November 19, 2024

BatSignal

Bianca sarenas, joseph gagnon, kathleen leach

Batsignal System Requirements Document

DRAFT

Table of Contents

[Introduction 2](#_Toc133672738)

[Description Model 2](#_Toc133672739)

[Class Diagram 8](#_Toc133672740)

[Use Case Diagram 9](#_Toc133672741)

[Use Case Scenarios 9](#_Toc133672742)

[System Sequence Charts 9](#_Toc133672743)

# **Introduction <KL>**

**Purpose**

This system requirements document (SRD) will serve as an outline for the functional and nonfunctional requirements of the BatSignal app. Included in the SRD are the class diagrams, use case diagrams and descriptions, system sequence diagrams (SSD), performance requirements, and security measures. The SRD will also touch upon the features used to mitigate potential risks to the integrity of BatSignal’s input and output.

**Scope**

BatSignal will be used by users concerned about crime, those in law enforcement, or anyone who is just plain nosy. This app is designed to give the user quick, easy access to the features needed for effective crime reporting and database inquiries. If a user sees a person with a crowbar jimmying and prying, the system’s user interface (UI) is built to prioritize functions needed by a vigilant user.

**Overview**

The following sections will provide an overview of the skeletal structure of BatSignal. Attention will be paid to the steps a user would take to enter and view crime data, as well as the functional components of the system. The processes and security measures are also outlined.

# **Description Model <KL>**

BatSignal has one user, one administrator and five functional features within the system. The user accesses the system through the internet on a desktop, laptop, or mobile device. The administrator has full access to the system through the internet as well as access to court and police database records. The administrator then moves this data onto the app. The user does not have direct access to court and police records through the app’s functions. This section will outline the input, output, processes, performance, and security requirements of the system.

**User Input**

Use case: Report Crime (priority function)

Brief description: The user accesses the Real-Time Crime Reporting function, and inputs crime data.

Steps: 1. The user enters the location, time, severity, perpetrator, and witnesses of the crime.

2. The system gives the user the option to send or cancel.

3. The user hits send.

4. The system displays the information entered by the user.

Use case: Update Database (priority function)

Brief description: The user accesses the Civilian Collaboration function, and inputs perpetrator data.

Steps: 1. The user enters the description and last known location of the perp.

2. The system gives the user the option to send or cancel.

3. The user hits send.

4. The system displays the information entered by the user.

Use case: Report Person

Brief description: The user accesses the Real-Time Crime Reporting and Civilian Collaboration functions

and adds information about a suspicious person.

Steps: See Report Crime and Update Database (above).

*\*\*Note – this use case may be redundant and deserves a closer look by Team Dark Knights.*

**Administrator Input**

Use case: Update Database

Brief description: The administrator accesses court and police records, and after verifying the information, updates the BatSignal criminal database.

Steps: 1. The administrator accesses information entered by the user.

2. The information is displayed for the administrator.

3. The administrator accesses the court and police databases to verify the information.

4. Once verified, the administrator hits send.

5. The system then displays the verified information in the BatSignal database.

Use case: Add Pin

Brief description: The administrator verifies user input on location of criminal activity and adds the pin.

Steps: 1. The administrator accesses user input through the Real-Time Crime Reporting and Civilian

Collaboration functions.

2. The system displays the location information.

3. The administrator hits the add pin button.

4. The system displays the pin on the crime map.

Use case: Report Person

Brief description: The administrator reports a shady character gleaned from various sources such as police

and court reports and police scanners.

Steps: 1. The administrator receives crime data from the courts or police.

2. Real-Time Crime Reporting is opened.

3. The location, time, severity, perp, and witnesses are entered.

4. The administrator hits send.

5. The system displays the data entered.

Use case: Issue Alerts

Brief description: The administrator issues crime alerts based on user input and police reports.

Steps: 1. The administrator receives an alert from an external source.

2. Crime Alerts is opened, and the administrator is prompted to enter time, location, severity, type,

and location.

3. The system provides the option to send or cancel.

4. The administrator hits send.

5. The system displays the new crime alert.

**System Output**

Class: Real-Time Crime Reporting

Brief description: The system will output information to the users on crimes as they occur.

Class: Crime Map

Brief description: The system will output crime map data upon user search.

Class: Criminal Database

Brief description: The system will output criminal database information upon user search.

Class: Crime Alerts

Brief description: The system will output crime alerts as the deed goes down.

Class: Civilian Collaboration

Brief description: The system will provide citizens and law enforcement with information regarding

criminals or fugitives.

**Processes**

A user accesses the system and logs in, and once the account information is verified, can choose any feature within the app.

Real-Time Reporting: The user clicks on Real-Time Reporting and is presented with a screen asking for location, time, severity, perpetrator, and witness information. Once this information is entered, the user clicks send. Other users will then be able to see the information. The user has the option of hitting the back button to back up one screen or the home button to return to the main menu.

Crime Map: The user clicks on Crime Map and is presented with a screen with the search choice of location. The system returns the time, severity, status, crime concentration, and the location of the user who reported the crime. The user has the option of hitting the back button to back up one screen or the home button to return to the main menu.

Criminal Database: The user clicks on Criminal Database and is presented with a screen with a prompt to search for a name. If found the system returns the full name, appearance, height, record, and last-seen location. The user has the option of hitting the back button to back up one screen or the home button to return to the main menu.

Crime Alert: The user clicks on Crime Alerts and sees a list of any criminal activity containing the time, location, severity, type of alert, and the location of the user reporting the crime. The user has the option to hit the home button to return to the main menu.

Civilian Collaboration: The user clicks on Civilian Collaboration and is presented with a screen asking for a description and last-seen location. Once this information is entered, the user clicks send. This information must be verified before it is output.

**Performance**

BatSignal is compatible on all platforms with special attention paid to mobile devices. Mobile devices will most likely be the go-to hardware for snitching on neighbors. The system maintains its practical UI display regardless of portrait or landscape orientation. Since it is on a powerful, high-speed server, BatSignal is very fast with no more than a 0.1 second wait time for input and output. Any delay is a result of the user’s hardware not the BatSignal server. All response times are consistent for each function. Because criminal activity is very unpredictable the peak workload for the system is difficult to discern.

**Security**

BatSignal requires users to have an account with a username and password which is verified upon log on. Any data sent to the criminal database must be verified through court or police documentation by the administrator. Access controls, encryption, firewalls, and antivirus software are embedded in the system to safeguard user information as well as database information.

# **Class Diagram <JG>**

A screenshot of a computer

Description automatically generated

# **Use Case Diagram <JG>**

A diagram of a data flow

Description automatically generated with medium confidence

# **Use Case Scenarios <BS>**

*Create a full description Use Case Scenario (detailed descriptions) for each use case of the system. This full scenario should include an enumerated list of steps involved in the activity as well as any exception conditions.*

# **System Sequence Charts <BS>**

*For each Use Case Scenario, provide a sequence diagram. Use your class diagram, use case diagram and scenarios to create the corresponding System Sequence Diagram*.