

Missing Persons Project

CSI 4999



The Issue

In 2016, law enforcement reported over 600,000 missing children nationwide. At this time, there remain over 80,000 missing from the original total. While this number increases each year, it is paramount to reduce the response time for public awareness of those that have been: (1) reported missing or (2) lured into human trafficking. In addition, the rise of human trafficking burdens the system for the half- million law enforcement (LE) officers nationwide. Unfortunately, missing children and victims of human trafficking are often unreported. Many parents are discouraged by the processes from making an official report to local authorities. Resources for retrieving proper investigatory leads are thereby limited for LE to launch proactive investigations. Instead, LE personnel are isolated to a reactive investigation that may sadly lead only to a recovery of the missing/exploited victim's remains.

Our Objective

This project will address current deficiencies in publicizing information about missing persons and then facilitate enlisting of the public's assistance in trying to locate these children

Project Requirements Capture

User Groups

- Parents
- Law Enforcement
- Friends
- Concerned Public

Requirement Capture MIM System Software (MIMS)

Req	Description	Priority	Unit Test	Date Completed
1	Log In			
1.1	Account creation <ul style="list-style-type: none"> Users can create new accounts at appropriate privilege level. <ul style="list-style-type: none"> Parents (can create a missing person profile, and view/update that profile and account information). LE (Highest privilege level) All Accounts must have a functioning email address. User Accounts must have unique User name. User accounts must have unique password. (password standard to be decided at later date) NOTE To access Concerned Public a user does not require an account.	High		
1.2	Account Verification. <ul style="list-style-type: none"> System must verify each account appropriately to ensure legitimacy and for accountability. NOTE System must be able verify that ONLY LE officers can access information displayed in the LE section of the application.	High		
1.3	Account Recovery System must be able to recover both <ul style="list-style-type: none"> User names <ul style="list-style-type: none"> User names should be able to be recovered through a forgot user name function which allows the user to verify their identity then displays their user name. Passwords <ul style="list-style-type: none"> Passwords should be able to be recovered through a forgot Password function which the user verify's their identity and an email with a link to reset their password is sent to the email address associated with their account. 	High		

1.4	When a new Missing person report is filed, the system stores the IP address of the device being used to create the report. This information is only viewable by LE.	Low		
1.5	All Account information must be stored. NOTE There is no expiration date on information gathered or inactive accounts.	High		

2	Parents			
2.1	<p>Create missing Person Parents must be able to create a new missing person report Required information</p> <ul style="list-style-type: none"> • Parents <ul style="list-style-type: none"> ○ Name of parents ○ Parents contact information ○ Email ○ Phone numbers ○ Address ○ IP address (see req# 1.4) • Victim <ul style="list-style-type: none"> ○ Victim's name* ○ Height, weight, color of hair & eyes, and additional marks/tattoos* ○ Victim's Date of Birth* ○ Date missing ○ Last seen with ○ Last Known location ○ Victim's Phone numbers (If any) ○ Phone Contacts ○ Victim's social media account information - It is important that various social media outlets are utilized to bring awareness to the community that is identified by the victim's contacts. o Facebook, Instagram, email account. <p>NOTE Information retrieved from the parents that are marked with an asterisk* - will only be displayed on a separate public page.</p> <p>NOTE If parents are creating a Missing report and have already filed a report with their local LE agency this information is also required.</p> <ul style="list-style-type: none"> • LE Verified <ul style="list-style-type: none"> ○ Verified by LE yes or no ○ Case number ○ LE agency name ○ LE agency telephone number. 	High		

2.2	<p>Update Account Parents must be able to update account including</p> <ul style="list-style-type: none"> • Uploading pictures of the missing person (possible limit the number) • Account management and settings • All contact information • If the reported person has been found <p>NOTE If the reported person is updated as found the following information must be included.</p> <ul style="list-style-type: none"> • Location • Time of return • Physical condition • Brief description of events 	Medium		
2.3	<p>Notifications Parents should be able to subscribe to receive notification of actions and updates on their report such as</p> <ul style="list-style-type: none"> • Changes to profile information • Conformation of Updates • Notification of LE actions • Possible Sightings of missing person with time stamp and location. 	Low		
2.4	<p>Security</p> <ul style="list-style-type: none"> • Parents PPI (Protected Personal Information) will not be view able by the public. • LE must have access to parents PPI. 			

3	Law Enforcement. This is access point where information uploaded from the victim's phone contacts, and social media accounts is only available to LE personnel.			
3.1	View Missing person profile <ul style="list-style-type: none"> LE should be able to view all missing person's reports including Parent, victim, and Friend data. (see 1.4,2.1, 4.1, 5.4) LE should be able to view and select each report. LE should be able so search each profile use multiple search requirement. 			
3.2	Generate Report <ul style="list-style-type: none"> LE Officer should be able to export report information. Data provided in Excel format so can be analyzed for investigation. 			
3.3	Notification LE Officers should be able to subscribe to receive notifications from both Parents and Concerned Public involving <ul style="list-style-type: none"> New missing person reports in their area Updates form followed reports Possible Sightings of missing person with time stamp and location. 			
3.4	Information Upload <ul style="list-style-type: none"> LE should be able to upload useful information concerning the report that only LE Officers can receive (such as the Victims phone record, cell tower information, text messages, and social media content.) This information must be stored and made useable for generating a report (see 3.2). 	Low		

3.5	Map System should include a map function to display the following information. <ul style="list-style-type: none"> Location information regarding reported missing person should be also viewable in a displayed Map <ul style="list-style-type: none"> Last known Location Possible sightings Found location Map should also include the option to view location information of other missing persons in that area. Sex Offenders cross reference 	Low		
3.6	View LE Verified reports LE must have the option to sort by and retrieve missing persons reports that have been verified by LE agencies. <ul style="list-style-type: none"> Display missing person name. Date missing Case number LE agency Name and contact information. 	Medium		
3.7	Guest ADMIN (if possible)	Low		
3.8	Security			

4	Friends			
4.1	<p>Parents must be able to list known friends and family contact information.</p> <p>NOTE Viewable by Parents and LE ONLY.</p> <ul style="list-style-type: none"> Parents should be able to list contact information including <ul style="list-style-type: none"> Name Numbers Email Social Media LE must be able to cross reference contacts with other collected data. 			

5	Concerned Public			
5.1	<p>View Missing persons</p> <p>Public should be able to view missing persons in their area.</p> <p>NOTE Parents PPI must be excluded from being viewed by the public.</p>			
5.2	<p>Upload Photograph</p> <p>CP must be able to upload Photographs of suspected missing persons. This information must include:</p> <ul style="list-style-type: none"> Timestamp GPS location 			
5.3	<p>Agreement Statement</p> <p>Public must be notified that any information that is uploaded to the MIMS System is open for LE use.</p> <ul style="list-style-type: none"> Users must agree that all information submitted is voluntary. User must agree to privacy statement. Users must agree to Terms. 			
5.4	<p>Notification</p> <ul style="list-style-type: none"> LE should receive notice of possible sighting information Parents should receive Notification if submitted photograph matches their missing person. 			
6	General Requirements			
	Security			
	View			
7	Data Base			
8	Web			

Research and Reports

Platforms we plan to use:

- MySQL
- Java
- Angular
- HTML

Research Report: Angular

Objective: Determine whether Angular is a suitable framework to use for our project's frontend development.

Findings: Angular (also known as Angular2) is an open-source web application framework. Angular projects are coded in TypeScript (a superset of JavaScript). It is modular and designed for speed and ease of use.

Pros:

- Team familiar with framework
- Allows development for both desktop and mobile
- Many advanced features that integrate with HTML and CSS

Cons:

- When organized correctly, Angular applications tend to have many files to manage

Conclusion: Angular is a powerful framework for building application frontends. It has extensive documentation, and members of our team are already familiar with it. With these advantages in mind, we have decided to use Angular in our project's development.

Research Report: Cucumber

Objective: Determine whether Cucumber is a suitable testing tool for our project.

Findings: Cucumber is an open-source software testing tool. There are Cucumber implementations in a variety of different programming languages, including Java, Python, and Ruby. It uses the Gherkin language to define tests. Gherkin is easily readable and allows both programmers and non-programmers to define unambiguous tests.

Pros:

- Java implementation
- Used previously by some team members
- Free
- Simplifies behavior-driven development

Cons:

- Writing the “guts” of the tests can be time-consuming

Conclusion: Cucumber provides an adequate testing tool for our project. Tests in Cucumber are easy to define and can be written by any member of the team. Perhaps most importantly, an implementation is available in the language we wish to test (Java).

Research Report: Gradle

Objective: Determine whether use of Gradle would be beneficial in our project.

Findings: Gradle is an open-source tool that automates the process of creating a software build. It supports many languages and platforms. It prioritizes efficiency and performance. It is designed to cater especially to large and complex builds.

Pros:

- Multi-language, multi-platform
- Free
- Commonly used and heavily supported by community

Cons:

- Not compatible with all IDEs

Conclusion: Gradle provides an adequate tool for managing and automating our project's software build. Therefore, we have decided to make use of it during project development.

Research Report: MySQL

Objective: Determine whether MySQL provides a suitable database for our project.

Findings: MySQL is a free relational database system. It is commonly used in many domains. Though originally released in 1995, it is still actively maintained. It is currently owned by Oracle Corporation.

Pros:

- Relational database system is suitable for our data
- Team familiar with MySQL
- Free
- Available on multiple platforms (Windows, Mac, Linux)
- Part of XAMPP stack

Cons:

- Basic, lacks full suite of features provided by other database systems
- Relies on business layer to implement more complex functionality

Conclusion: MySQL is reliable, fast and free. However, since we have determined not to use the XAMPP stack, and we have discovered a suitable alternative database, we have decided not to use MySQL.

Research Report: Spring Framework

Objective: Determine whether use Spring is an appropriate framework for our application.

Findings: Spring is an open-source application framework for the Java platform. It is modular by design, allowing programmers to choose from a suite of modules that provide various services.

Pros:





























- Spring Boot allows easy creation of Spring application
- Free
- Includes many useful modules

Cons:

- Specific to Java language

Conclusion: Spring is a widely-used and powerful Java-based application framework. Its many useful features make it a good fit for our project.

Going Forward

		Task Mode	Task Name	Duration	Start	Finish	Predecessors
1			❖ CSI 4999 Project Plan	71 days	Tue 9/5/17 8	Tue 12/12/17	
2			Project	1 day	Tue 9/5/17 8	Tue 9/5/17 5	
3			❖ Sprint 1	8 days	Tue 9/5/17 8	Thu 9/14/17	
4			Project				
5			Project Plan				
6			Tool chain,				
7			❖ Sprint 2	10 days	Fri 9/15/17 8	Thu 9/28/17	
8			User account				
9			User Account Registration				
10			Role				
11			User Profile				
12			Locking/Unlocking User Accounts				
13			Email				
14			❖ Sprint 3	10 days	Fri 9/29/17 8	Thu 10/12/17	
15			User Stories				
16			UI/UX				
17			User Authentication				
18			▷ Sprint 4	10 days	Fri 10/13/17	Thu 10/26/17	
20			▷ Sprint 5	10 days	Fri 10/27/17	Thu 11/9/17	
22			▷ Sprint 6	10 days	Fri 11/10/17	Thu 11/23/17	
24			▷ Sprint 7	10 days	Fri 11/24/17	Thu 12/7/17	
26			▷ Sprint 8	3 days	Fri 12/8/17 8	Tue 12/12/17	