SHIVAJI UNIVERSITY

K-Indicator

A project report submitted in partial fulfillment for the

Bachelor of Engineering

in the

Department of Computer Science and Engineering

Sharad Institute of Technology College of Engineering,Yadrav-Ichalkaranji

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SHIVAJI UNIVERSITY

Abstract

Department of Computer Science and Engineering
Sharad Institute of Technology College of Engineering,Yadrav-Ichalkaranji

Bachelor of Engineering

The variety of operating platforms in mobile devices involves separate standards, programming languages, and distribution markets. This poses a challenge on software developers, as to select what platform to develop first for.Web-based multiplatform development tools offer a solution under the principle of developing once using target-agnostic technologies, able to be deployed in multiple platforms nonetheless, it has been reported that web-based applications suffer significant performance decreases. In this paper, we present a study to analyze the performance of mobile web applications using PhoneGap and Android OS to understand the most relevant performance matters raised by multiplatform tools. We report an experiment focused on evaluating execution time, to characterize the performance overhead found in a web app with respect to an identical native application.

Now a day's mobiles are replacing the use of laptops and desktops on large scales. The mobile operating system companies provide more resources for the creation of application as per the users requirement. But due the use of various operating system, it becomes problem for developer to develop the application for each operating system individually. so this has been solved by the cross platform mobile application development tool which provide more scope in less time.

Acknowledgements

We take this opportunity to express our profound gratitude and deep regards to our Project guide Mr. B. J. Gorad and project co-ordinator Mr. M. I. Mullani for his exemplary guidance, monitoring and constant encouragement throughout the course of this project. The blessing, help and guidance given by him time to time shall carry us a long way in the journey of life on which we are about to embark.

We also take this opportunity to express a deep sense of gratitude to our Principal, Dr. S. A. Khot and our H. O. D., Prof. O. D. Joshi for their cordial support, valuable information and guidance, which helped us in completing this task through various stages. We are obliged to all faculty and staff members of all departments of our Sharad Institute of Technology College of Engineering, Yadrav for the valuable information provided by them in their respective fields. We are grateful for their cooperation during the period of our assignment.

Lastly, we thank almighty, our parents, brothers, sisters, friends and our colleagues for their constant encouragement without which this assignment would not be possible.

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Chapter 1

Introduction

1.1 Introduction of Project

In today's world the technology making things easier and portable. People still facing problem in carrying and handling laptops along with them. To solve this type of problems the mobile application developers developing applications as per user requirements. But due to various platforms, it becomes great problems for the developer to develop and deploy same application on every platform. So this has been solved by cross platform mobile application development kit which helps a lot in solving this problem[1].

Cellular phones can now be used to carry not only voice but also data traffic, such as text messages, pictures, and video clips from anywhere at any time. The idea of using the mobile handsets and phones is to deliver the valuable services except the basic communication that had been started in the early 1990s when Internet was added in Voice Telephony.Now day's people using mobile phone application according to their requirement for making work easier. But people are not able to get all application in one platform as there are different applications on different platforms[1]. This problem is solved by Cross platform mobile application development kit "Intel XDK". This kit will help to develop Cross platform mobile application means by using this software simultaneously we can deploy application for all platform at a time by using HTML5 with JavaScript and CSS[1].

Our main aim is to create a mobile application which we can deploy on every platform of mobile application by installing same application on mobile devices of every platform: Android, I-Phone and Windows. Our main target is to have just single source code of application for the entire platform of mobile application. So with the help of this cross

platform application development kit we can make this possible "develop once,deploy for many [2].

The main purpose of K-Indicator is to provide services to customers based on the knowledge of their locations. Examples of these services include route information, job finder, emergency services which are delivered to mobile terminals according to user's location to minimize data transmission, providing dynamic guidance services according to the users location and current route condition, requesting the nearest business or service (e.g., the nearest restaurant or hospital) and alerts like change in the bus or trains time table[3, 4].

Unfortunately the current services are rigid as they cannot make good use of information. Services are provided at inappropriate time without considering user's intention and changing environment[5].

K-Indicator provides the mobile clients personalized services according to their current location. They also open a new area for developers, cellular service network operators, and service providers to develop and provide value-added services: providing routing information, helping the users to find nearby hospitals, hotels, finding jobs[3, 4].

Chapter 2

Literature Review

2.1 Mobile Platform

In earlier days, finding all information about a particular place is not easy. We had to spend lots of time and money for that and so much efforts. Though we cannot guarantee that we can get all the information we proposed this K-Indicator system based on android technology. It is a simple application like other system using android devices which give all information about Kolhapur[1, 3, 4] .

Initially mobile phones were developed only for voice communication but nowadays the scenario has changed, voice communication is just one aspect of a mobile phone. Mobile devices are becoming increasingly popular. There are other aspects which are major focus of interest. There has been a growth in the android market in the past few years meanwhile, android applications are considered as a profitable opportunity for android developers and providers.

The system does not allow the user to access the mobile software directly but now, after the release of android based open source mobile phone a user can access the software directly and design customized native applications to develop Web enabled services. K-Indicator is used for applications that find the bus and trains time table, current movies, Jobs and much more[3, 4].

People are not able to get all application one platform as there are different applications on different platform. To use those application people have to use the entire platform but it is very difficult. Mobile application developer starts developing application cross platform mobile application by using HTML5 with JavaScript and CSS3. This problem is solved by Cross platform mobile application development kit "Intel XDK". This kit

will help to develop Cross platform mobile application means by using this software simultaneously we can deploy application for all platform at a time by using HTML5 with JavaScript and CSS3.

Languages used to make mobile application:

1. ***I-phone:***objective C/C++, HTML5
2. ***Android:***Java, C/C++, HTML5
3. ***Windows Phone:***C/C++, Silver light, HTML5

So as you can see that every platform above has different language in which code is written. I-phone use Objective C/C++ language to code application, Android uses Java/C/C++ language, Window phone uses C/C++/Silver light/ language but something that is common between all three is HTML 5. So we can use HTML 5 and j-query with collaboration with Intel XDK. So with the help this software we will code once and deploy for many platform.

- ***Apps for I-Phone:***

  This module will target I-phone operating system. We will make application with the help of this software which can be installed on every I-phone device. Devices of company like Apple etc[1, 2].

- ***Apps for Android:***

  This module will target Android operating system. We will make application with the help of this software which can be installed on every Android device. Devices of any company like LG, Sony, and Samsung etc[1, 2].

- ***Apps for Windows phone***

  This module will target window's operating system. We will make application with the help of this software which can be installed on every Window phone device. Devices of company like Nokia, HTC etc[1, 2].

For Windows phone and I-phone we have to add authentication certificate which is available on the internet, after adding certificate we can build our application.

2.2 Research and Study

Over the past year, Google's Android and Apple's iOS have been strong competitors in the Mobile app market. According to comScore, iOS mobile devices captured 25% of the market in February 2011. That's up only slightly from November 2010, despite the introduction of the iPhone on Verizon's network. On the other hand, iOS' biggest competitor, Google's Android, has grown 7% since November 2010, and now as shown in fig the O.S. market is as below

Android: - 42%

Windows: - 15%

IOS/MacOS: - 14%

RIM: - 1%

Others - 28%

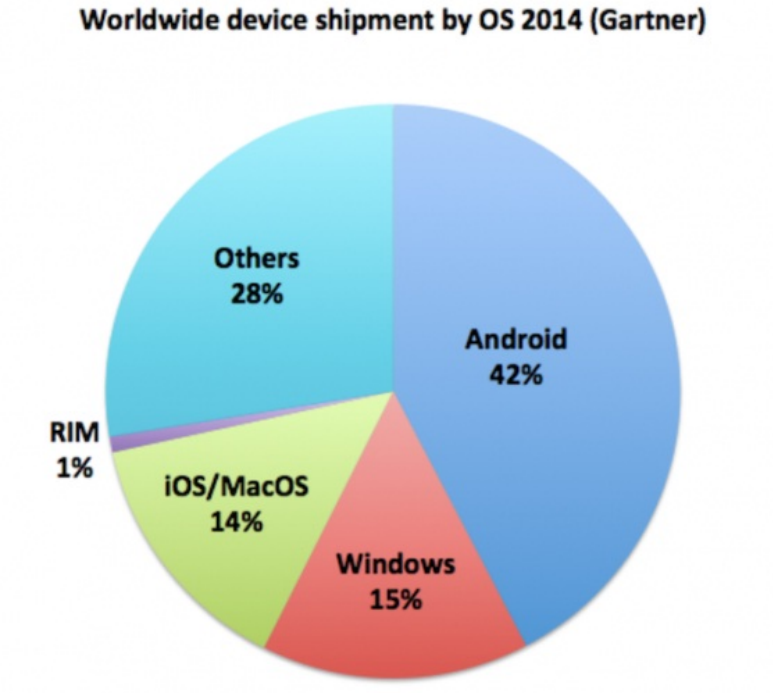

FIGURE 2.1: The O.S. Market

2.3 Android Platform

Android is an open source operating system for mobile devices. Android was initially Developed by Android Inc., and sold to Google in 2005. On November 2007, the Open Handset Alliance (OHA) was announced amongst a consortium of several top companies. The goal was to develop an open mobile platform every developer to contribute towards Improving the performance and features of the product.

Android is built on top of Linux kernel and GNU software. Software stack of the Android runs Java applications using Java core libraries. Each instance of Java application runs on its own Virtual Machine (VM) called Dalvik.

Well as for Dalvik VM, it has its own Java Byte code and is designed to be to be Optimal on memory and processor usage. The VM executes Dalvik Executables with (.dex) Extension. Among the various tools built in the Android, 'dx' tool is used to generate the Executable that converts the Java classes into .dex format.

Android relies on the Linux kernel to perform system level functions such as memory management and threading & even the more dependent on it for hardware interactions and power management.

Developers can build applications using the software development kit (SDK) Developed by Google. It consists of Application Programming Interface (API) used to develop robust Java applications. These API's facilitate to access the contents on the Phone such as contacts and calendar information and also integrate them with external web service in order to provide online services.

Chapter 3

Objective and Scope

3.1 Objective

The main objective of our project is to provide all information about Kolhapur city.

3.2 Scope

- To determine Bus and trains time table.
- Receiving alerts, such as notification of change in bus or trains route or in timing.
- Finding the jobs in your area.
- It also provides facility of current movies playing in Multiplex and single screen in your area.
- It provides facility to find the hotels.

3.3 Out of Scope

- It requires internet connection to get latest information.
- We are not providing the automatic update facility.
- This is limited only to Kolhapur, not for other cities.

Chapter 4

Requirement Analysis

4.1 Recommended Hardware Requirements

4.1.1 Hardware Requirements for Development

- PC/Laptop
- Android Phone
- Wi-Fi/Internet Connection

4.1.2 Hardware Requirements for Using Application

- Android Mobile (Above 2.2)
- Tablet of android platform

4.2 Recommended Software Requirements

4.2.1 Hardware Requirements for Development

- Intel XDK
- Operating System: - Windows XP or above
- Technologies: - HTML, J-Query, JAVASCRIPT, CSS.

4.2.2 Software Requirements for Using Application

- Android OS

4.3 Technologies and Tools Used:-

4.3.1 HTML5

HTML5 is the last web technology with multimedia features for smart-phones and tablets. HTML5 web application can be accessed on mobile browsers and run on different mobile platform just like native application[1, 2].

4.3.2 J-QUERY

Mobile J-Query is a fast & concise JavaScript Library that simplifies HTML document traversing, animating, event handling and Ajax interactions for rapid development. J-Query is designed to change the way that you write JavaScript. JQuery is a cross-platform JavaScript library designed to simplify the client-side scripting of HTML Used by over 60 % of the 10,000 most visited websites, JQuery is the most popular JavaScript library in use today. JQuery is free, open source software, licensed under the MIT License[1, 2].

The advantages of using JQuery are:

- **Separates JavaScript and HTML**

  Instead of using HTML attributes to call JavaScript functions for event handling, JQuery can be used to handle events purely in JavaScript. Thus, the HTML tags and JavaScript can be completely separated.

- **Brevity and Clarity**

  JQuery promotes brevity and clarity with features like chain-able functions and shorthand function names.

	Apple* iOS*	Blackberry *	Google* Android*	Microsoft* Windows* Phone	Mozilla* Firefox* OS	Tizen*
Development model	Closed, controlled by Apple	Closed, controlled by Blackberry	Platform code released to open source after first commercial device ships; key pieces are Google proprietary	Closed, controlled by Microsoft	Open source, code released during development; controlled by Mozilla	Open source, code released during development. Controlled by Tizen TSG, co-chaired by Intel and Samsung
APIs	Objective C; HTML5 in browser; hybrid	C/C++; HTML5; hybrid; Java	Java; restricted C/C++; HTML5 in browser; hybrid	C/C++; managed (C#, JavaScript); HTML5 with Microsoft extensions	HTML5 only with Mozilla extensions	HTML5 with Tizen extensions; C/C++
Architecture support	ARM only	ARM only	ARM and x86	ARM only	ARM only	ARM and x86
OEM and service provider support	Leading OEM, broad SP support	1 OEM, good SP support	Many OEMs, broad SP support	Many OEMs, broad SP support	Limited OEMs, good SP support	Supported by leading OEM, good SP support
Device categories supported	Smartphone, tablet, TV	Smartphone, tablet	Smartphone, tablet, TV	Smartphone, tablet	Entry Smartphone	Smartphone, tablet IVI, TV, PC

FIGURE 4.1: Whats Common across these Platforms?

- **Eliminates cross-browser incompatibilities**

  The JavaScript engines of different browsers differ slightly, so JavaScript code that works for one browser may not work on the other.JQuery handles all these cross-browser inconsistencies and provides a consistent interface that works across different browsers.

- **Extensible:**

  JQuery makes extending the framework very simple. New events, elements and methods can be easily added and then reused as a plug-in. Both versions 1.x and 2.x of JQuery support "current-1 versions" of Firefox, Google Chrome, Safari, and Opera. Version 1.x also supports Internet Explorer 6 or higher. However, JQuery version 2.x dropped Internet Explorer 6-8 support (which represents less than 28% of all browsers in use) and supports only IE 9 and later versions.

4.3.3 JAVASCRIPT

JavaScript is used in lots of web pages to improve design, detect browsers and many more and works in all major browsers such as Internet Explorer, Mozilla etc .JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also used in server-side network programming with frameworks such as Node.js, game development and the creation of desktop and mobile applications.

Why to use JAVASCRIPT

- Google's Chrome extensions, Opera's extensions, Apple's Safari 5 extensions, Apple's Dashboard Widgets, Microsoft's Gadgets, Yahoo! Widgets, Google, and Serence Klipfolio are implemented using JavaScript.

- Adobe's Acrobat and Adobe Reader support JavaScript in PDF files.

- Tools in the Adobe Creative Suite, including Photo-shop, Illustrator, Dream-weaver, and In Design, allow scripting through JavaScript.

- Open-office.org, an office application suite, allows JavaScript to be used as a scripting language.

- Apple's Logic Pro X digital audio workstation (DAW) software can create custom MIDI affects plug-in using JavaScript.

- The open-source Re-Animator framework allows developing 2D sprite-based games using JavaScript and XML.
- Google Apps Script in Google Spreadsheets and Google Sites allows users to create custom formulas, automate repetitive tasks and also interact with other Google products such as Gmail.

4.3.4 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. Its common application is to style web pages written in HTML5 and XHTML, but the language can also be applied to any kind of XML document including XML-Language, Scalable Vector Graphics and XML-based User interface Language. CSS is a cornerstone technology used by most websites to create visually engaging Web-pages, user interfaces for web applications, and user interfaces for many mobile applications.

CSS has various levels and profiles. Each level of CSS builds upon the last, typically adding new features and typically denoted as CSS 1, CSS 2, CSS 3, and CSS 4. Profiles are typically a subset of one or more levels of CSS built for a particular device or user interface. Currently there are profiles for mobile devices, printers, and television sets.

Chapter 5

Design

5.1 Modules

.

- **About Kolhapur**

  This gives little bit information about Kolhapur and different stats about Kolhapur.

- **Bus**

  This provides information about bus route, incoming buses, going buses and timing of the buses. It also provides route of city buses i.e. KMT from different stops.

- **Train**

  This provides all information about trains i.e. all trains, incoming trains, outgoing trains with no of train and all middle stops between two stop.

- **Auto**

  The auto menu gives Day and Night charges of Auto per kilometer.

- **Jobs**

  Job menu gives Jobs & Properties from Kolhapur and nearest city.

- **Picnic Spots**

  Get category wise list of picnic spots e.g. beaches, Hill stations, Waterfalls, Caves, Forts, Farmhouse, Resorts, and Lakes.

Get distance wise list of various weekend picnic spots nearby Kolhapur-Watch pics, read description and other information about spot.

- **Hotels**

  Get the hotels list with the category like veg, non-veg and hotel address with phone numbers.

- **Movies**

  Get Theater wise list of latest Movie shows in Kolhapur, Ichalkaranji and nearest city.

- **Natak (Drama)**

  Get daily schedule of Marathi, Gujarati, Hindi Natak (Drama).

- **Emergency Numbers**

  Hospitals, Police Station, Ambulances, Blood Banks, Railway, Fire Brigade, Electricity Issue, Tourist Inquiry.

5.2 Use Case Diagram

Description

A **use case diagram** is the simplest representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can define the different types of users of a system and the various ways that they interact with the system. They provide the simplified and graphical representation of what the system must actually do. The purpose of the use case diagrams is simply to provide the high level view of the system and convey the requirements.

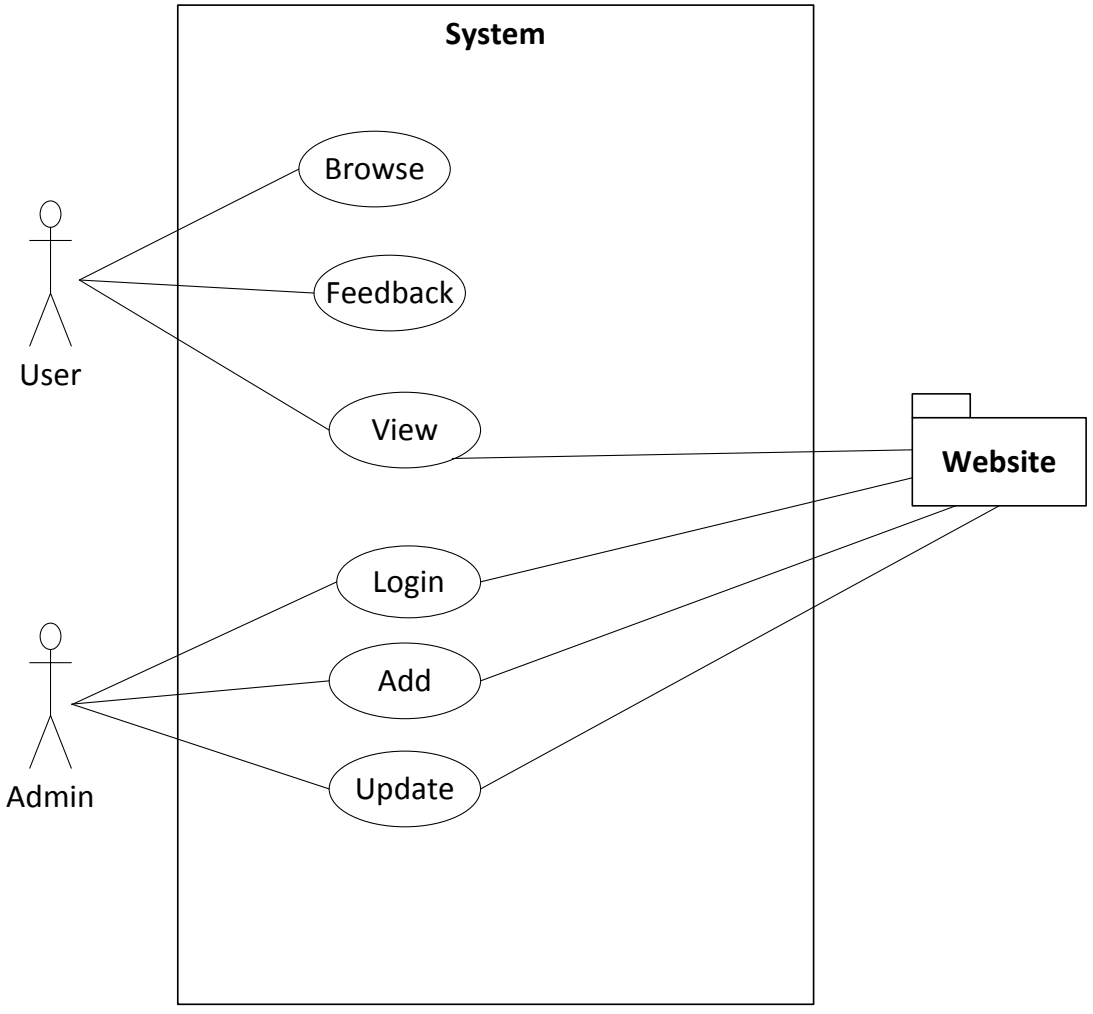

FIGURE 5.1: Use Case Diagram

5.2.1 Use Case Scenario

Use Case	Description
Browse	1. User installs and starts application. 2. He clicks on welcome form and continue. 3. User can get options like Bus, Train, Auto and Emergency Number. 4. He can browse any option according to his choice.
Feedback	1. User clicks on feedback. 2. He writes his name and email address. 3. User types his feedback.
View	1. User starts application. 2. User can select option among Movies, Job, Natak (Drama), Picnic spots, Hotels and Kolhapur. 3. According to selected option user views the information.
Login	1. Administrator goes to website. 2. He gives Username and Password. 3. After providing username and password Administrator enters in to website.
Add	1. Administrator enters into website by providing username and password. 2. Administrator selects option or menu. 3. After selecting option or menu he adds the data.
Update	1. Administrator goes to website and provides the username and password. 2. Administrator selects option or menu. 3. An administrator adds, delete or modifies the data according to option or menu. 4. He updates the website.

TABLE 5.1: Use Case Scenario Table

5.3 Sequence Diagram

Description

A **Sequence diagram** is an interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called **event diagrams** or **event scenarios.**

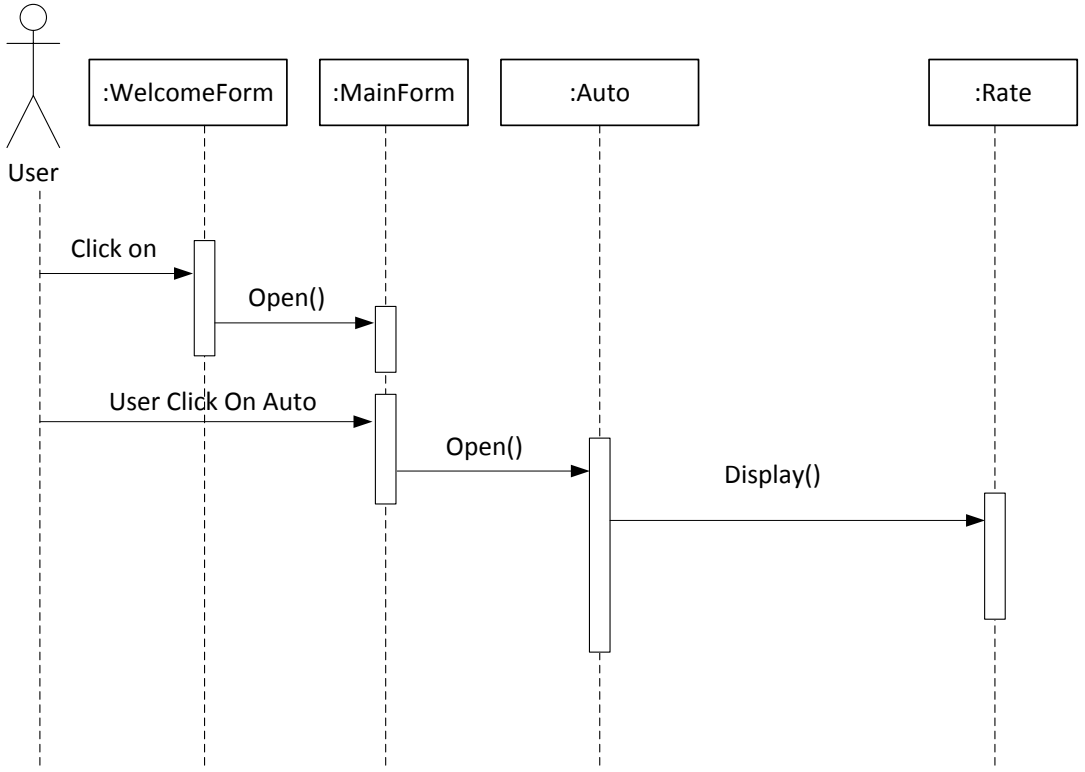

FIGURE 5.2: Sequence Diagram For Auto

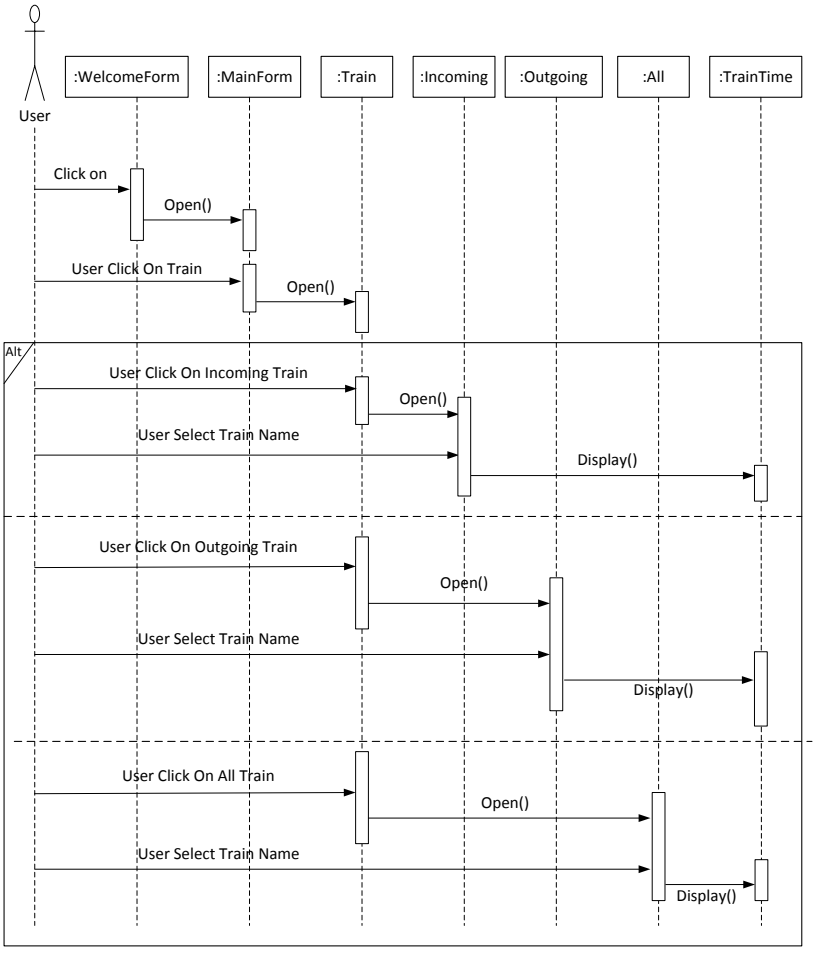

FIGURE 5.3: Sequence Diagram For Train

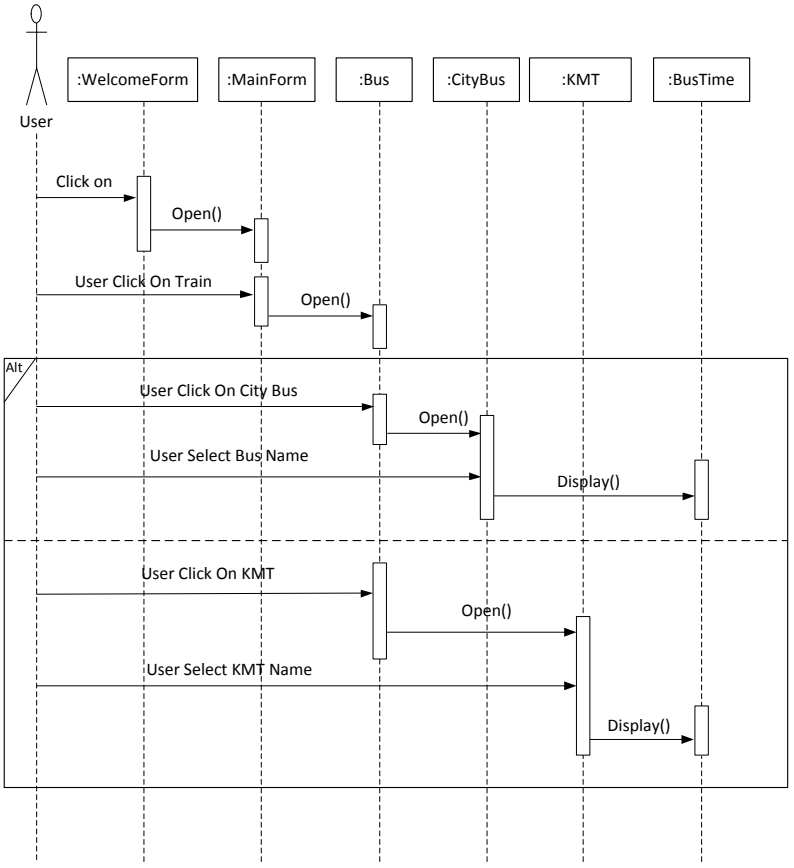

FIGURE 5.4: Sequence Diagram For Bus

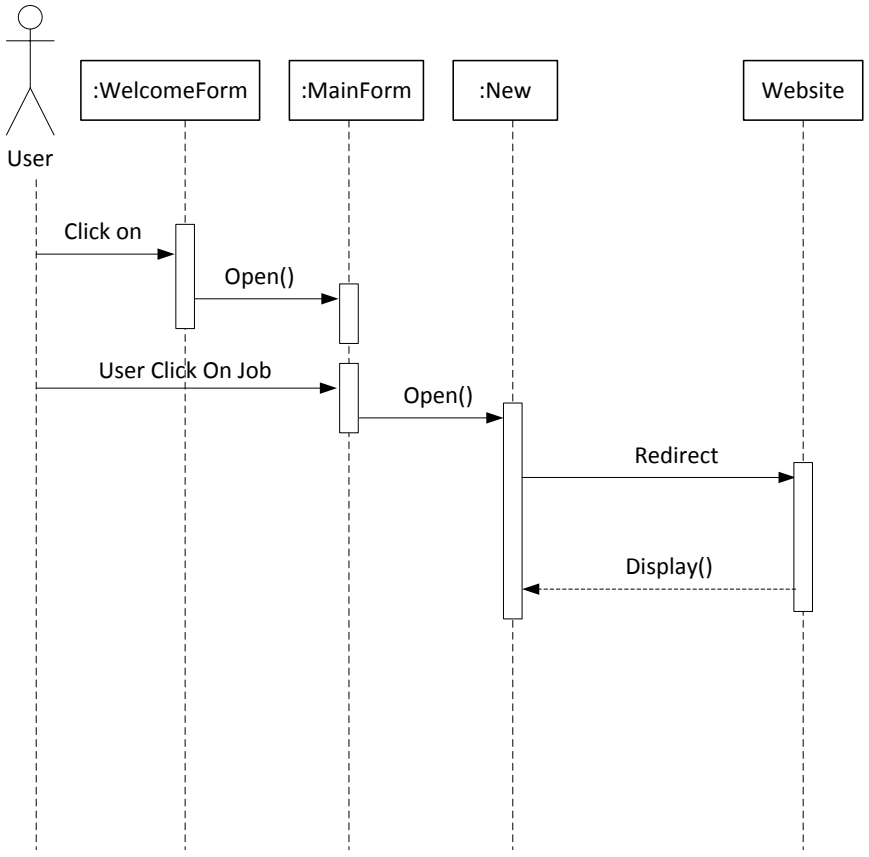

FIGURE 5.5: Sequence Diagram For New

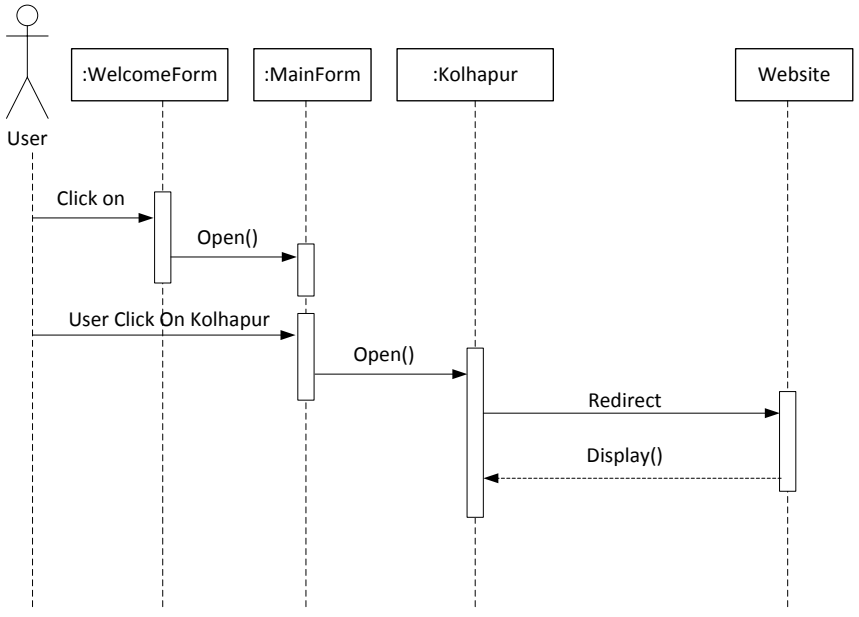

FIGURE 5.6: Sequence Diagram For Kolhapur

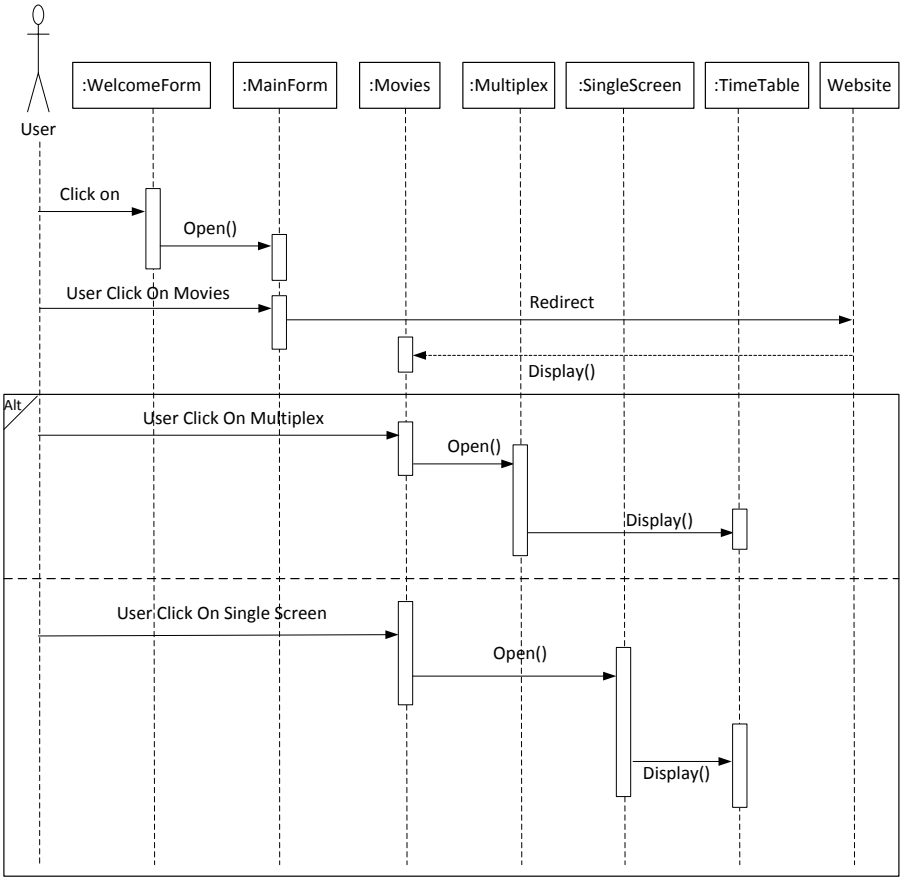

FIGURE 5.7: Sequence Diagram For Movies

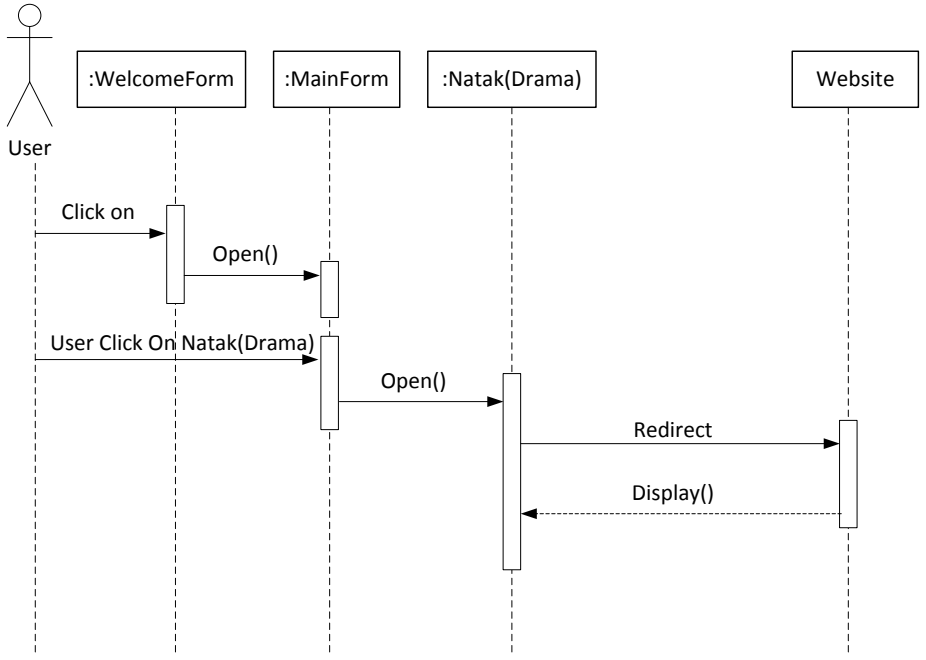

FIGURE 5.8: Sequence Diagram For Natak(Drama)

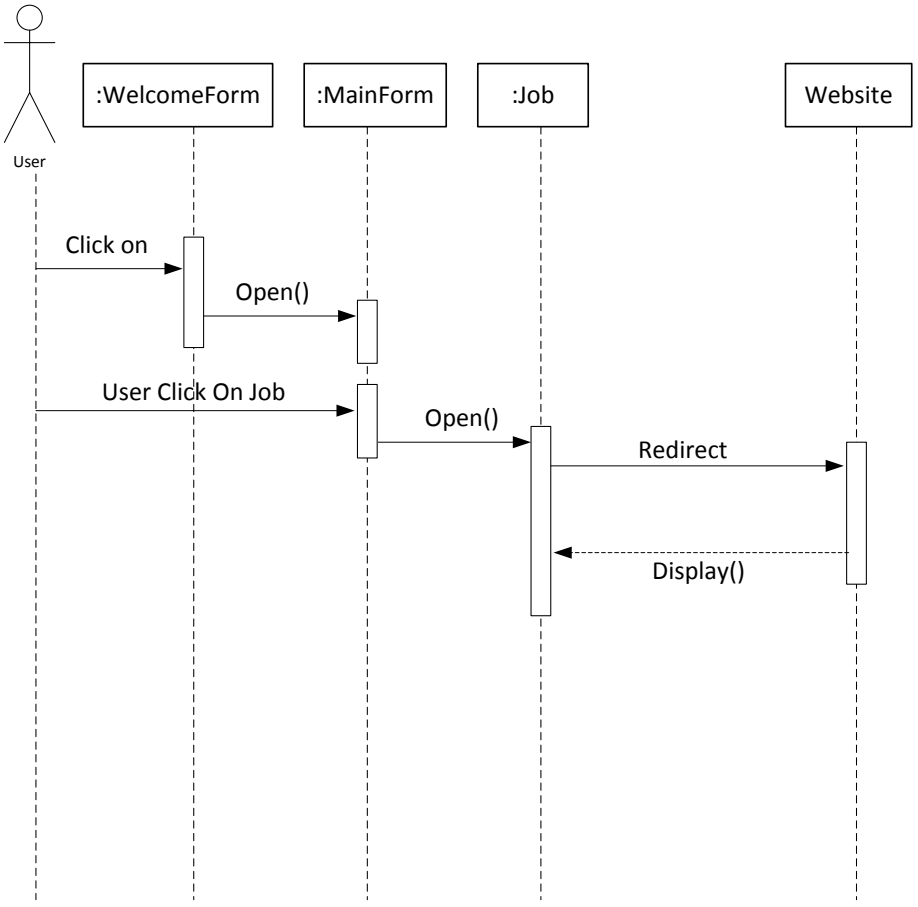

FIGURE 5.9: Sequence Diagram For Job

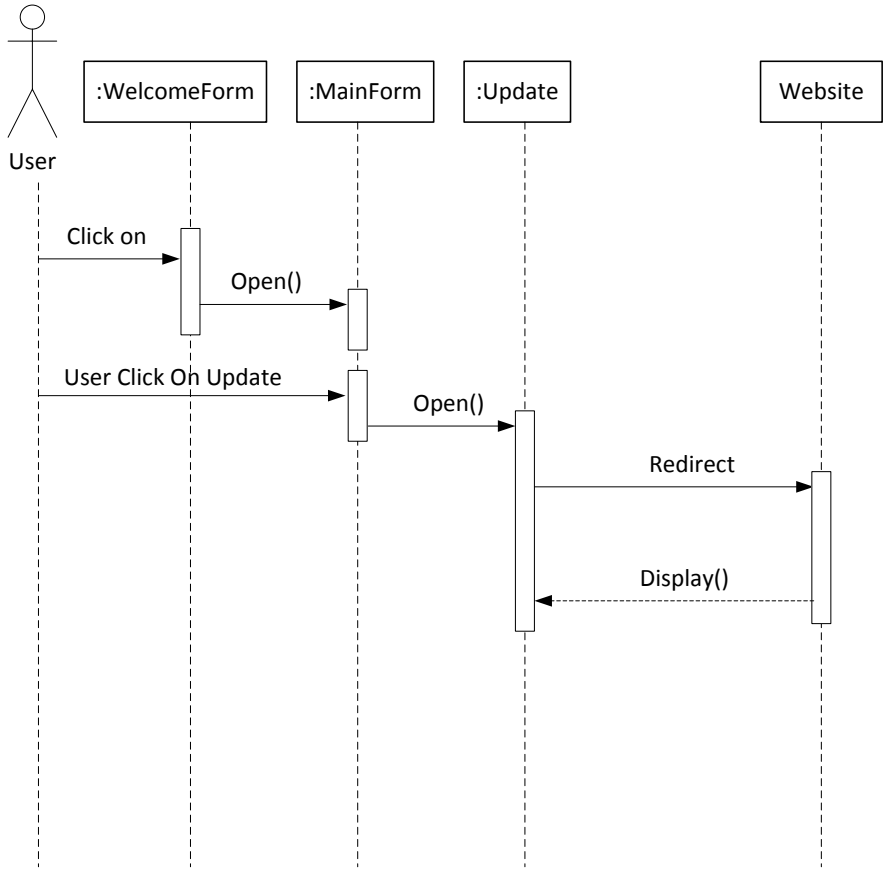

FIGURE 5.10: Sequence Diagram For Updates

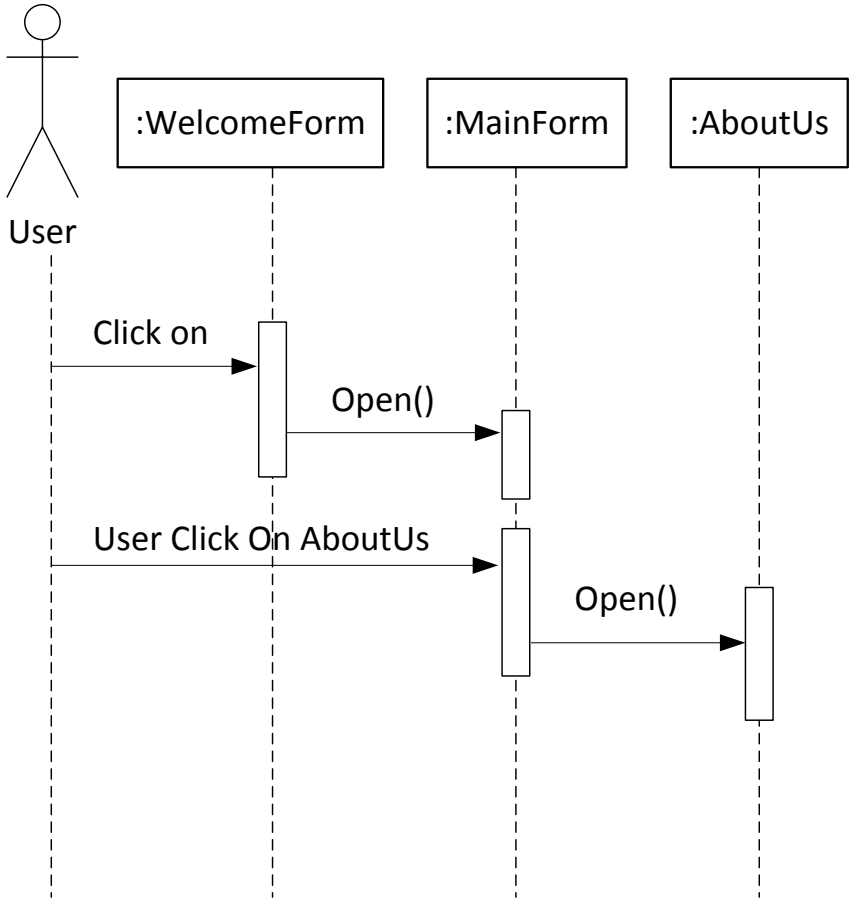

FIGURE 5.11: Sequence Diagram For About Us

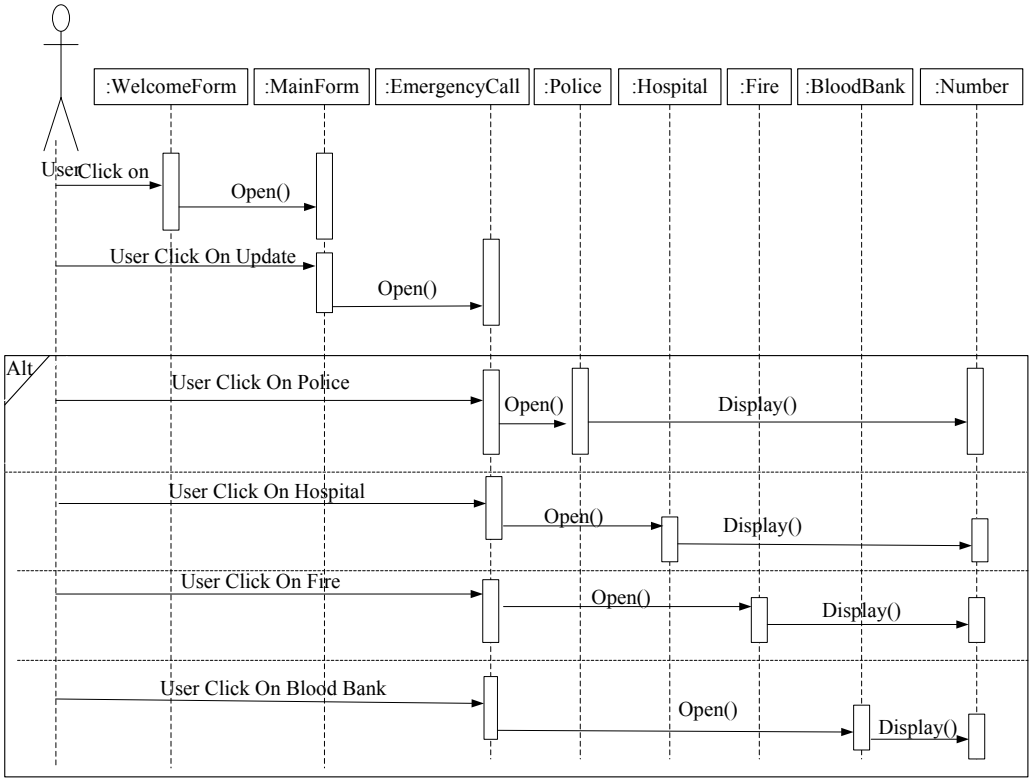

FIGURE 5.12: Sequence Diagram For Emergency Call

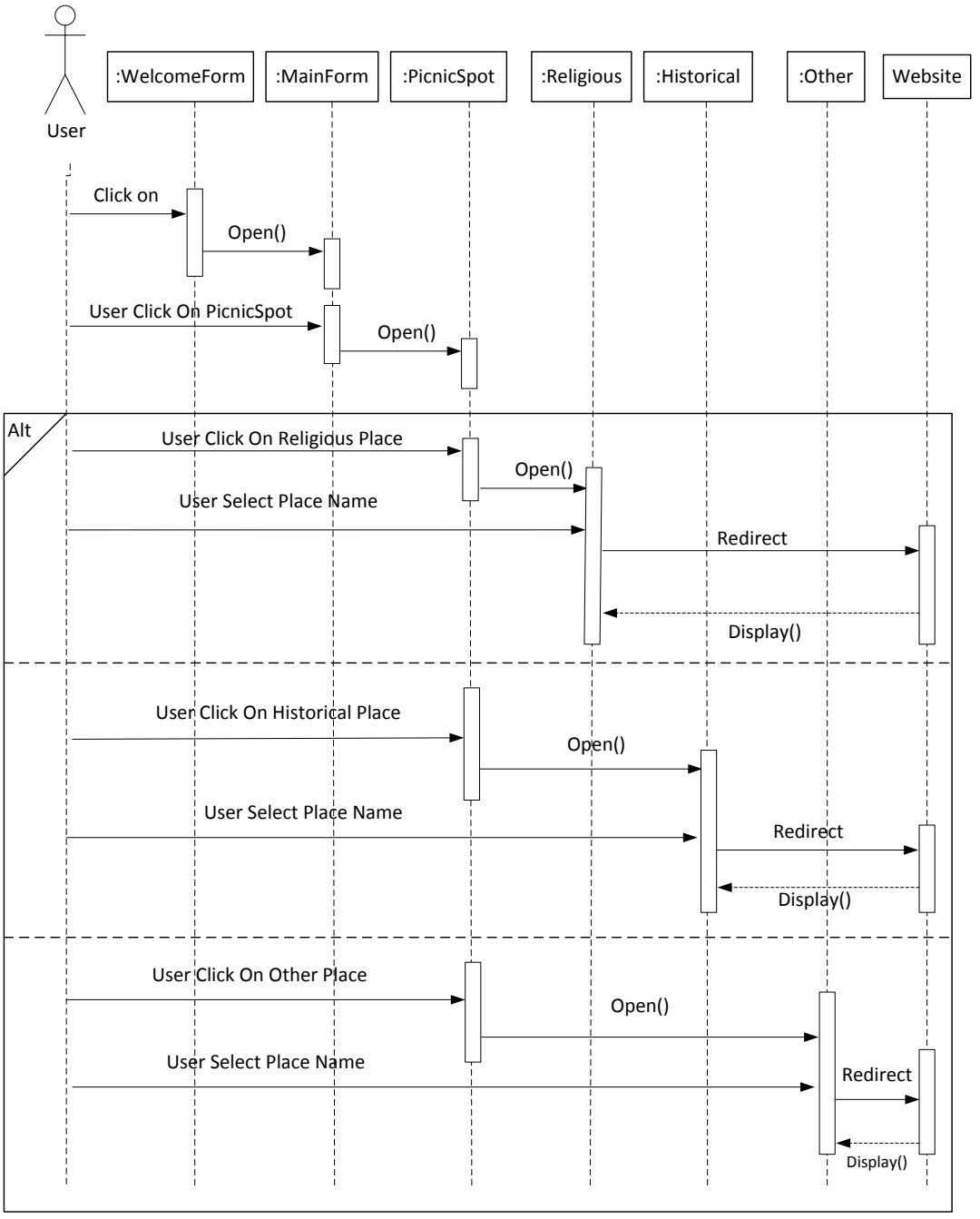

FIGURE 5.13: Sequence Diagram For Picnic Spot

5.4 Class Diagram

Description

A UML class diagram describes the object and information structures used by your application, both internally and in communication with its users. It describes the information without reference to any particular implementation. Its classes and relationships can be implemented in many ways, such as database tables, XML nodes, or compositions of software objects.

- **Class:** A definition of objects that share given structural or behavioral characteristics.
- **Attribute:** A typed value attached to each instance of a classifier.
- **Operation:** A method or function that can be performed by instances of a classifier.

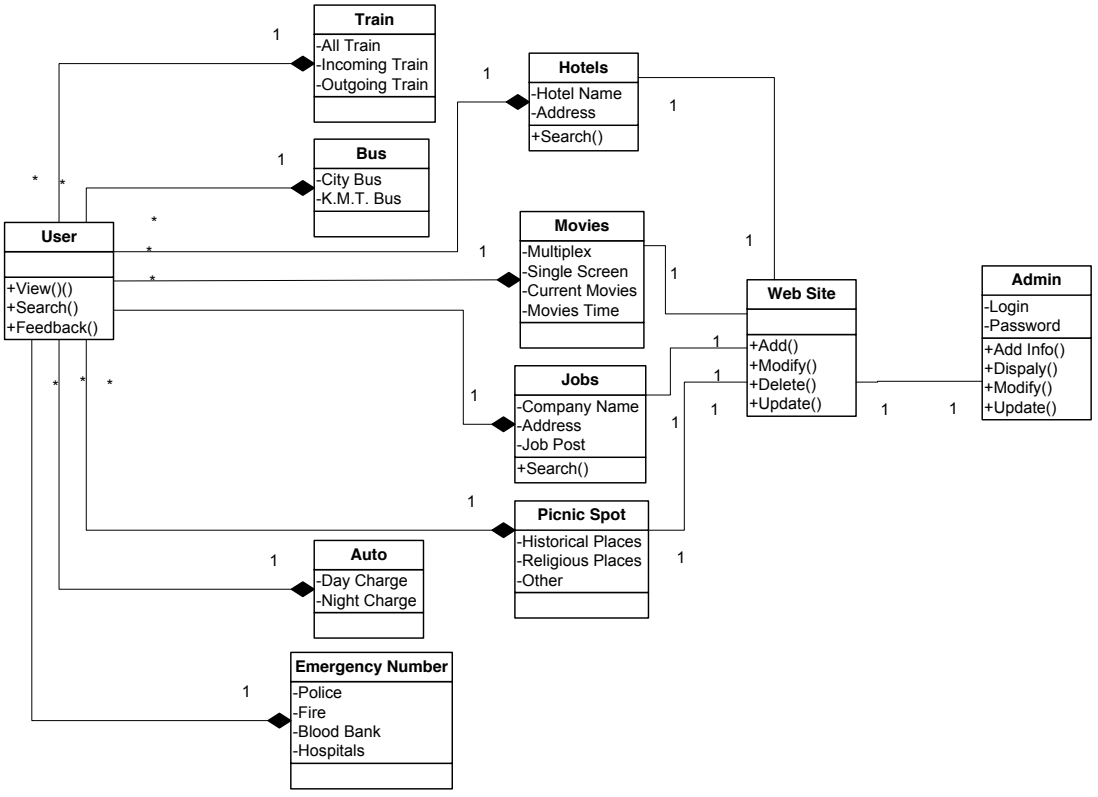

FIGURE 5.14: Class Diagram

5.5 Deployment Diagram

Description

A **deployment diagram** in the Unified Modeling Language models the physical deployment of artifacts on nodes. To describe a web site, for example, a deployment diagram would show what hardware components ("nodes") exist (e.g., a web server, an application server, and a database server), what software components ("artifacts") run on each node (e.g., web application, database), and how the different pieces are connected (e.g. JDBC, REST, RMI).

The nodes appear as boxes, and the artifacts allocated to each node appear as rectangles within the boxes. Nodes may have sub nodes, which appear as nested boxes. A single node in a deployment diagram may conceptually represent multiple physical nodes, such as a cluster of database servers.

There are two types of Nodes:

1. Device Node
2. Execution Environment Node

Device nodes are physical computing resources with processing memory and services to execute software, such as typical computers or mobile phones. An execution environment node (EEN) is a software computing resource that runs within an outer node and which itself provides a service to host and execute other executable software elements.

5.6 Deployment Diagram

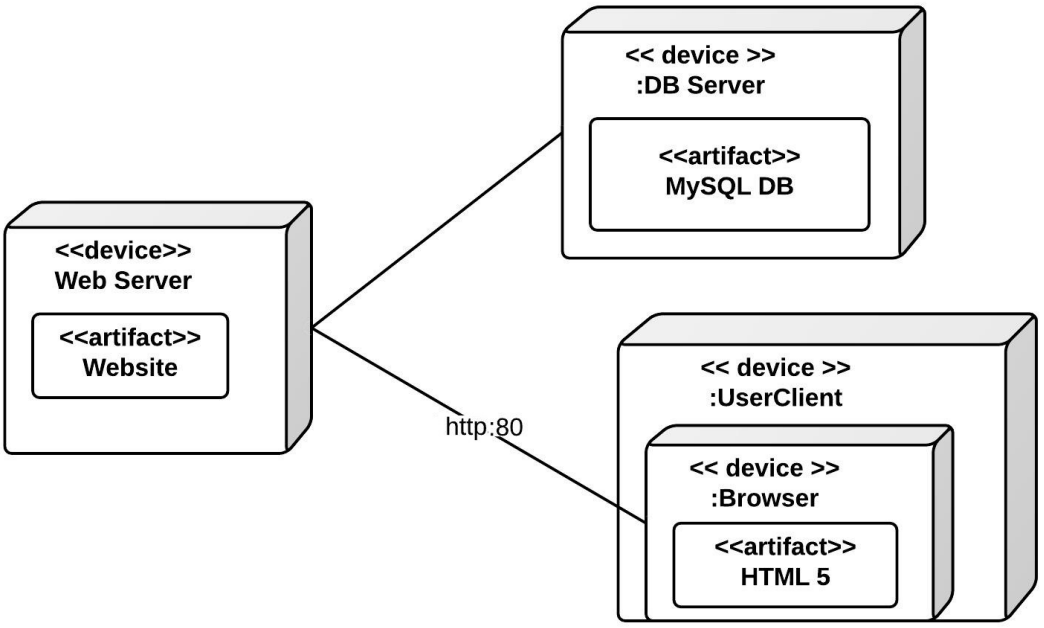

FIGURE 5.15: Deployment Diagram

Chapter 6

Coding

6.1 Introduction of Tools And Installation

6.1.1 Intel XDK

Feb. 24, 2014 Intel Corporation announced Intel® XDK developer tools to help create faster and better web and hybrid mobile applications, as well as to assist in simplifying and accelerating time-to-market. Intel XDK provides APIs for a wide range of services, enabling developers to deliver enhanced app experiences on mobile devices. Intel XDK is available free of charge at xdk.intel.com for Windows*, OS X* and Linux* platforms.

Intel XDK development tool is designed to help mobile Web developers develop, test, and deploy apps to as many platforms as possible. Using Web technologies such as HTML5, JavaScript*, and CSS3*, these tools will allow you to not only create and test mobile Web apps, but also hybrid native apps.

New features include theme-based templates to speed app design, the latest Cordova* 3.x API for improved device support and an app profiler that identifies performance bottlenecks. Intel XDK provides APIs for a wide range of services, enabling developers to deliver enhanced app experiences on mobile devices.

6.1.2 Features

- Intuitive easy to use streamlined work flow, from design to app store.
- Faster development - integrated design, test, and build tools.

- Quick start samples and demos to speed responsive app design.
- Profilers to tune for more app performance and quality.
- Extends hybrid performance with Crosswalk* run time for Android.
- Effortless app deployment across form factors and app stores.
- Integral Cloud-based build system for hybrid and web apps.
- Write Once, Deploy Anywhere

6.1.3 Steps for the installation and set-up of Intel XDK Development Environment

- Go to http://XDK.Intel.com and Download Intel XDK
- Double click on .exe
- Choose the path where you want to install it.
- Click next
- Finish

6.1.4 PHP

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

PHP is probably the most popular scripting language on the web. It is used to enhance web pages. With PHP, you can do things like create a username and password login pages, check details from a form, create forums, picture galleries, surveys, and a whole lot more.

PHP is known as a server-sided language. That's because the PHP doesn't get executed on your computer, but on the computer you requested the page from. The results are then handed over to you.

The most popular explanation of just what PHP stands for is "Hypertext Pre-processor". But that would make it HPP, surely? An alternative explanation is that the initials come

from the earliest version of the program, which was called Personal Home Page Tools. At least you get the letters "PHP" in the right order!

What Is a PHP File?

- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code is executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension "PHP".

What Can PHP Do?

- PHP can generate dynamic page content
- PHP can create, open, read, write, and close files on the server
- PHP can send and receive cookies
- PHP can add, delete, and modify data in your database.
- With PHP you are not limited to output HTML. You can output images, PDF files, and even flash movies. You can also output any text, such as XHTML and XML.

Why PHP?

- PHP runs on various platforms like Windows, Linux, UNIX, Mac OS X, etc.
- PHP is compatible with almost all servers used today Apache, Apache Tomcat, IIS, etc.
- PHP supports a wide range of databases
- PHP is free. Download it from the official PHP resource website.

6.1.5 MySQL

- MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation.
- The MySQL official web site www.mysql.com provides the latest information about MySQL software.

- MySQL is a database management system.

- A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

MySQL Databases Are Relational.

- A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to-one, one-to-many, unique, required or optional, and "pointers" between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out-of-date, or missing data.

- The SQL part of "MySQL" stands for "Structured Query Language". SQL is the most common standardized language used to access databases. Depending on your programming environment, you might enter SQL directly for example, to generate reports, embed SQL statements into code written in another language, or use a language-specific API that hides the SQL syntax.

MySQL Software Is Open Source.

- Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs. The MySQL software uses the GPL for GNU General Public License, to define what you may and may not do with the software in different situations.

The MySQL Database Server Is Fast, Reliable, Scalable And Easy To Use

- MySQL Server can run comfortably on a desktop or laptop, alongside your other applications, web servers, and so on, requiring little or no attention. If you dedicate an entire machine to MySQL, you can adjust the settings to take advantage of all the memory, CPU power, and IO capacity available. MySQL can also scale up to clusters of machines, networked together.

- MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.

Steps To Install MySQL

1. MySQL Workbench for Windows can be installed using the MySQL Installer that installs and updates all MySQL products on Windows, the standalone .msi installation package, or manually from a Zip file.

   Important installing MySQL Workbench using an Installer package requires either Administrator or Power User privileges.

2. MySQL Workbench can be installed using the Windows Installer (.msi) installation package.

3. To install MySQL Workbench, rightclick the MSI file and select the Install item from the pop-up menu, or double-click the file.

4. In the Setup Type window you may choose a Complete or Custom installation. To use all features of MySQL Workbench choose the Complete option.

5. Unless you choose otherwise, MySQL Workbench is installed default location on c drive.

6.2 Issues

6.2.1 Studying Intel XDK Development Tool

1. First we chose the Eclipse for developing android app.

2. We have to study all features of Eclipse, database connectivity and so on.

3. It looks very difficult to study it in few days. So we change the development tool to Intel XDK which is very easy to study and it is having sample templates.

6.2.2 Building Android Application

1. To start creating application we require account on Intel XDK.

2. After creating android application in Intel XDK we are going to build it for different platform.

3. For building app in Intel XDK for iOS it requires certificate.

4. If we have certificate then give path of that certificate or we have to download it.

6.3 Snippets

6.3.1 Application Homepage

Here we show all the menus in our application. User choose menu according to his requirement.There are different menus like bus, train, auto, picnic spots, movies, colleges, jobs, hotels, emergency numbers, and alert. K-khabar and about us.

```
<div class="col uib_col_4 col-0_2-12_2-6_2-4" data-uib="layout/col"
    data-ver="0">
<div class="widget-container content-area vertical-col center">
<a class="uib-graphic-button default-graphic-sizing default-image-sizing
    hover-graphic-button active-graphic-button default-graphic-button
    default-graphic-text widget uib_w_4 d-margins media-button-text-bottom"
    data-uib="media/graphic_button" data-ver="0" href="uib_page_1">
<img src="images/bus.png">
<span class="uib-caption">Bus</span>
</a><span class="uib_shim"></span>
</div>
</div>

<div class="col uib_col_4 col-0_2-12_2-6_2-4" data-uib="layout/col"
    data-ver="0">
<div class="widget-container content-area vertical-col center">
<a class="uib-graphic-button default-graphic-sizing default-image-sizing
    hover-graphic-button active-graphic-button default-graphic-button
    default-graphic-text widget uib_w_2 d-margins 1 3
    media-button-text-bottom" data-uib="media/graphic_button" data-ver="0"
    href="uib_page_8">
<img src="images/rail.png">
<span class="uib-caption"> Rail </span>
</a>
<span class="uib_shim"></span>
</div>
```

```
</div>
```

- **Bus Selection**

1. City Bus And KMT:

If user selects Bus option from menu then he will get two options City Bus and KMT. Again user has to make choice between these two options.

```
<div id="uib_page_3" class="upage-content hidden vertical-col">
<div class="grid grid-pad urow uib_row_41 row-height-41" data-uib="layout/row"
    data-ver="0">
<div class="col uib_col_66 col-0_3-12" data-uib="layout/col" data-ver="0">
<div class="widget-container content-area vertical-col">
<a class="uib-graphic-button default-graphic-sizing default-image-sizing
    hover-graphic-button active-graphic-button default-graphic-button
    default-graphic-text widget uib_w_128 d-margins media-button-text-bottom
    5" data-uib="media/graphic_button" data-ver="0">
<img src="images/CityBus_GLPTC_logo.png">
<span class="uib-caption">CITY BUS</span>
</a><span class="uib_shim"></span>
</div>
</div>

<div class="col uib_col_65 col-0_9-12" data-uib="layout/col" data-ver="0">
<div class="widget-container content-area vertical-col">
<a class="uib-graphic-button default-graphic-sizing default-image-sizing
    hover-graphic-button active-graphic-button default-graphic-button
    default-graphic-text widget uib_w_129 d-margins media-button-text-bottom"
    data-uib="media/graphic_button" data-ver="0">
     <img src="images/bus-sign.png">
    <span class="uib-caption">KMT</span>
  </a><span class="uib_shim"></span>
</div>
</div>
```

6.3.2 Selecting City Bus:

```
<div id="uib_page_20" class="upage-content hidden vertical-col">
```

```
<div class="grid grid-pad urow uib_row_52 row-height-52" data-uib="layout/row"
    data-ver="0">
<div class="col uib_col_59 col-0_12-12" data-uib="layout/col" data-ver="0">
<div class="widget-container content-area vertical-col center">
<ul class="list widget uib_w_218 d-margins" data-uib="app_framework/listview"
    data-ver="1">
</li>
<li class="widget uib_w_220" data-uib="app_framework/listitem"
    data-ver="1"><a>Aajra</a>
</li>
</ul>
```

6.3.3 Displaying Time of Bus

```
<ul class="list widget uib_w_414 d-margins" data-uib="app_framework/listview"
    data-ver="1">
<li class="widget uib_w_415 6 1" data-uib="app_framework/listitem"
    data-ver="1"><a>7:00AM</a>
</li>
</ul>
<ul class="list widget uib_w_732 d-margins" data-uib="app_framework/listview"
    data-ver="1">
<li class="widget uib_w_733" data-uib="app_framework/listitem"
    data-ver="1"><a>9:30AM</a>
</li>
<li class="widget uib_w_734" data-uib="app_framework/listitem"
    data-ver="1"><a>11:00AM</a>
</li>
<li class="widget uib_w_735" data-uib="app_framework/listitem"
    data-ver="1"><a>1:00PM</a>
</li>
</ul><span class="uib_shim"></span>
```

6.4 Experiment And Result's

6.4.1 Hosting Web-Site

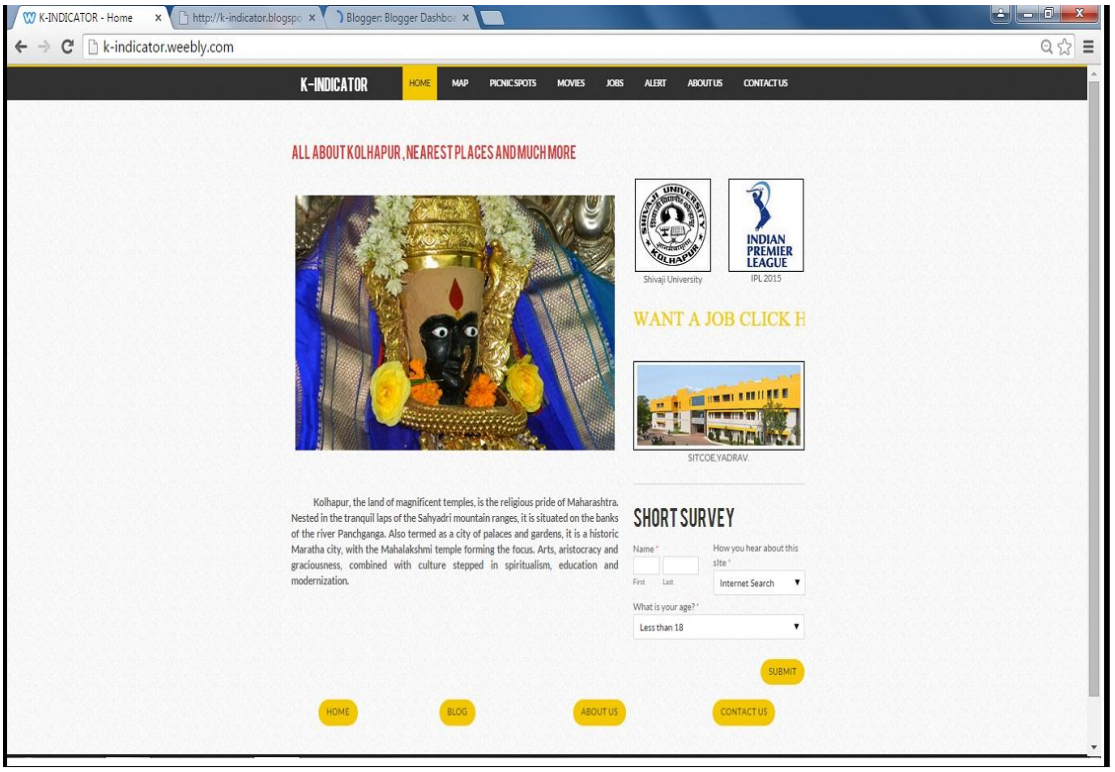

FIGURE 6.1: Website

Weebly gives millions of people a surprisingly easy and affordable way to create a site. With a Weebly site, people can start their own business, communicate with their clients, showcase their achievements, and be an authority on personal and professional interests. Weebly gives everyone the freedom to start a site, blog or online store that works brilliantly across computers, phones and tablets. Weebly has everything you need to plan, build, publish and grow a site that meets your goals.

Steps for creating the website

1. Go to the Weebly website at "www.weebly.com".

2. Sign up for a Weebly account.

3. Decide on the focus of your site.

4. Choose a theme for your site.

5. Choose a subdomain for your website.

6. Design and edit your website.

7. Click on "Publish" when you're satisfied with your website.

6.4.2 Maintaining The Blog's

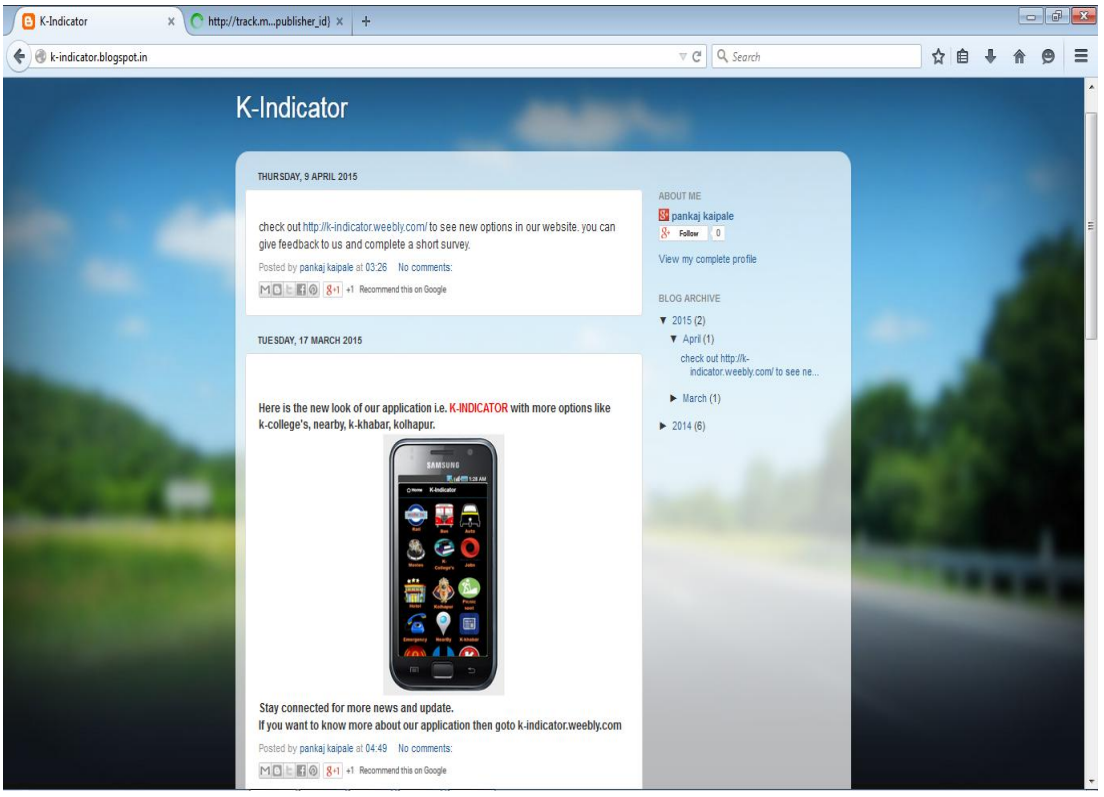

FIGURE 6.2: Maintaining The Blog's

A blog is a discussion or informational site published on the World Wide Web and consisting of discrete entries called as "posts". A majority are interactive, allowing visitors to leave comments and even message each other on the blogs, and it is this interactivity that distinguishes them from other static websites. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic.

Steps for creating and maintaining blog

1. Sign up for a blogging service (such as Blogger).

2. Start creating your art blog just as you would create any other type of blog.

3. Pick a template.

4. Start writing blog posts so people have something to read when they visit your blog.

5. Brand your images if you want to prevent others from copying the images from your blog and using them without your permission.

6. Add images to create an art blog that is visually stimulating.

6.4.3 Creating An Application

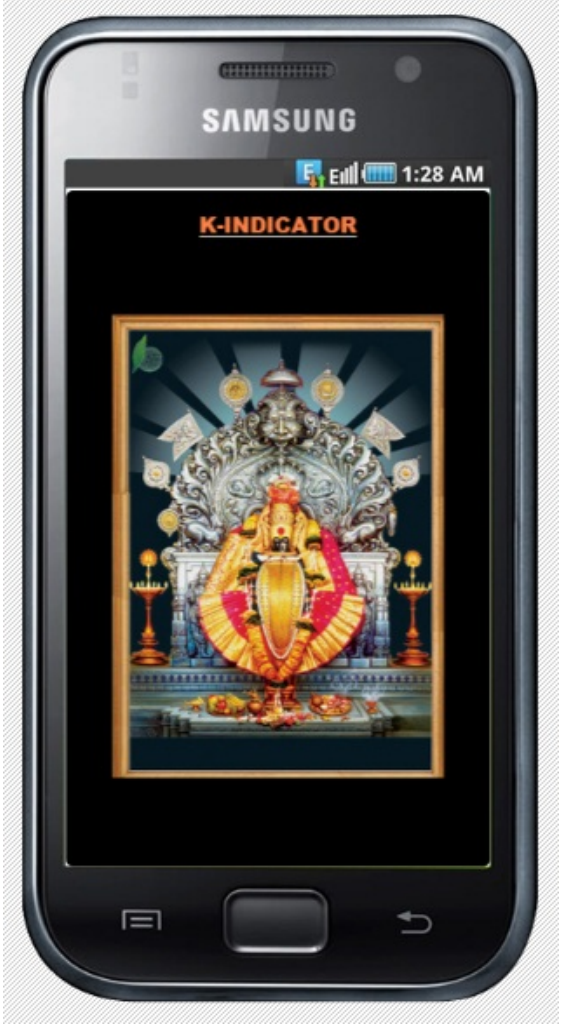

FIGURE 6.3: Home Page

FIGURE 6.4: Main Menu

Home page shows Starting image in application. When application start this fig appears on mobile screen, after touching on it we can see the different menus of application.

Main Menu shows the different menus in the application, like bus, rail, auto, movies, jobs, hotel, Kolhapur, picnic spot, emergency number, k-khabar, about us etc.

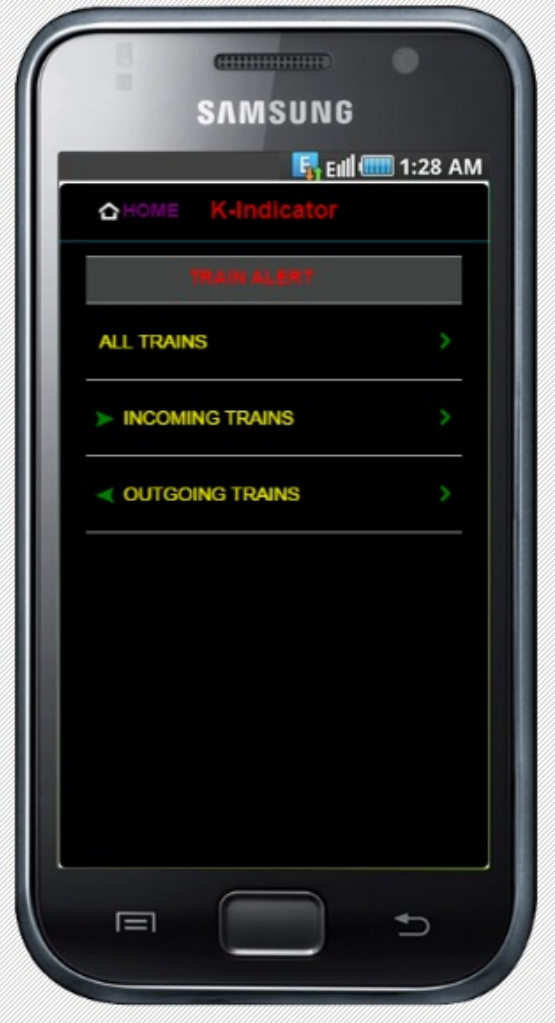

FIGURE 6.5: Train Menu

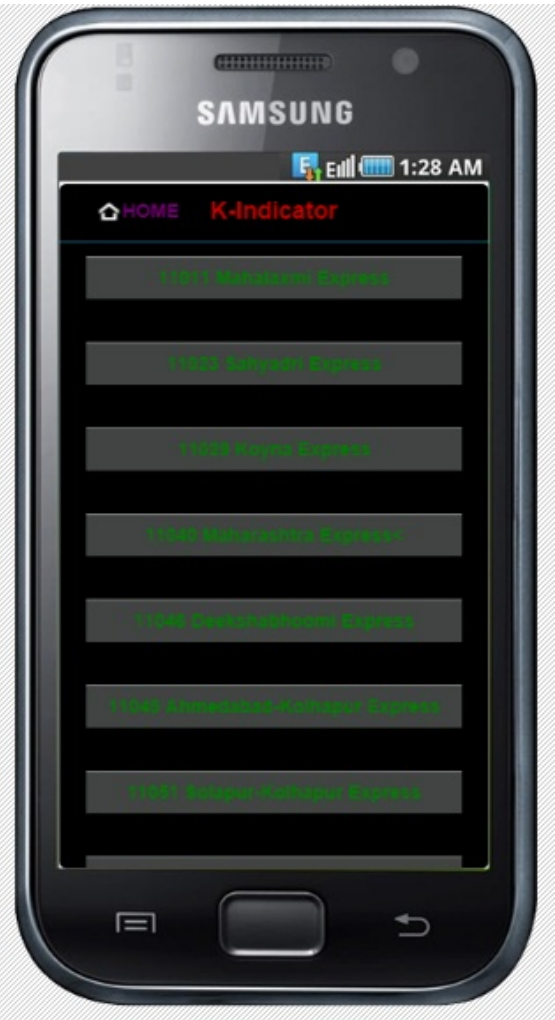

FIGURE 6.6: Incoming Train Menu

Train Menu shows different options in rail menu. When user clicks on Rail menu in application it shows like above. It contains all train, incoming train, outgoing train and train alert etc.

Incoming train Menu shows different trains. After clicking on particular option like all train, incoming train, outgoing train application shows different trains.

FIGURE 6.7: Bus Menu

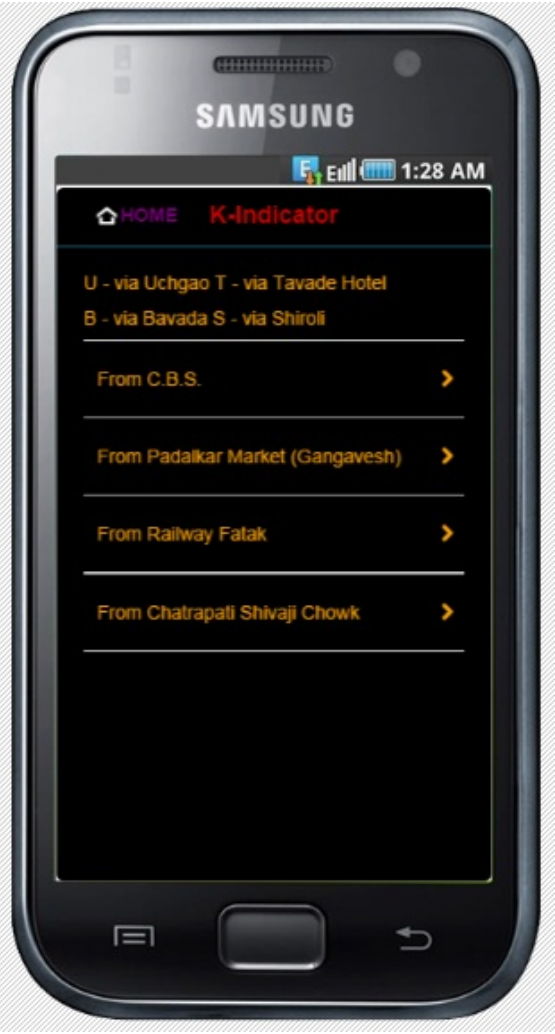

FIGURE 6.8: Bus Sub Menu i.e. KMT

Bus Menu contains different options like City Bus, KMT and Travels. When user clicks on Bus option in menu it will give above options.

Bus Sub Menu i.e. KMT, when user click on KMT option in Bus menu it will shows like this i.e. it will show option like from C.B.S., from Railway Fatak etc.

FIGURE 6.9: Auto

Auto menu shows different rates of auto in Kolhapur city. The rates are shown per kilometer.The rates are changed as per the Day's and Night's

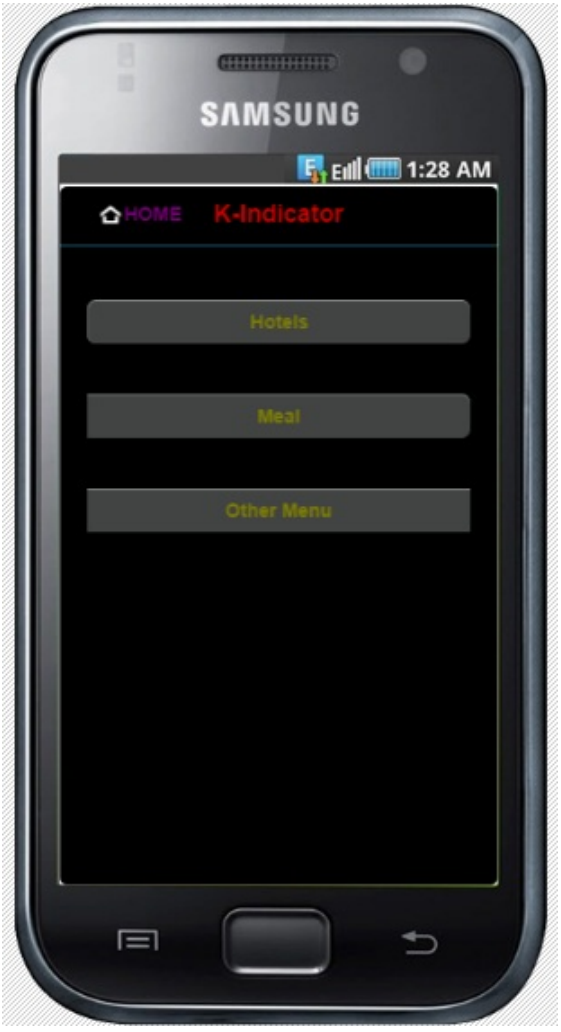

FIGURE 6.10: Hotel Menu

Hotel Menu contains different options like Hotels, Meal and Other Menu. When user click on hotel menu he can browse above three options and he can get address and numbers o hotels.

FIGURE 6.11: Kolhapur

Kolhapur Menu, It contains options like gallery and K-Specials. In this option user can view different images Kolhapur and he also view k-specials.

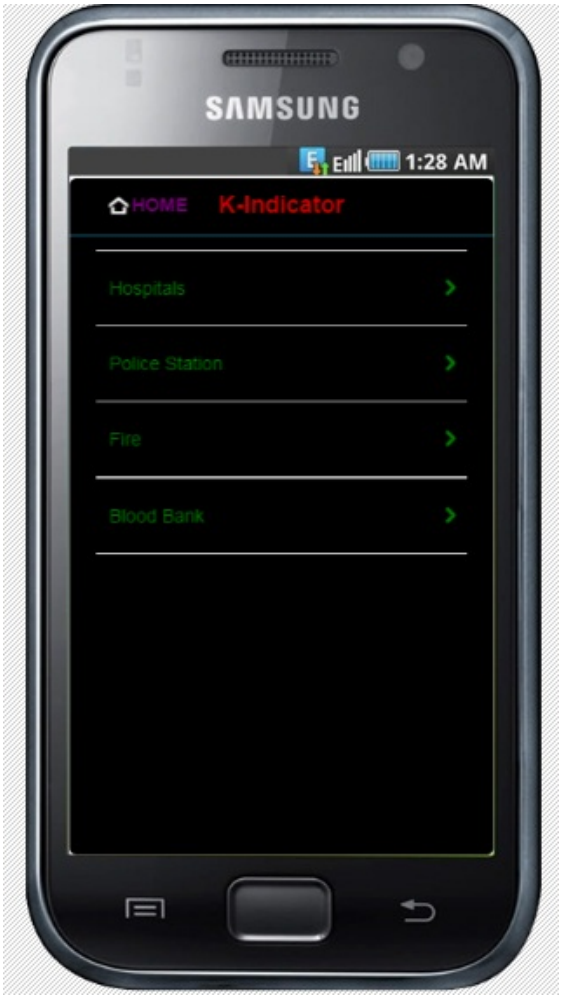

FIGURE 6.12: Emergency Menu

Emergency Menu, It contains different category like Hospitals, Police station, Fire and Blood Bank. Each category contains different names and number.

FIGURE 6.13: College List Menu

College List Menu, It contains different category of colleges like senior colleges an Engineering colleges. In each colleges category it contains number of colleges, after clicking it gives information like address, streams and number of seats.

FIGURE 6.14: Picnic Spot in Kolhapur

Picnic Spot, It shows different picnic spots in and near Kolhapur. The picnic spots are categorized like Religious places, Historical places and other places.

FIGURE 6.15: About Us

About Us, It shows info about application and its versions. It also shows two options blog and Contact Us. User can view blog by clicking on blog and give a feedback after clicking on Contact Us.

Chapter 7

Testing

7.1 What Is Software Testing?

Software testing is the process of analyzing or operating software for the purpose of finding bugs. Testing can be described as a process used for reveling defects in software, and for establishing that the software has attained a specified degree of quality with respect to selected attribute. The fundamental objective of testing is to find defects ,as early as possible and get them fixed.

7.1.1 Software Testing Process

- Test planning high level plans which list test objectives, test approach, measurement criteria along with test schedule and resources.

- Test Design creates test cases, identify test cases for automation (if applicable), prioritize test cases and finalize test iterations.

- Test Implementation Create test scripts using automated testing tools.

- Test Execution Execute the test cases on the test environment and test reports.

- Test analysis Use test and project metrics to calculate key indicators. The data usually will be obtained from your defect tracking system.

- A postmortem review Discuss lessons learns and identify strategies which will prevent such problems in future.

7.2 Test methods

7.2.1 Black Box Testing

- It is also called as functional testing; it is the process of giving the input to the system and checking the output of the system. Without bothering about the system that how the system generates the output. It is also called as Behavior testing.

- Approach to testing where the program is considered as a 'Black Box'.

- Testing based solely on analysis of requirements user specification, user documentation etc.

- The test cases are based on the specifications.

- Black box testing techniques apply to all levels of testing.

- Test planning and design can begin early in the software process.

- Tests are done from a user's point of view.

7.2.2 White Box Testing

White box testing or structural testing considers facets like programming style, control method, source language, database design. A test for remote monitoring routine can be

an example of structural test. This type of testing helps to uncover defects at structural level. The tests go below the top or functional layer to uncover the defects.

Testing that takes into account internal structure and flow of a system or component.

The testing is based on code structure or the algorithm.

White box testing assumes that the procedural design and code is known to the tester.

Obliviously test design can be done only after coding is complete.

White box tests are inherently finite.

7.2.3 Test Cases and Test Data

- Test data are inputs that have been devised to test the system.
- Test cases are inputs and output specification plus a statement of the function under test.
- Test data can be generated automatically or real.

Table 7.1: Test Cases

TC ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
1	Starting application	User have to install application	1.User have to click on application icon	Application is started	Application started	Pass
2	Browse module	User should start application	1.User should click on application icon 2.User should click on starting image 3.Browse the menus	Display different menus	Display different menus	Pass
3	Feedback module	Start the internet	1.User should start the application 2.User should click on starting image 3.Click on About us 4.Choose option Contact Us 5.Give feedback and submit	Feedback submitted	Feedback submitted	Pass
4	View module	Start the internet	1.Click on application icon 2.choose the option	Data displayed	Data displayed	Pass
5	Login module	Go to weebly website	1.Open web browser 2.Go to www.weebly.com 3.Enter login details	Logged in to website	Logged in to website	Pass
6	Add module	Login to website	1.Go to weebly website and log in 2.Click on pages tab 3.Add page and click on save and edit	Page added	Page added	Pass
7	Update module	Login to website	1.Go to weebly website and log in 2.Click on build tab 3.Choose option that you want to update 4.Perform update and click on publish	Data Updated	Data Updated	Pass

Chapter 8

Conclusion

The experimental results as discussed in section 6.4 Experiment and result's, conclude that we will propose a new application for finding all information regarding Kolhapur. Thus the application that is being implemented will decrease the time of the people to find all information about Kolhapur like bus and trains time table, current movies, Jobs within few minutes. The unique feature of the application is all the information in one place. The application has an advantage that it is very simple to use and anyone can use it. This application supports for all android phones of versions 2.2 or above. The user can update the application simply so he can use the latest version of the application.

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