E-Conference

System-Wide Requirements Specification

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# Introduction

## Who updates this document

This document was created by Team Sparta. From 25 July 2014, this document is to be edited by Team JPRS Squad.

## What is this document about?

This document specifies system-wide requirements for the eConference software produced for Epworth HealthCare. It is a high level view of the functionality of the eConference software, and will evaluate the functionality in terms of system qualities, interfaces, business rules, project constraints, and compliances.

## A brief description of the software

The system will include a dynamic web-site and 2 related mobile applications. The first mobile application will run on an Android phone or tablet device and the second will run on an IOS phone or tablet. The mobile applications will be used by conference (or course) attendees to access information about conference sessions, post questions to a moderator, and provide feedback on conference sessions.

An administrator will set up the details of the conference and its associated sessions and develop the content via the Web application which saves the data in an online database that is also accessed by the mobile application.

The project will include the deployment of the mobile applications to the Play store and the App store as well as deployment of the database and website to a remote web-server.

# System-Wide Functional Requirements

The system is composed of two applications and a web service. There is a mobile application to be used by the conference attendees, and a web application to create and maintain the data of the administrators and users. The web service will serve the data to the applications.

## Mobile Application

The mobile application will include the following features:

* Entry to the application via a conference code/token
* Capability of contacting a web service and downloading course and session information to the mobile phone or tablet
* Allow selection of a session & then display session details
* Link to internet resources
* Ability for course attendees to post questions for consideration by the moderator of the session
* Provide feedback on the session and speaker by way of a small questionnaire.
* Sponsor details and trade displays of equipment
* Various logos and icons for app/sponsors/course content
* Maps

## Web Application (To be used by the Administrator)

The Website will be a dynamic site that collects details from the users and stores them in a database. It should include the following capabilities.

* View/Add/Edit/Delete a Conference and its details
* View/Add/Edit/Delete a Presenter/Bio details
* Add/Edit/Delete Sessions and session details
* Review and selection of suitable Q&A questions (RSS feed or similar)(**session moderators)**
* Should include a user friendly help system
* Add/Edit/Delete Questionnaire
* Add/Edit/Delete Sponsor Details
* Add/Edit/Delete Trade display/equipment Details
* Map details, fixed location and google maps.

## Web Service

A web service will need to be developed that can process requests from the mobile application and download content and upload questions and feedback.

* Download course and session details to a mobile device
* Save Q&A questions to a database
* Save Feedback Questionnaire details to the database

# System Qualities

## Usability

The usability for the system

The website usability will be clear for the administrator to be able to update all information to be sent to the attendees on their mobile applications. The results sections will have graphs and tables to hold the information.

The mobile app usability will need to be thought out to ensure attendees are able to navigate easily. This will include a design choice that is clear and information being put into tables to keep it easy to read.

The forms to be completed by the user can have default values set for some of the questions so as to make it easier and quicker for the user.

GMAPs and forms will have a clear layout and instructions on how to use and submit.

The different sections and pages will be clearly labeled and easy to find. We will make sure not to bury pages within pages without direction and labels. The maps, sponsor information and extra links will all be on separate pages accessible from the main menu so as not to clutter other pages.

## Reliability

Both the website and the app will need to be reliable for the conference. A testing session will need to be done for all functions of the project. The testing will be documented for all functions on each platform and browser to ensure the website and app are secure and free of errors

If the app is using a wireless connection then it will need to be able refresh without crashing if the internet connection cuts out.

The information being sent and stored in the database will also need to be tested to ensure SQL has been set up correctly for all feedback and question information.

The RSS feed will need to update without errors and this can be tested by running the feed with repeated updates to ensure it can load with good speed and without errors.

## Performance

We aim to make the loading speeds quick to start up and shutdown. App loading time should be no more than 5 seconds.

Each pages loading time should be no more than 3seconds.

The loading speeds and response times will depend on platforms and the hardware being used by the user.

## Supportability

The app will need to be compatible with android and IOS.

The website will need to be compatible with the main browsers which are Chrome, Firefox and IExplorer.

When updating the website the compatibility will need to be tested with the browsers, the website will also need to be tested when the browsers update.

The app will be downloaded from the app stores and will need to compatible with the latest Android and Apple software for both phones and tablets. It should have the option to update automatically so when the updates for the conferences come out over the few weeks prior the attendees will have all relevant information.

The installation of the app is automatic when downloaded from the store.

# System Interfaces

## User Interfaces

The application's user interface is pivotal to accessibly and usability of the experience. The application should include the content arrangement, consumer help and navigation of software.

##### Web App & Mobile App

The User interface will be sleek and concise with a simple logon screen followed by the main page. The main page of the web and mobile app will offer three and five major options, respectively, that will lead into subsequent selections, making the user experience as streamlined as possible.

### **Look & Feel**

##### Web App

The web app will be designed using a 960 Grid system to ensure compatibility on a wide range of monitors and devices.

A consistent look and feel will be implemented site wide, using a colour scheme provided by the customer (TBD). The interface will be simple with a limited number of options. Users will only be able to view the options they are authorised to see.

##### Mobile App

The Mobile app will be designed and optimised for display on mobile devices. Two visual representations will be created: one suited to the handheld devices, such as phones, and another for larger mobile devices such as tablets.

The colour scheme will be provided by the customer and is still to be determined (TBD).

Both interfaces, the web and mobile app, will be consistent in design, providing users with a seamless approach to using either application.

Users will find a similar navigation process available to them in both apps, this is discussed further in section 5.1.2 Layout and Navigation.

### **Layout and Navigation Requirements**

##### Web App

The 3 major options and their relevant sub-options are as follows:

* Seminar Editor
* Modify Sessions
* Add New session
* Session Name
* Session Information
* Lecturer
* Date / Time of session
* Location
* Edit Session Information
* Remove Session
* Modify Lecturers
* Modify Sponsors
* Add New Sponsor
* Sponsor Name
* Sponsor Information
* Sponsor Address
* Edit Sponsor Information
* Remove Sponsor
* Q&A
* View Questions
* Display List of Questions.
* Questions by session.
* Questions by 1 minute polling.
* Manual Refresh.
* User moderate questions
* Approve questions
* Reject Questions
* View Feed back
* Seminar Feedback
* Seminar Report
* Individual Sessions

Graph feedback

##### Mobile App

Five main options and their relevant sub-options:

* Schedule
* Schedule Day
* Schedule Session
* Session Information
* Presenter
* Listing of Presenter
* Presenter Biography
* Map
* Static map of locale.
* Sponsors
* Sponsor Information
* Sponsor
* Contact Us

### **Consistency**

Main menus in the mobile app will have buttons aligned vertically to take up the entire width of the app, minus padding.

Where a choice is to be made between multiple options - yes/no / apply / cancel - the call to action button (the button you want the user to click) is always on the right side and will be coloured differently from the other buttons. This is to avoid users accidently clicking the cancel button.

Error messages will be displayed using the colour red, accompanied with an error icon.

Warning messages will be displayed using the colour yellow, accompanied with a warning icon.

Where icons are used, they will be accompanied with a label. Where this is not appropriate, a tool tip will be applied.

A consistent approach will be taken with the user interface. Button placement will be similar across all pages, headings, sub headings and body text, at a consistent style (size and colours).

### The user experience whilst navigating between the Mobile or Web Application will be designed to feel seamless in look and feel.

### **User Personalization & Customization Requirements**

User personalisation & Customisation at this point has no input into the development of both Mobile and Web base software.

## Interfaces to External Systems or Devices

Web application will need to interface with database to modify elements

Mobile Application will need to interface with Database to retrieve information, upload feedback.

Mobile Application will need to interface with RSS / Twitter for Q&A.

### **Software Interfaces**

The interface implemented within the ‘eConference’ program will place heavy emphasis on the user experience. This will be done via slight feature changes that help provide an enjoyable experience.

Although not all desired features will be possible, each will still be considered and weighted for merit. One main feature that was placed on high priority was the ability for a user to access nearly any feature within a simple and logical step process. The application needs to navigate with logical progression that is intuitive to the user.

The application will also use JQuery mobile to provide improved interactivity to the user. This will be of high priority as it relates directly to the look and feel of the program. This can take the form of Tooltips to assisting and directing users, auto-complete functionality, increased useability through data entry and page transitions for sharper aesthetics.

### The styling theme will be provided by Epworth Hospital to give a unified theme across all the Epworth related departments. This will take the form of colours, fonts, images and logos. It will be of a high priority, as this forms the basis of the brand recognition and integrity with Epworth and its associates.

### 4.2.2 **Hardware Interfaces**

Our Web server will act as a conduit or gateway connecting the database facilities to the mobile application in order to create and store information for the mobile devices. It will be capable of generating instant results and reports from session feedback, and filtering content from live information networks such as Twitter.

Mobile devices, including both phone and tablet devices, that support Android 2.3 (Gingerbread) onward to Jelly Bean (4.3) will be supported in this build.

4.2.3 ***Communications Interfaces***

The mobile application will communicate and update from a web server. This will be monitored by Web Admin that will update content for the user on the mobile application. This data will be initially downloaded after the phone has successfully shaken hands with the server upon launching the application.

The request will be transferred by JSon (JavaScript Object Notation) from the mobile application to the web server. This will need to be handled via the ‘Slim work Frame’ to complete the request. This data will then be returned to the mobile application.

# Business Rules

## Rule Class: System Level:

* The software can have one or more seminar(s).
* The software only has one server and database.

## Rule Class: Seminar Level:

* Each seminar must have one or more sessions.
* Each seminar has one Administrator.
* Each seminar has one or more Sponsor(s).

## Rule Class: Session Level:

* Each session has one or more speaker(s).
* Each session has one chairman.
* Each session has one description and further information.
* Each session may have zero or more polling questions.

## Rule Class: Mobile App (user/attendee) Level:

* Each mobile application (attendee) has access to one seminar per seminar code.
* Each mobile application (attendee) has a unique ID.
* Each attendee may (only) submit questions to the speaker of the session they are attending

# System Constraints

## Software Constraints:

* The first mobile application must be developed for android devices and available on the Google play store.
* The second mobile application must be developed for iOS, and available on the App Store.
* All data must be stored in a MySQL database in the INODB storage engine with referential integrity in use.
* The web server must be Uniserver version 8.6.8.
* Database access from the website must be coded in PHP.

The system must include an accurate and clear technical manual.

# System Compliance

## Licensing Requirements

The software will be owned and published by Epworth Healthcare under a proprietary software license. All rights will remain with Epworth Healthcare. Users will be allowed to modify, sell, or distribute the software themselves. A Creative Commons license will be used which means that Epworth must be credited.

The developers of the software, the students at Holmesglen IT, will not own any rights to the software, once published.

The use of MySQL in a non-open source project will require a commercial license. The “MySQL standard edition” would suit the needs of the system.

Apache’s own license is roughly equivalent to a GPL license, and is available free of charge.

## Legal, Copyright, and Other Notices

A EULA may have to be developed for publication for users to agree to before downloading from the app store. It would state the usage restrictions outlined in 7.1.

Epworth Healthcare will retain the copyright of the software in Australia as per the Australian Copyright Act of 1968.

Permissions relating to the use of Epworth HC and sponsor logos will need to be granted before use. If other copyrighted media are used, permissions will need to be granted for them as well.

All third party software inclusions used will need to be appropriately credited. For example, if a third party javascript library is used to generate some content, and it's GPL license states that it's use must be credited in the resulting software, it will be credited.

## Applicable Standards

For the web application, the developers will strive to adopt the W3c XHTML standard as outlined here:

<http://www.w3.org/TR/2010/REC-xhtml-basic-20101123/>

and HTML 4.0 outlined here:

<http://www.w3.org/TR/1999/REC-html401-19991224/>

Text data in the program will have to be standardized across the database. The Unicode standard UTF-8 is preferable. Details can be found here:

<http://en.wikipedia.org/wiki/UTF-8>

# System Documentation

For the web application, a clear and accurate technical manual should be produced. It should be written in HTML. It should contain:

* An overview of the application features.
* A sitemap.
* A detailed description of every page on the website, with screenshots and descriptions of every feature.
* A tutorial that walks the reader through a typical use of the program.
* It will be between 30-50 pages in length
* Database diagrams will be included

For the mobile application, an integrated help system should be included for the user, so that they are able to quickly review the functionality of the program as they are using it. It should include:

* A help section that outlines the functionality of the application. It could include a feature list, and an FAQ.
* It will be between 30-40 pages in length.