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**PROJECT REPORT ON “SMARTCITY APPLICATION”**

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**SUBMITTED TO “ABHINAV EDUCATION SOCIETY’S” COLLEGE OF ENGINEERING & TECHNOLOGY (POLYTECHNIC), WADWADI.**

**SUBMITTED BY**

****

**Ms . Shinde Pramila S.**

**Ms . Yadav Tanuja D.**

**Ms . Roman Snehal R.**

**Mr . Sawant Shreyash S.**

**UNDER THE GUIDANCE OF**

**Prof. Mandhare S.A**

**DEPARTMENT OF COMPUTER**

**“ABHINAV EDUCATION SOCIETY’S”**

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**WADWADI, SATARA**

**(YEAR 2016-2017)**

**“ABHINAV EDUCATION SOCIETY’S” COLLEGE OF ENGINEERING & TECHNOLOGY(POLY)**

**CERTIFICATE**

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**This to certify that the Project Report Titled “SMART CITY APPPLICATION”**

**SUBMITTED BY**

**Ms . Shinde Pramila S.**

**Ms . Yadav Tanuja D.**

**Ms . Roman Snehal R.**

**Mr . Sawant Shreyash S.**

**Is Completed As Per the Requirement of The**

**“Maharashtra State Board of Technical Education”**

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Prof.Mandhare S. A. External Examiner

**(Internal Examiner)**

Prof.Patil P.J Prof.Lagdive R.B.

**(Principal) (HOD COMP)**

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**Ms . Shinde Pramila S.**

**Ms . Yadav Tanuja D.**

**Ms . Roman Snehal R.**

**Mr . Sawant Shreyash S.**

**Prof. Mandhare S.A.**

**(Project Co-ordinator)**

**ABSTRACT**

Smart city is an emerging concept. This concept is being used all over the world with different nomenclatures context & meanings. A smart city is a city that is well planned, and it provides the cost efficient services, environmental efficiency, and technological sound services for the welfare of the citizens. Smart solutions can be helpful in controlling the ever increasing population in the cities. The Indian Government has launched the smart cities mission in June 2015 with the providing the better quality of life to citizens in 100 cities of the country. This project is describing the main features of the missions to attempts to explain the challenges in the way to forward.

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**Chapter 1**

**INTRODUCTION**

The motto behind that project is to “Implement a simple application that relies on mobile and wireless data communications”. Smartphone devices such as iPhone, Blackberry, and those that support the Android operating system are ubiquitous. In addition to serving as a phone device, smartphones are also capable of video/picture/text exchanges, accessing the Internet and executing sophisticated embedded software applications.

A large percentage of these users are young adults that include college students. Hence, the interest on engaging in the development of the next generation of software applications for embedded and mobiles devices is arising among students. Since the Android mobile platform was first open sourced by Google in November 2007, it has attracted more than 180,000 developers and the deployment of 50,000 mobile applications in the Android Market. Today more than 60 smart phones from major manufactures run the Android platform. All these numbers show the Android project has gained momentum and has moved forward.

We believe Android provides a rich platform with a variety of concepts, techniques, and resources which can be combined to produce useful and marketable applications. In addition to its openness, all the tools in the Android development are free and no special hardware is required. These factors motivated us to practice an instant message application on the Android platform to explore Android’s main components and various building blocks, and to acquire a working knowledge of its developing environment.

**Chapter 2**

**Introduction to Android**

**2.1 What is Android ?**

Android is basically an operating system for smartphones. But we find now integrated into PDAs, touch pads or televisions, even cars (trip computer) or netbooks. The OS was created by the start-up of the same name, which is owned by Google since 2005.

Android uses the Dalvik virtual machine with just-in-time compilation to run compiled Java code. The Android development environment includes a device emulator, tools for debugging, memory and performance profiling, and a plugin for the Eclipse IDE. The programming language is Java.

The emulator available in the Android SDK is a tool that allows developers to easily test applications without having to install it to a real device. With the proper configuration for an emulator, it is also possible to test situations which are hard to reproduce on a physical device.

**2.2 Why Android Is Better?**

* **Applications**
* Google applications

Android includes most of the time many Google applications like Gmail, YouTube or Maps. These applications are delivered with the machine most of the time, except in certain cases, such as some phones running android on which the provider has replaced Google applications by its own applications.

* **Widgets**

With android, it is possible to use widgets which are small tools that can most often get information. These widgets are directly visible on the main window.

-Android Market

This is an online software store to buy applications. Developers who created applications can add them into the store, and these applications can be downloaded by users, they can be both free and paid.

* **Multitasking**

Android allows multitasking in the sense that multiple applications can run simultaneously. With Task Manager it is possible view all running tasks and to switch from one to another easily.

* **SDK**

A development kit has been put at disposal of everybody. Accordingly, any developer can create their own applications, or change the android platform. This kit contains a set of libraries, powerful tools for debugging and development, a phone emulator, thorough documentation, FAQs and tutorials.

**2.3 Android’s Main Components**

Application components are the essential building blocks of an Android application. There are four different types of application components. Each type serves a distinct purpose and has a distinct lifecycle that defines how the component is created and destroyed.

**2.3.1 Activities**

An activity represents a single screen with a userinterface. A multi-screen application will consist of a number of activities that work together to form a cohesive user experience. However, each activity is independent of others. An application can start any one of these activities.

**2.3.2 Services**

A service is a component that runs in the background to perform long-running operations or to perform work for remote processes. A service does not provide a user interface. Example: a service might play music in the background while the user is in a different application. An activity can start the service and let it run or bind to it in order to interact with it.

**2.3.3 Content Providers**

A content provider manages a shared set of application data. Through the content provider, other applications can query or even modify the data (if the content provider allows it).

**2.3.4 Broadcast Receivers**

A broadcast receiver is a component that responds to system-wide broadcast announcements. Three of the four component types—activities, services, and broadcast receivers—are activated by an asynchronous message called an intent. Intents bind individual components to each other at runtime.

**2.4 Android Emulator**

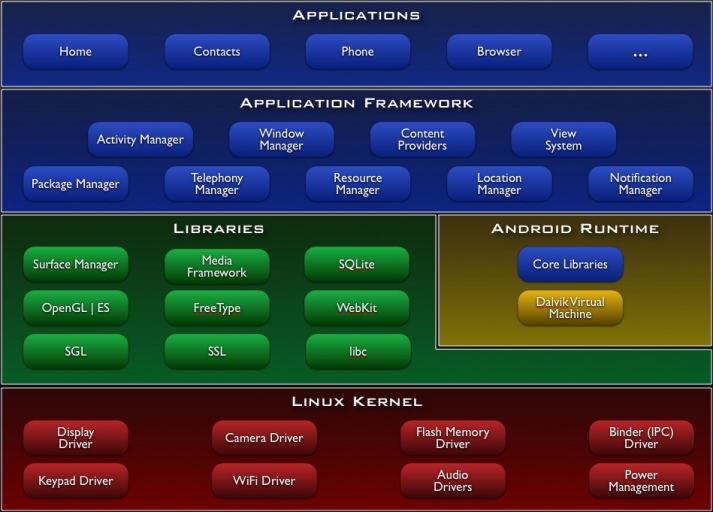
The Android SDK includes a virtual mobile device emulator that runs on the computer. The emulator lets a developer prototype, develop, and test Android applications without using a physical device.

The Android emulator mimics all of the hardware and software features of a typical mobile device, except that it cannot place actual phone calls. It provides a variety of navigation and control keys, which the user can "press" using the mouse or keyboard to generate events for an application. It also provides a screen in which an application is displayed, together with any other Android applications running.

The emulator utilizes Android Virtual Device (AVD) configurations. AVDs let the developer define certain hardware aspects of the emulated phone and allow the developer to create many configurations to test many Android platforms and hardware permutations.

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**2.5 Kernel Architecture-**

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**Fig 2.5 Kernel of Android Operating System**

**Chapter 3**

**Information of Project**

**3.1 Information about Features & Scope**

This project is based on Android operating system. The main motto of the project is to create the Smart City which provides the feature of instant cleanness using internet to fast response of the cleanness in the cities of information. The concept of smart city is providing the solution for making the cities more efficient & sustainable. Smart cities can work as a tool for controlling the rapid urbanization & various problems caused by the ever increasing urban population. The concept of smart city is increasing day by day & and also popular by using the android application.

**3.2 Objective**

The objective of this application is to provide better cleaning facilities and give a better quality of life to its residents. Each and every city can be converted into a smart city to people by using their android phone and internet.And make the whole India clean.These application will be helpful for “SWACH BHARAT MISSION”.

**Chapter 4**

**System Specification**

**4.1 Development Hardware Requirements:**

* **Processor:** Intel i3 onwards
* **RAM :** Minimum 2GB
* **Cache Memory:** 1 MB
* **Hard-Disk Drive Space :** Minimum 10 GB

**4.2 Development Software Requirements:**

* **Operating System:** Windows 7 and onwards
* **Programming Language**: java, android.
* **Front-End:** xml
* **Web Server:** Wamp Server 5.0
* **Back-End:** SQLite DB
* **Development Software:** Android Software development kit , Eclipse Neon Platform,koplayer.

**Chapter 5**

**Design**

* **Design :-**

Design is the first step in the development phase for any technology and principles for the purpose of defining a device, processor or a system in sufficient details to permit physical realising.

Once the software requirements have been analysed and specified, the software design involves three technical activities are follows

5.1 Use-Case Diagram

5.2 Class Diagram

5.3 Activity Diagram

5.4 Sequence Diagram

5.5 collaboration Diagram

5.6 Component Diagram

**5.1Use-Case Diagram -**

**5.2 class Diagram-**

**5.3 Activity Diagram-**

**5.4 Sequence Diagram-**

**5.5 Collaboration Diagram-**

**5.6 Component Diagram-**

**Chapter 6**

**Screenshots**.

