Software Requirements Specification

Los Angeles County Juvenile Justice Education Application

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1. Introduction

This section will give a brief overview of the application by describing its purpose, intended user base, and scope. A list of technical jargons or specific terminology are described to improve transparency and ensure that everyone is on the same page.

1.1 Purpose

The purpose of this Software Requirement Specification (SRS) is to layout both the required functional and nonfunctional features of the Los Angeles Juvenile Justice educational application. It will also involve further constraints derived such as system constraints or design constraints. The SRS will not specify how to solve specific technical problems but will serve as a contract between the developers and customers to ensure that the developers truly understand the customers' needs. This document is likely to change over time to adapt to the change in business need, but it will serve as a much-needed guideline for the development team to refer to when building the application.

1.2 Intended Audience

The intended audience for this application is the youths under the juvenile system. In addition, the affiliated family members may also use this application. Other potential audiences include interested individuals who wish to learn more about the juvenile system in Los Angeles county and administrators of the Los Angeles Juvenile Justice system.

1.3 Intended Use

The Los Angeles County Juvenile Justice educational application is intended to serve as a platform that connects the youth under the juvenile justice system with necessary information and terminology to make the experience of entering the courtroom less daunting. The youths will be able to interact with the web application easily, learning the material presented at an approximately 7th grade reading level. Affiliated family members may use this application to similarly gain background on the justice process that their dependent is about to undergo, to better support their dependent. This will provide the youths greater access to what may be otherwise be dense and bland material presented in the juvenile justice system. For the administrators of the Los Angeles Juvenile Justice system, they can add and configure material related to the system to customize what content will be provided.

1.4 Scope

The Los Angeles County Juvenile Justice educational application will be a web application where youths can interact with an interface, such as a courtroom, where they will learn a subset of information related to the juvenile justice system. The web application design will also be mobile friendly.

For this project, it is assumed that we have the juvenile justice system manual, at the very least a subset of it, to build the necessary minimum viable product (MVP). The main focus is to build a solid infrastructure and web application containing more generic components to allow greater customization of the application should the clients want to add or remove material for the youths.

1.5 Definitions and Acronyms

Term	**Definition**
MVP	Abbreviation for minimum viable product
RAT	Abbreviation for rationale
DEP	Abbreviation for dependency
LA	Abbreviation for Los Angeles
Youths	Shorthand for youths who are incarcerated in the juvenile justice system. For this particular application, it will be those under the Los Angeles County Juvenile Justice System.
Administrators	Any members of Alica's and Jyoti's Juvenile advocate team.
Web Application	Software Application that runs on the browser, which can have desktop, laptop, tablet, etc support
Stakeholder	The people who contribute to the specification of the application and are not developers.

2. Overall Description

This section describes what the different users' need of the application are as well as the functionalities provided by the application to satisfy these needs. It also describes how the application will interact with other interfaces to accomplish its features. Lastly, the implied dependencies and constraints that emerge out of the application's features and development will be discussed.

2.1 Product Perspective

The primary goal of this product is to build a platform that empowers incarcerated youths to anonymously learn more about the Juvenile Justice System; the platform must understandable to the youths, and should involve an interactive learning process. Creating this product involves building a solid infrastructure and web application containing more generic components to allow greater customization of the application should the clients want to add or remove material for the youths, as stated in the scope.

Regarding infrastructure, there will be a database storing relevant terminology and their associated definitions. Other parts of the infrastructure will be incorporated and included upon further meeting with the client after discussing the design and constraints in the upcoming meeting.

As for the web application, current administrators should be able to add emails of new administrators who then will have admin access. The method of authentication can be achieved via password and username combination or Google sign-in. The main feature for the administrators of the LA Justice System is to access the application to add, modify, or remove topics, terminologies, and definitions to enhance or modify the learning experience for the youths. The youths on the other hand will not have an account or be able to sign up for an account. The youths are automatically able to access the application for education of the juvenile justice system courtrooms and related topics.

From the device point of view, a connection to the internet is essential in order to retrieve the web page from the server. The server will be connected to the database in order to populate the web page with the necessary information for the educational web application.

Additionally, the definitions given for the terminologies must be brief enough to capture the youths’ attention and clear enough to ensure clarity of understanding. If it were vague, the youths will get confused and might potentially fail to make the courtroom experience less daunting and more familiar.

2.2 User Needs

The interface and material covered need to be summarized and written at an approximately 7th grade reading level. This will allow the youths to be able to effectively learn the material before entering the courtroom. The parents/relatives of the youths should also be able to understand the terms used throughout the application.

Furthermore, the youths must be able to access the educational material anonymously, without the need to create an account or sign in to view content; this serves to protect the youth and prevent their lack of judicial knowledge from being used against them in court.

The administrators of the Los Angeles Juvenile Justice System also need an effective way to get the materials regarding the juvenile justice system to stick with the youth.

2.3 Assumptions and Dependencies

One assumption is that the terminologies and definitions as well as related topics on the LA county juvenile justice system is precisely written and correct. The developers have no prior knowledge of the juvenile justice system and will treat the given material at face value.

Another assumption is the integration of the system will be so seamless that the youths and less tech-savvy administrators of the LA county juvenile justice system will be able to easily use the application without too much configuration. Nevertheless, in a system that will eventually grow, it might no longer be true. However, as of right now, it is a good assumption to make to ensure we deliver the web application by the deadline set, agreed upon by the client and the academic course.

2.4 Constraints

The application needs to handle server load well. If there are millions of users in the future, measures such as adding security and scaling horizontally (adding more servers such as cloud servers) are necessary to ensure the website will still have the desired functionality and optimal user experience.

If in the future the clients want to configure the application to include the entire juvenile justice manual, there might be too many requests for the database to handle. Thus, the centralized database can be a constraint in terms of bottlenecking which can reduce responsiveness. Further work may need to be done to scale the application, potentially using distributed systems.

The project does not have an assigned budget. The project timeline is approximately 1 month.

3. System Features and Requirements

This section will give a detail descriptions of the functional and nonfunctional requirements as well as the external interfaces used by the application and other system features.

3.1 Functional Requirements

3.1.1 User Class 1 - The Youths

3.1.1.1 Functional Requirement 1.1

ID: FR1

TITLE: Web application accessibility

DESC: The youth should be able to navigate to the web application through a URL in their browser of choice.

RAT: To access the web application.

DEP: None

3.1.1.2 Functional Requirement 1.2

ID: FR2

TITLE: Anonymous Access

DESC: The youth's access to the content should not be trackable, and should not be linked to their identity.

RAT: To protect the youth's lack of judicial knowledge from being used against them in court.

DEP: None

3.1.1.3 Functional Requirement 1.3

ID: FR3

TITLE: Court roles

DESC: The youth should be able to navigate to a page where there will be an interactive system that allows them to learn about the different roles of people present at the court. A picture of a court setting should be used to establish spatial familiarity when the youth is in court in real life. As the youth hover over different people in the picture, they will get more information regarding that person's role.

RAT: To learn about the different roles in court setting.

DEP: FR1

3.1.1.4 Functional Requirement 1.4

ID: FR4

TITLE: Roadmap

DESC: The youth should be able to navigate to a page containing a roadmap that outlines the timeline of a trial. The youth can click on various steps in the process to zoom in and learn more about what goes on during each of the steps.
RAT: To learn about the process of going through a trial and what to expect.
DEP: FR1

3.1.1.5 Functional Requirement 1.5

ID: FR5
TITLE: Glossary
DESC: The youth should have access to a webpage that contains all the terminologies that are used as well as their definitions.
RAT: To learn and review the different terminologies that are used.
DEP: FR1

3.1.2 User Class 2 - Team Administrators (i.e. Alicia's and Jyoti's administrative team)

3.1.2.1 Functional Requirement 2.1

ID: FR8
TITLE: Web application accessibility
DESC: The administrator should be able to navigate to the web application through a URL in their browser of choice.
RAT: To access the web application.
DEP: None

3.1.2.2 Functional Requirement 2.2

ID: FR9
TITLE: Administrator account registration
DESC: Registration will be done via invitation from an admin (presumably Alicia and Jyoti are the only admins for the time being).
RAT: To register an account on the web application.
DEP: FR8

3.1.2.3 Functional Requirement 2.3

ID: FR10
TITLE: Administrator log-in
DESC: After registering, the administrator should be able to log in to the web application.
RAT: To login to their account.
DEP: FR8, FR9

3.1.2.4 Functional Requirement 2.4

ID: FR11

TITLE: Administrator change content system

DESC: Only signed-in administrators should be able to modify the educational content. The administrator should be able to change what materials are being displayed on the website by either editing current material, adding new material, or removing old material. The graphic content and display of the courtroom will be static. However, the text defining key terminologies (appearing both on the courtroom image, and in the glossary), will be dynamic.

RAT: In order for the administrator to make changes to content.

DEP: FR8

3.2 External Interface Requirements

This section includes information about the inputs and outputs of the application. It also discusses some of the interfaces that the application works with.

3.2.1 User Interface

The user's UI will consist of 3 separate pages: 1) the courtroom, 2) the roadmap, and 3) the glossary. The courtroom will include a visual display of all of the players in the courtroom along with definitions attached to each visual. The roadmap will show a timeline through the process of a trial and provide relevant definitions. The glossary will list all of the terminology that appears in any page.

The administrator UI will consist of a single page, separated into 3 sections (one section for each of the 3 main pages the users see: Courtroom, roadmap, and glossary). In each section, the administrators will be able to edit, add, and delete the dynamic vocabulary definitions that are displayed to the user. Administrators will only have update/read access for courtroom and roadmap content. Administrators will have create/read/update/delete access for glossary content.

3.2.2 Hardware Interface

Since the web application will be run on various devices through the web browsers, the application does not directly interface with the hardware. Most communications done through the internet is handled by the operating system at the hardware level. Any device that has access to the internet and can run a browser can access this application.

3.2.3 Software Interface

The application will communicate to a centralized database through a REST API to store persistent data. A secure protocol is also used to authenticate the administrators and authorize access.

3.2.4 Communication Interface

The communication done between the application and the database or between the application and third party API is handled by protocols defined at the operating system level, so there is no direct communication interface that the application uses. The application uses HTTPS for data communication, but it does not need to handle how the data securely and reliably travels from one host to another.

3.3 System Features

3.3.1 System Features 3.1

TITLE: Internet connection
DESC: The application should be connected to the Internet.
RAT: Data communications to server and to third party services are all done over via Internet

3.3.2 System Features 3.2

TITLE: Integration with cloud database
DESC: The application should make connection to a cloud database in order to store information about the Los Angeles Juvenile Justice System persistently.
RAT: Data can be retrieved and updated in real time.

3.4 Nonfunctional Requirements

The discussion about availability is also not discussed. This should be noted. However, it is good to aim for 98% uptime for the application as in it should be available and usable by users 98% of the time.

3.5 Design Constraints

Application memory usage or hard drive storage constraints were not considered and can be discussed in future meetings as it can affect how the application is written. These constraints can be discussed by identifying the target users and what kind of devices they will use. The more powerful the device, the more application memory usage the application can use. Since this project will have graphic arts and is an interactive system, device performance may become an important topic.

4. Change Management Process

In case of organizational change, any additions to the development team will consult the SRS, client and team prior to starting implementation. If the details of contention are not explicitly stated in the SRS, there will be a meeting involving the client, the development team, and any associated and relevant third-parties to resolve the issue.

5. Document Approvals

This document and all subsequent changes and modifications will be reviewed and approved by the primary development team and client before finalizing.

This document represents the details discussed on 05/02/19 and is liable to change in further revisions until approval by the development team and client.

Manager Name	Date of Approval	Version #
Nyan (Jonathan) Tun		1

6. Supporting Information

For additional support regarding the SRS, please contact Nyan (Jonathan) Tun at jlin97@g.ucla.edu.