Harris Healthcare Workload Application Vision and Scope

COSC 471
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Version 1.9

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Revision History

Revision	Date	Brief Summary of Changes	Author
Version 1.4	2020/01/08	Discussion of additional features; timing sessions, user roles, analytics	N. Murray
Version 1.5	2020/02/07	Updated with more non-major features; chat-bot, biometrics	N. Murray
Version 1.6	2020/02/25	Revised wording, simplified vocabulary	N. Murray
Version 1.7	2020/03/10	Revised wording	N. Murray
Version 1.8	2020/03/23	Details about biometrics and chat-bot	N. Murray
Version 1.9	2020/04/07	Final details and revision of wording	N. Murray

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1 Introduction

Harris Healthcare is interested in improving the efficiency of front-line staff both during and after patient visits. Our web aplication will help front-line staff to quickly perform tasks and enter data through the utilization of an interactive chat-bot, to supplement digital form filling, and biometric authentication for quick login. Time logging may be utilized to track usage of the application and completion of tasks. This document will outline the overall vision for an application to solve the problem of improving both the efficiency of front-line workers and staff allocation.

2 Vision

2.1 Vision Statement

The Harris Healthcare Workload application is intended to give hospital front-line workers, specifically pharmacists, the ability to be more efficient during day-to-day activities. These activities include regular patient rounds, scheduled appointments, training, as well as data entry into several forms. A web based application will be accessed from any networked device and authentication is perfromed using login credentials or a bio-metric fingerprint scanner, (on android devices), for quick login. Front-line workers will be able to see a list of patients to visit on the current day and fill relevant forms digitally via the device keyboard, or by answering simple questions from a chat-bot. Managers will be able to create new forms using a form building tool. Managers will have a different administrator user role allowing them to access the form building tool and analytics dashboard.

2.2 Application Features

- A mobile friendly interface
- Authentication and registration of users
- Implementation of bio-metric authentication; fingerprint reader on android devices
- A clickable daily appointment list including times and hospital room locations
- Appointment information displayed after clicking a list item
- Digital form entry for front-line workers to log times, patient appointments, and patient information
- A chat-bot to assist with form filling. Front-line workers will answer simple questions with yes, no, or a number
- Appointment/patient notes can be added to appointment information page
- Time tracker buttons for logging time spent during patient visits, meetings, and training sessions

- An analytics dashboard providing time metrics from front-line workers; time spent on tasks, using the app, start and end times of shifts, etc
- A form builder for managers to create new forms for front-line workers
- A form field creator to create customized fields for new forms
- Admin user roles to separate front-line worker and manager tasks, form builder and analytics dashboard are for managers only
- An android version of the application separate from the web browser

2.3 Assumptions and Dependencies

- Front-line workers will mainly be using a mobile device
- Mobile devices may be shared
- Mobile devices will be running the android operating system
- Mobile devices will have biometric scanners (i.e. fingerprint scanners)
- WiFi access will be available throughout the hospital grounds
- Patient lists and activities will be created by ward clerks using existing software
- Harris uses Microsoft Azure for deployment
- Application depends on the ASP.Net framework

3 Scope

3.1 Scope of Initial Release

The initial release of the product will include user authentication via login credentials or biometrics, appointment lists and information, as well as form creation and storage. From filling will be completed via manual entry or with the aid of a chat-bot. An android application will also be available to load the web application from the server for easy use on mobile devices. The user interface will also be improved from the prototype release.

3.2 Scope of Subsequent Releases

Subsequent releases will include time tracking abilities and administrator accounts to separate form building features. Further releases will include an overhauled user interface for improved user experience. Administrators will be provided with an analytics dashboard to see where front-line workers are spending the most time and how often they are properly using the application.

4 Business Context

4.1 Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Department Directors	patient satisfaction increase	receptive to productivity increase	maximizing patient visit numbers per worker	should be deployable across departments
Managers	analytical data on front-line activities	receptive to new data about front-line time management	views of individual worker's time logs	desktop compatible; form creation
Front-line Workers	quick access to patient list and forms	receptive to new system for dealing with patients	ability to complete tasks while walking between patients	must run on android devices

4.2 Operating Environment

- Several thousand total users but much fewer simultaneous users (at most 50)
- All users located at the same hospital
- Users need access via mobile devices both during and in between activities
- Users will be on the hospital WiFi network
- App data stored in Azure web service
- Mobile devices with use the Android OS and have a biometric scanner (fingerprint, face, etc.)