

---

# **Software Requirements Specification**

**For**

---

**ONLINE CRIME INVESTIGATION SYSTEM**

**Version 1.0 approved**

**Prepared by: Rajat Rai**

**Rachit Trivedi**

**Vaibhav Kaushik**

**Sujoy Roy**

**Shivam Shandil**

**NIIT University**

**21<sup>st</sup> September 2016**

# Table of Contents

## Revision History

Name	Date	Reason For Changes	Version
Group Members	9/21/2016	Initial Draft	1.0
Group Members	9/21/2016	Release document	1.1

## 1. Introduction

### 1.1 Purpose

Police and other law enforcement agencies are dependent on highly professional and reliable crime scene technicians and investigators to uncover evidence that will prove justice and rightful information in a court of law. This system is a step to making task of citizens easier by registering their issues online through a fast working portal / server and bridging a gap b/w many people and police. This system also facilitates the police and investigators as it is a faster way for them to receive the details of various crimes taking place and saves time and speeds up the process as compared to the old register entry system. The system is completely online based platform. The idea behind having an online Crime Management system is that it'll help reporting crimes easy and help the citizen of the country as well as the police department to easily handle and manage it. This application will support citizen to file a complaint through website which will be time saving, fast, efficient and problem solving. All around country, The Crime record management application will be implemented and maintained which will again concentrate on managing complaint, prevention of crime by interconnection police information system to different police station in the country.

With the usage of this information, handling of variety of criminal cases will be easy, time saving and solving cases will be much faster as each and every record will be purely accessible to the designated Anti-Crime Board. This system can handle number of users connected to the server without any glitch and error if configured correctly. Each user is authenticated and then is given an option to lodge a complaint/ first information report. Criminals; Any Citizen can report an FIR online, missing citizen search, secure registration and profile management facilities for detectives and security agencies

## 1.2 Document Conventions

This document provides the software requirements and expected behaviour of the online portal. The document provides certain statements and requirements in a bold or highlighted format to represent the significance of the same. Detailed notes along with reference to the other documents are provided wherever applicable with an asterisk. All the assumptions that are made will be mentioned beforehand and no external assumptions are required.

## 1.3 Intended Audience and Reading Suggestions

This document is intended for the crime investigation department (CID). The expected outcome of this project is going to support the crime investigation operation team which includes police of various departments, and all the authorities in Crime investigation department.

The stake holders during the project execution are going to be developers, testing, and team and project mentor/project manager

### 1.4 Product Scope

The system will be a Reporting application that will be used for automating the manual process of register different case in police Department. This system will manage the details of all the crime who register themselves in police department. The system provides an interface to store the crime details or allows the user to search and view records. The system should have a login.

The objectives of this system can broadly be listed as follows:

1. Make the Police functioning citizen friendly and more transparent by automating the functioning of Police Departments.
2. Improve delivery of citizen-centric services through effective usage of this system.
3. Provide the Investigating Officers of the Civil Police with tools, technology and Information to facilitate investigation of crime and detection of criminals.
4. Improve Police functioning in various other areas such as Law and Order, Traffic Management etc.
5. Facilitate Interaction and sharing of Information among Police Departments, Districts, State/UT headquarters and other Police Agencies.
6. Assist Senior Police Officers in proper administration of Police Force
7. Keep track of the progress of Cases, including in Courts
8. *Reduce manual and redundant Records keeping*

They are two main advantages of this proposed system:

- 1) Reducing the crime and disorder
- 2) confidentiality and anonymity issues.

Truly Unlimited! - No restriction on no. of users. You completely own whole system. **Complete freedom** to live hassle free of the queues and dodging the crowds that we frequently face at these type of Govt. Offices.

## 1.5 References

This website has been prepared on the basis of discussion with Team members and our course in charge.

We have also taken information from following website–

- ⇒ [www.solutions24h.com](http://www.solutions24h.com)
- ⇒ [www.logicsystems.org.in](http://www.logicsystems.org.in)
- ⇒ [csetekquest.blogspot.com](http://csetekquest.blogspot.com)
- ⇒ [www.microsoft.com/sql](http://www.microsoft.com/sql)
- ⇒ Weblinks: [https://en.wikipedia.org/wiki/Software\\_requirements\\_specification](https://en.wikipedia.org/wiki/Software_requirements_specification)
- ⇒ Books: Software Engineering by Roger S Pressman 5<sup>th</sup> edition, Software Engineering by Pankaj Jalote 4<sup>th</sup> edition.
- ⇒ Asp.net with C# Edition: First Edition Author: Shyam N. Chawada
- ⇒ Complete Reference C# 2.0 Edition: Second Edition Author: Herbert Schildt

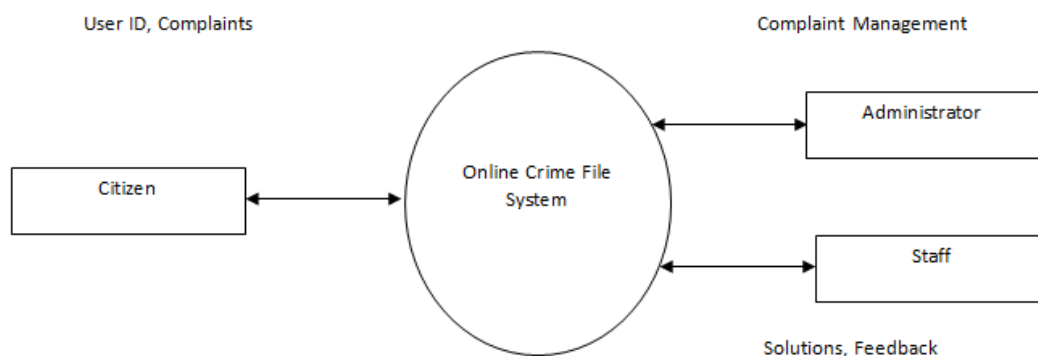
## 2. Overall Description

### 2.1 Product Perspective

The main aim of the project is to develop an application for the police department to handle the crime investigation process in an easy and efficient way. Complaint is registered in this system by the user. It can be updated, deleted.

The drawbacks of the existing system:

- ⇒ More man power.
- ⇒ Time consuming.
- ⇒ Consumes large volume of pare work.
- ⇒ Needs manual calculations.



The proposed system can overcome all the limitations of the existing system. The system provides proper security. In this the user can register in our site and can file the FIR from whom he/she has been suffered. It minimizes the manual data entry work especially from the staff side. The proposed system helps the user to work user friendly and he can easily do his jobs without time lagging. This will also help the staff to manage their record easily and ensure data accuracy's.

## **2.2 Product Functions**

The functions are divided according to the user types: -

**Administrator:** The function of the administrator is that they can view and reply to user crimes, view and delete user feedback, add and delete Most Wanted Person/Criminal, view add and delete missing person.

    Edit Complaint: This module helps the user to edit his complaint details.

    Edit Profile: This module helps the user to update his or her profile.

    View complaint status: This module allows us to view the status of all complaint that you have posted earlier.

    View Investigation Status: This module allows us to view the status of the all crimes that you have posted earlier.

    Add a Feedback: will be treated as a notification bar.

**Staff Official:**

Add Complaint: This module helps the user to report online complaints.

Add Crime report: This module helps the user to report online crimes.

Add Missing person: This module helps the user to report online missing person's details also we have to add photos of missing person using heterogeneous database.

View Missing persons: This module help the user to view all the missing person details.

View Most wanted persons: This module help the user to view all most wanted.

Add a Feedback.

Change Password

**Citizen:** Add User Details: Add, Update and Delete User Details.

File an FIR: File an FIR, view and check FIR Status.

Add a Feedback.

Change Password.

## 2.3 User Classes and Characteristics

There are mainly three main modules:

- ⇒ Staff
- ⇒ Registered Users
- ⇒ Administrator

### User Module:

In this module, first of all user will register the account with proper data (where username and password must be unique for everyone). Once she/he login in this system they can register their complaint/FIR

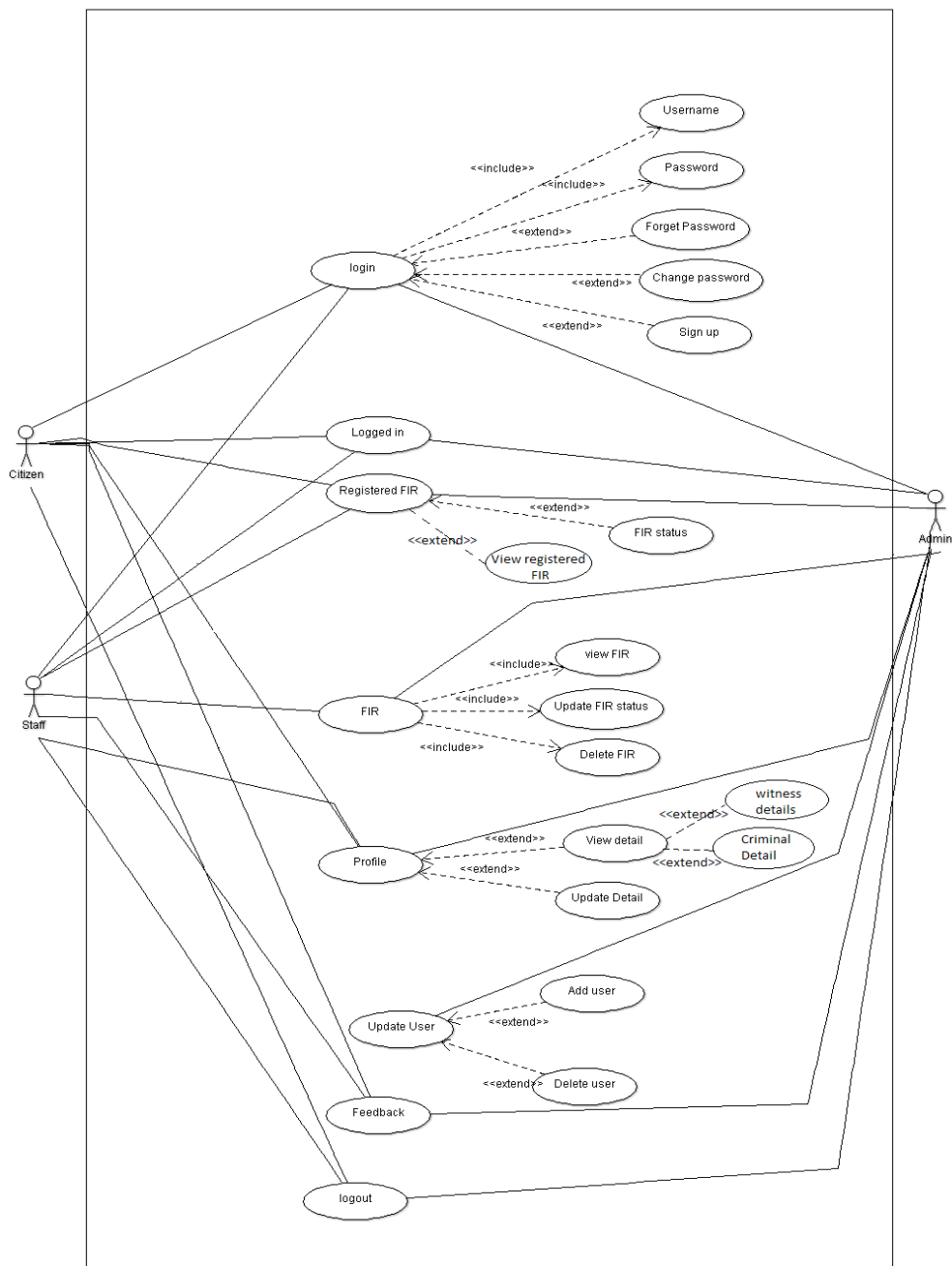
### Staff Module

In this module, first of staff will login with proper email-id and password (which will be unique). Once the staff person will login, he/she can see and update all the FIR which is registered by users. Also any staff member can search for particular FIR. The registered staff can add the status of the FIR and can also give and see the feedback to the user. The staff member can update his profile. The staffs members can see also see the details of the criminal and victim.

### **Administrator Module**

In this module, first of the administrator have to login with proper email-id and password (which will be unique). Once the administrator logins, he/she has the right to add or delete any of the users or the staff members. He has the right to registered new FIR, view the registered FIR, update and delete the FIR. And can also see the details of the registered members.

## USE CASE



## 2.4 Operating Environment

This app is internet based so it will run in any operating system with internet access through web store.



The software is supposed to be platform independent and will use a browser, better works with Google chrome or Mozilla fire fox , so the either of two must be kept updated. It being connected to a web portal, the user must insure good quality internet for faster operability and smooth running of the software. Minimum Internet Speed: 256Kbps

## **2.5 User Documentation**

The product will include a user manual. The user manual will include product overview, complete configuration of the required software and hardware, technical details and contact information which will include email address.

As part of the project, the following various documents are developed:

- ⇒ Software requirements specification document (SRS). The current document.
- ⇒ Functional specification and Design documents
- ⇒ Test case documents
- ⇒ Source code structure document
- ⇒ User & trouble shooting document

## **2.6 Design and Implementation Constraints**

The applications functionality depends mainly on the availability of network connectivity and the strength of the network (signals). The limitation of network coverage in certain locations may impair the actual functionality or desired performance.

The systems devices may come with different hardware and software configurations (or versions). Depending on the hardware components like graphical cards, internal memory & display screen resolutions, some of the application functionality may be limited. The speed and storage capacity of the data may be constrained. The User interface in terms of component layout, color patterns may differ from device to device or make to make.

The functionality may slightly vary depending on the known limitations of the operating systems. For efficient function of the system; minimum 8 GB (DDR3) of RAM is required at Server Side

For full working Online Crime reporting requires Internet and Intranet Connection  
My SQL Server

## **2.7 Assumptions and Dependencies**

Proper working of this app is dependent on the internet connectivity of the users' computer.  
Assumptions and dependencies:

- ⇒ It is assumed that the user has basic knowledge of the system (i.e. he/she is not a first time user) as any action by the user is considered valid while submitting User Details as well as while Filing an FIR and review its status.
- ⇒ It is assumed that the data entered by the Staff/Citizen while logging is true.
- ⇒ It is assumed that the Admin work as and org of group of not more than 4-5 individual and maintains whole service plus database.

### 3. External Interface Requirements

### 3.1 User Interfaces

**Login:** This window has three types of logging that are:-

1. Administrator login
2. Staff login
3. User login
4. System

## ADMIN

The administrator login will take the user to the administrator profile.

**System Overview:** The window can only be assessed by the administrator where the administrator can perform:-

- Login – 1) Username  
2) Password
- FIR – 1) Register new FIR  
2) View registered FIR  
3) Update FIR  
4) Delete FIR
- View User and staff members details -1) Citizens  
2) Staff
- Add user – 1) Citizen  
2) Staff
- Update user details -1) Citizen  
2) Staff
- Delete user - 1) Citizen  
2) Staff
- Logout
- Feedback – Here admin can see all the feedback and can send the feedback

**CITIZEN**

The user login will take the user to the citizen profile.

The user can do the following things:

- Login – 1) Username (if user is already a member)  
2) Password
- Signup (this is for the new user) – 1) Name

- 2) Age
- 3) Gender
- 4) Address
- 5) Phone
- 6) User Name
- 7) Password

- User Details – 1) View user details
- Update user details – 1) Name
  - 2) Age
  - 3) New address
  - 4) Phone number
- FIR – Register new FIR
- FIR status – the user can see the status of his/her registered FIR
- Change password – allow the user to change his account password
- Feedback – Here the user can send the feedback
- Logout

### **Staff:**

The staff login will take the user to the particular staffs member profile (from whom account we are doing log in)

The staff can do the following things:

- Login – 1) Username
  - 2) Password
- Profile – 1) View user details
- Update Profile details – 1) Name
  - 2) Age
  - 3) New address
  - 4) Phone number
- FIR – 1) Register new FIR
  - 2) View registered FIR
  - 3) Update FIR
  - 4) Delete FIR
- View User and staff members details -1) Citizens
  - 2) Staff
  - 3) Criminal

- Change password
- Feedback – here staff member can send the feedback
- Logout

### **System:**

- **Home:** Redirects back to Master Page.
- **About Us:** Gives Description of the mission and the vision this online service serves.
- **Dialogue Box (Affirmation):** This window appears after successful login by the user. Dialog box will pop-up signalling "You are registered / Your FIR has been registered/ Your feedback has been taken". User Instruction manual will be shown which contains instructions (how to put up an FIR, what are required data entries u need to submit, finally how to view updated/deleted Entries). As soon as the "submit" button is pressed, candidate will be taken to the Home page irrespective of whichever window is opened. Each page will contain "next" and "previous" button to navigate between pages easily. Side bar for scrolling up/down.

## **3.2 Hardware Interfaces**

HARD DISK DRIVE-40GB  
 CD ROM DRIVE  
 KEYBOARD  
 RAM: 512Mb  
 MONITOR  
 MOUSE

Screen resolution of at least 1024x768- required for proper and complete viewing of screens.

*CPU requirements: Core I3 or equivalent*

## **3.3 SOFTWARE CONFIGURATION**

FRONT END	-ASP.NET, HTML, CSS, C#
BACK END	-MS SQL
OPERATING SYSTEM	-WINDOWS XP
BROWSER	-MS INTERNET EXPLORER

2) Install my SQL database

The SQL database is required to store the data. The server component should interact with SQL database to read and write the data. The Server component needs to create proper SQL queries and extract the required data.

<http://dev.mysql.com/downloads/>

### 3.4 Communications Interfaces

Following communication interfaces are used in system and the data is actually transmitted through physical layer of OSI layer. IPv4 will be used for connection. *Citizen sends the request. That Request goes to the server from the public network (Wi-Fi...) to do a particular action (Login, Action on FIR ) then the server communicates with the database to update the things in the database and also to retrieve the data form the database and again the server sends the data to the citizen according to the citizen request. Basic communication channel that will be used is HTTP.*

**Web Browser:** Any HTTP supported web browser like IE, Firefox, etc.

**Protocol:** HTTP and TCP/IP

## 4. Application Features

This section provides a brief description of the various features of the application. A detailed functional specification will be part of the design document.

### 4.1 Sign-Up

#### 4.1.1 Description and Priority

For Administrator, it is to be done within the database manually at the time database is designed in order to increase security. Priority is 9.

Initial Signup mandatory for Staff Official or Citizen . Priority is 9.

#### 4.1.2 Stimulus/Response Sequences.

The Staff Official/Citizen taps on the sign up button and is directed to his/her account.

#### 4.1.3 Functional Requirement

Administrator is authorized to register Users, update, delete Users registrations and upload valuable feedback.

### 4.2 Report Filing:

The inputs you need to give for filling the report are FIR NO, FIR date, FIR time, place where crime happened, Address of the victim, an authorized identity of the victim. After the data is inputted it is validated and then the report goes under the process. If the given information by the victim is valid then the report is stored in database.

### **4.3 Add or Remove User/Administrator:**

This feature describes how we can add or update the data of an user or an administrator. Before processing this we need to first enter our username and password to validate. After checking that data is valid and then do the modifications in the table. The updated information is then reflected in the database

### **4.4 Viewing:**

On clicking the desired button we can view the information we are allowed to. If specified entry is not present in the database then it displays “No such Record”

### **4.5 Update the status of the FIR:**

Admin or the staff can update the FIR status. Depending upon how much extent the Case has come they update the FIR status. It is visible to the user. He can see the information whenever he want.

### **4.6 Feedback:**

In addition to all these features, feedback is very important feature. It allows the user to upload his/her feedback on this system

## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

The application is expected to meet certain performance criteria. However, there are other dependencies which could cause an impact on these performance criteria depending on the speed of the network, server response time, load etc.

Depending on the nature of the connectivity (broadband or Wi-Fi ), the response time is expected to be in the range of 15 – 25 seconds

The display loading may depend on the data volume and may take 10 – 15 seconds  
The numbers of concurrent users are expected to be 50 in the each phase.

## **5.2 Safety Requirements**

The application needs to take proper safety measures to handle the database and concerned data. The exception handling while handling the data updates needs to be handled carefully. The database locking and committing needs to be appropriate so that no data corruption happens through the functionality.

The user scenarios need to be tested properly to ensure the application functionality is accurate.

## **5.3 Security Requirements**

The application needs to implement the role based security and authentication mechanism. The various roles are administrator, staff official, citizens etc. Login credentials and roles should be implemented. Need to maintain these in DB with encryption. Appropriate error messages and warning messages need to be displayed.

## **5.4 Software Quality Attributes**

The Quality of the System is maintained in such a way so that it can be very user friendly to all the users.

- ⇒ Accurate and hence reliable: The system should be robust enough to handle fault tolerances. The system should not crash and should be able to identify invalid inputs and produce a suitable error message.
- ⇒ Availability: The system should be available 24/7. It should always provide real time information.
- ⇒ Usability: The system should provide an easy to use Graphical interface similar so that users do not have to learn a new style of interaction. Any notification or error messages generated should be clear, succinct, polite and free of jargon.
- ⇒ Fast speed: The system should be fast enough to display error messages, notification, results etc.
- ⇒ Integrity: Only system administrator has the rights to change system parameters, such as pricing policy etc. Users need to be authenticated before accessing personal data.

## **5.5 Business Rules**

The application needs to follow the role based access and functionality to ensure the data security. The detailed role based matrix will be provided in the design phase based on the business rules defined by the application owners.

## 6. Other Requirements

The UI specification and color standards to be discussed and derived with application owners.

### Appendix A: Glossary

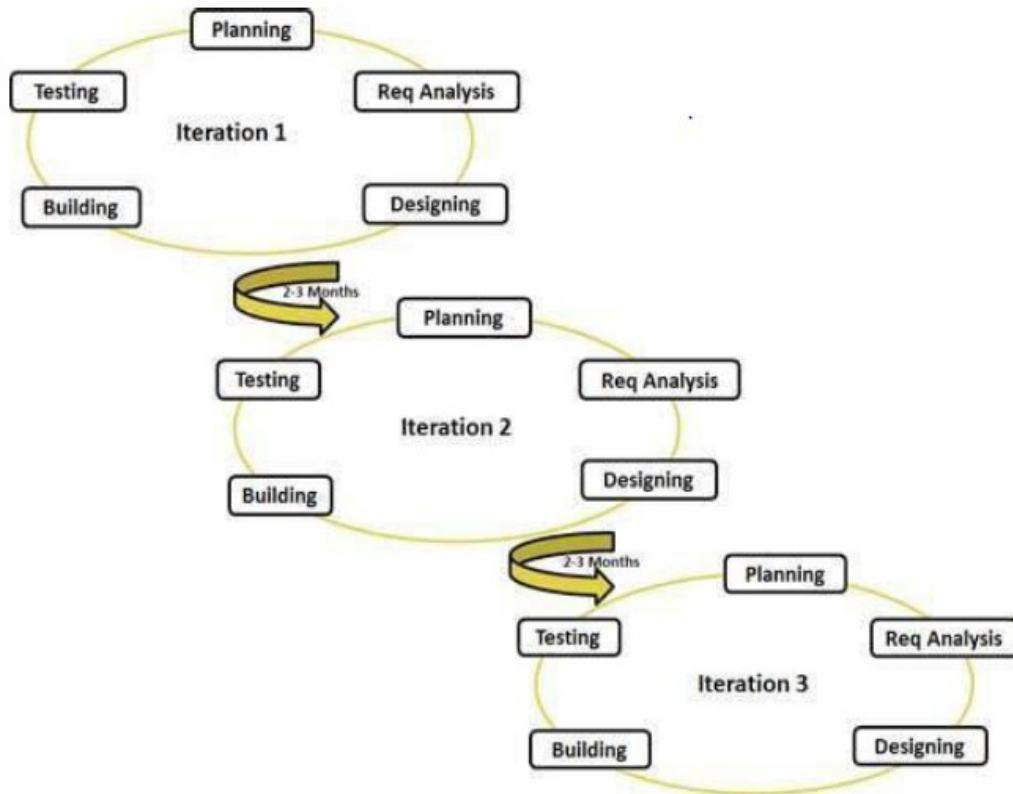
The following table provides the interpretations or full form of the acronyms and abbreviations used in this document. As the document gets updated, this section will go through changes based on the new additions.

Acronyms/Abbreviations	Full form
SRS	Software Requirements Specification
FS	Functional Specification
DB	Database
OS	Operating system
UI	User Interface
SQL	Structured Query Language
SE	Software Engineering
FIR	First Information Report
Admin	The system administrator

### Appendix B: To Be Determined List

In this project, agile model is been used.





The agile method anticipates change and allows for much more flexibility than traditional methods. The design and development mode of this project is ORGANIC. The project is developed in a familiar, stable environment.