**A Project Report**

On

**“CEG ANDROID APP”**

Submitted to

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***M.L.V. textile & Engineering College, Bhilwara***

**Under the guidance of: - Dr. Vishnu Goyal (Director, CEG)**

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***ABOUT THE INSTITUTE***

Centre of electronic governance an autonomous body of govt. of Rajasthan under the department of technical education.

CEG get recognition in IT Training programs like **CCNA Trainings, ASP.NET Training, ASP.NET MVC using Razor, Entity Framework, WCF, PHP, Auto CAD, Red Hat Certification trainings, C,C++, Linux training program, Embedded Training Programs Etc.**

The CEG has been established with a slone aim to provide a conductive environment for creating industry employable IT professionals by the way of arranging seminars lectures, vocational trainings and industry relevant software training.

***ABSTRACT***

I finished my training at ***CEG, Jaipur***. A training with the aim to improve my technical abilities in computer science and information technology.

My topic for this training was to learn how to create an android application, the google operating device for the mobiles devices. The design of such an application is made slightly through modified java. So this training also help me to learn some more concepts of “***CORE JAVA***” or the “BASIC JAVA”.

This application help the students to keep updated from the courses and notification. Other than this the student can get the information about the “***IGNOU***” courses running by this institute.

This Application will help the students to get the info about the placements & they can register themselves for the training courses and placements.

***ACKNOWLEDGEMENT***

It gives us an immense pleasure to present the report of the project undertaken by me during summer training. We do our special debt of gratitude to ***Dr. Vishnu goyal (Director of CEG, Jaipur)*** for their constant support and guidance throughout the course of my training. His sincerity, thoroughness and perseverance have been a constant source of inspiration of us.

We also take the opportunity to acknowledge the contribution of Mr***. Maninder Singh Bhui sir (Assistant prof. Of CEG)*** for their full support and assistance during the development of this project.

Finally we would like to thank our tutor ***Mr. Pankaj Gupta*** during this training. To share their knowledge with us and their regular guidance during this project.

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***PREFACE***

It gives us immense pleasure in presenting our training project “CEG app” Under the guidance Dr. Vishnu goyal.

This is the time of smartphones and every students wants to notify about every information. This application provide the latest info about the courses and their fees structure.

This application provides the information to the students about training courses, new notiﬁcations and useful links of CEG and IGNOU. It is less time consuming and more eﬀective process. Via this process every student get updates quickly.

This project for “CEG app”. Institute post all information on app. Student can download the app and fetch out information from this app. student can easily sign up and get updates. He can update their proﬁle for placements which is organized by this institute.

***Introduction to Android Operating System***

Android is a Linux-based operating system designed primarily for touch-screen mobile devices such as smart-phones and tablet computers. Initially developed by Android, Inc., whom Google manically backed and later purchased in 2005.The Android-powered phone HTC Dream was sold in October 2008. Android allows background processing, provides a rich user interface library, supports 2-D and 3-D graphics using the OpenGL libraries, access to the le system and provides an embedded SQLite database.

Android is open source and Google releases the code under the Apache License. This open source code and permissive licensing allows the software to be freely mode and distributed by device manufacturers, wireless carriers and enthusiast developers. In October 2014, there were approximately 1400,000 apps available for Android, and the estimated number of applications downloaded from Google Play, Androids primary app store, was 45 billion.

These factors have allowed Android to become the world’s most widely used smartphone platform and the software of choice for technology companies who require a low-cost, customizable, lightweight operating system for high tech devices without developing one from scratch. Android had a worldwide smart-phone market share of 752014, with 800 million devices activated in total and 1.3 million activations per day.

***Open Handset Alliance and Android***

The Open Handset Alliance is a group of hardware and software developers, including Google, NTT DoCoMo, Sprint Nextel, and HTC, whose goal is to create a more open cell phone environment. The ﬁrst product to be released under the alliance is the mobile device operating system, Android. While cell phones running Linux, Windows, and even Palm OS are easy to ﬁnd, as of this writing, no hardware platforms have been announced for Android to run on.

HTC, LG Electronics, Motorola, and Samsung are members of the Open Handset Alliance, under which Android has been released, so we can only hope that they have plans for a few Android-based devices in the near future.

***Dalvik Virtual Machine***

The Android system uses a special virtual machine, i.e. the Dalvik Virtual Machine to run Java based applications. Dalvik uses an own byte code format which is different from Java byte code.

Therefore you cannot directly run Java class ﬁles on Android; they need to get converted in the Dalvik byte code format.

***Android Architecture Life Cycles***

1**. Android Architecture**

The Android OS can be referred to as a software stack of diﬀerent layers, where each layer is a group of several program components. Together it includes operating system, middleware and important applications. Each layer in the architecture provides diﬀerent services to the layer just above it. The ﬁgure shows the diagram of Android Architecture. We will examine the features of each layer in detail

1.1) **Linux Kernel**

The basic layer is the Linux kernel. The whole Android OS is built on top of the Linux 2.6 Kernel. It is this Linux that interacts with the hardware and contains all the essential hardware drivers. The Linux kernel also acts as an abstraction layer between the hardware and other software layers. Android uses the Linux for all its core functionality such as Memory management, process management, networking, security settings etc.

1.2) **Libraries**

The next layer is the Androids native libraries. It is this layer that enables the device to handle different types of data. These libraries are written in c or c++ language and are special c for a particular hardware. Some of the important native libraries include the following: • Surface Manager: It is used for compositing window manager with oﬀ-screen buﬀering. Oﬀ-screen buﬀering means you can’t directly draw into the screen, but your drawings go to the oﬀ-screen buﬀer.

• Media Framework: Media framework provides diﬀerent media codecs allowing the recording and playback of diﬀerent media formats.

• SQLite: SQLite is the database engine used in android for data storage purposes.

• Web Kit: It is the browser engine used to display HTML content.

• OpenGL: Used to render 2D or 3D graphics content to the screen.

1.3) **Android Runtime**

Android Runtime consists of Dalvik Virtual machine and Core Java libraries.

1. **Dalvik Virtual Machine:** It is a type of JVM used in android devices to run apps and is optimized for low processing power and low memory environments. Unlike the JVM, the Dalvik Virtual Machine doesn’t run .class ﬁles, instead it runs .dex ﬁles. .dex ﬁles are built from .class ﬁle at the time of compilation and provide higher efficiency in low resource environments.

2. **Core Java Libraries:** These are diﬀerent from Java SE and Java ME libraries. However these libraries provide most of the functionalities de ned in the Java SE libraries.

***Android Lifecycle***

***Activity Lifecycle***

Each activity in an application goes through its own lifecycle. Once and only once when an activity is created, is the on Create () function executed. If the activity exits, the on Destroy () function is executed. In between, various events can lead to the activity being in multiple different states, as illustrated in Figure. An Activity in Android can exist in four states as described below:

• Active/Running State

• Paused State

• Stopped State

• Destroyed/Dead State

A service is an Android component that runs in the background without any user interaction. It can be started and stopped by any component. While it is running, any component can bind to it. A service can also stop itself.

• An activity provides the user a way to select a set of music, which then starts a service to play back the les. During playback, a new activity starts and binds to the existing service to allow the user to change songs or stop playback.

• A broadcast receiver receives a message that a picture was taken and launches a service to upload the new picture to a website. The broadcast receiver then goes inactive and is eventually killed to reclaim memory, but the service continues until the picture is uploaded. Then, the service stops itself.

***Operating Environment***

With the help of the feasibility study the system is developed in MySQL, CSS, HTML, Advanced java, NetBeans and run under windows 8/7 and later versions.

**Hardware or Software requirement**

**Hardware Requirement**

• RAM 2GB

• Processor- Intel i3

• Hard Drive 512 GB

**Software Requirement**

• Android

• Eclipse

• Genymotion

• SDK manager

***ABOUT THE APPLICATION***

This application is designed with a moto which is to provide the information about the institute and to reduce the gap between the human and android technology.

The CEG app will help the students to get updated by notification and information about the institute and by this application the student can also register his/her self for the campus placements organize by this institute.

This also provide the information about the Summer Training and their fees structure so a student can get easily updated about the courses and register themselves for the training program.

In this application where student can get the whole information about the IGNOU courses and also about those exams which are conducted under the technical education Rajasthan like CMAT, BHMCT, and RMCAAT.

***CONCLUSION***

Finally we would like to conclude that in the 8 weeks while we were working on this project we learned many new technologies, concepts and have also learn about working in a team. Our project CEG application and is under the Android technology. This insulates the application from technical implementation and enhancement to support future technologies in a transparent manner without having the major impact on the application. This also enables the easy portability of application to other operating system and databases.

India has the fastest growing telecom network in the world with many users moving towards smart phones and majority by students. We introduce a novel approach to share information via an Android Application between students and in order to enhance quality of information in campus environment.

Thus we were able to understand in greater details the various software engineering processes, and were able to apply them to our live project. With this enduring and simulating experience we admit that people of this App has really enlightened us. With due regards, we want to express our heart-felt thanks to all for their support and corporation towards the completion of our project.

***FUTURE PROSPECTS***

**As the requirement comes we have to make change or modify it on that base but can implement that requirement in next releases. But once deadline came we have to submit the project on campus demand so we can keep some facility in project and keep the track regarding future enhancement so whenever campus demand for update that project with future enhancement we can ﬁnd out and implement it. Software is continuously changing entity. Software should be reﬂected with new features whenever new requirements emerge. Software evolution is one of big phase in any software’s lifecycle. We have to project towards some newly emerged and previously ignored functionality in way to enhance the system. Once software is implemented and installed into its essential environment, we have to examine newly emerging requirements, misinterpretation of older requirements, impact due to omission of some important requirements, and failure of some features.**

**Here are the future enhancements of the project:**

**• If the institute add some online courses than the info about that courses can added.**

**• Better Graphics implementation can be supported.**

**• Video of lectures can be added.**

**• Try to become more dynamic this app.**

**• Navigation system can be added.**

**REFRENCES**

* Basic Android Tutorials, available at
* <http://www.tutorialspoint.com/android>
* Android Development Tutorials , available at <http://www.developer.android.com>