the database
- **Back-end Developer:** responsible for server-side logic and data aggregation responsible for server-side logic and data aggregation
- **Test Analyst:** responsible for defining and executing test cases and ensuring overall quality of all pieces of the application

Implementation and Closure Plan

The final product will be delivered to the Project Sponsors, Aalap Shah and Vikas O'Reilly-Shah, by May 9, 2018. This delivery will include the following:

- Source code, including thorough comments
- The database (DDL, scripts, etc)
- All project documentation
- User manual

The client will be responsible for implementation and deployment of the product as well as maintenance and technical support. At project handoff, the project team will be relieved of any responsibilities regarding the product.

ACCEPTANCE AND APPROVAL

The project stakeholders and participants listed below have agreed and will adhere to the guidelines outlined in this project charter to deliver a product which satisfies the identified requirements within the indicated project timeframe.

EPAP Sponsors:

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Dr. Vikas O'Reilly-Shah, MD, PhD

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Dr. Aalap Shah, MD

University of Georgia MBT Student Project Team:

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Ashley Reese

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Daniel Crittenden

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John Peeler

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Justin Ucol

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William (Ben) Pitts