

**IPS Academy, Indore**

**Institute of Engineering and Science**  
(A UGC Autonomous Institute)

**Department of Computer Science & Engineering**

**Data Science**

**2024-25**



**Project** *Project entitled*

*"Project Title"*

*For the partial fulfillment for the award of the Bachelor of Technology (Computer Science & Engineering – Data Science) Degree by Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal.*

**Guided by: -**

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Assistant Professor

**Submitted to: -**

Mr./Ms.: Class Coordinator

Assistant Professor

**Submitted by: -**

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Student Name(Roll Number)



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***CERTIFICATE***

This is to certify that the Minor Project entitled

***"PROJECT TITLE"***

*has been successfully completed by the following students*

Student names

*in partial fulfillment for the award of the Bachelor of Technology (Computer Science & Engineering – Data Science) Degree by Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal during the academic year 2024-25 under our guidance.*

Mr./Ms. Guide Name

Dr. Neeraj Shrivastava

Assistant Professor

HOD

Dr. Archana Keerti Chowdhary

Principal

## **TABLE OF CONTENTS**

	<b>Page</b>
<b>Acknowledgements.....</b>	<b>i</b>
<b>Abstract... ..</b>	<b>ii</b>
<b>List of Tables... ..</b>	<b>iii</b>
<b>List of Figures.....</b>	<b>iv</b>
<b>List of Abbreviations.....</b>	<b>v</b>

### **CHAPTER 1: INTRODUCTION**

- Introduction
- Presently available system for the same
- Features
- Limitations
- Problem Statement
- Proposed Solution
- Aim of project
- Objectives of project
- Applications

### **CHAPTER 2: METHODOLOGY**

- Introduction
- Proposed Methodology
- Process model adopted
- Name of Adopted Model
- Reason for selecting model
- Time plan and Team Structure
- Team Structure and Assigned Task
- Time Plan

### **CHAPTER 3: SYSTEM ANALYSIS AND DESIGN**

- Introduction
- Requirement Analysis
- Requirement Gathering
- Feasibility Study

Economical Feasibility  
Technical Feasibility  
Operational Feasibility  
System Specification  
Functional description  
Subsystem description (Project Modules)  
Name of modules

### **3.3.2.2. ....**

System Requirements  
Functional Requirements  
Non Functional Requirements  
UML Diagrams  
Use Case Diagram: Brief Description  
Activity Diagram: Brief Description  
Sequence Diagram: Brief Description  
Class Diagram: Brief Description  
Collaboration Diagram: Brief Description  
Data flow Diagram (Level 0, 1, 2)  
ER Diagram  
Database Design

## **CHAPTER 4: IMPLEMENTATION**

Technology Used (Front end, back end, tools etc.)  
Coding (optional)  
Snap Shots

## **CHAPTER 5: TESTING**

Testing Objectives  
Testing Methods and Strategies  
Test Case

## **CHAPTER 6: CONCLUSION AND FUTURE WORK**

**6.1.**Conclusion  
**6.2.**Limitation of the Project

Difficulties Encountered

Future Enhancement Suggestion

## **REFERENCES**

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**Student Name**

**Enrollment Number**

## **ABSTRACT**

Mobile application development is one of the recent trends in computing Industry. Among several existing platforms for mobile, Android is one of the largest platforms in the world that run in several smart phones and tablets from various manufacturers like Google, Motorola, Samsung, HTC etc. Market of android is very developed, where lots of apps are available for lots of specific purpose, which provides a great scope for its development. Android is providing a great user interface, not only this but also provides great environment to develop android applications very easily. Android application is open source to explore and free for users to download, it has complete community and wide media support.

The Android has explored the future possibilities of mobile applications. By the use of API libraries and application connection the hardware is accessible with controlled manner. The Android has been gone ahead to iPhone in year 2012. The Android application is now been used by many mobile phone and in future it will take over all other applications.

“Spell It Up” is an offline game based on Android platform which targeting those students who want to improve their English spelling. Now a day’s acronym in messaging is a habit which is reducing spelling skill, so this app basically improves spelling skill. It is an application which is also very useful in learning purpose.

**Key Word:** Android, HTC



## **LIST OF TABLES**

<b>Table Number</b>	<b>Description</b>	<b>Page No.</b>
1	Features of Android	
2	Hardware requirements	
3	Software Requirements	
4	Testing	

## **LIST OF FIGURES**

<b>Figure No.</b>	<b>Description</b>	<b>Page No.</b>
1	Features of Android	
2	Hardware requirements	
3	Software Requirements	
4	Testing	

## **LIST OF ABBREVIATION**

<b>S.NO</b>	<b>Short</b>	<b>Meaning</b>
1	TCP	Transmission control protocol
2	WLAN	Wireless local area network
3	LAN	Local Area network
4	HTML	Hypertext Markup Language

# **CHAPTER 1**

## **INTRODUCTION**

## **1. INTRODUCCION**

### **About Android**

Android is operating system for mobile devices, and Smartphone. It is developed by the Open Handset Alliance led by Google. It is built on a Linux foundation. On November 5, the initial developer of the software, Google bought Android Inc. , in 2005. The unveiling of the Android distribution 2007, the Open Handset Alliance, dedicated to 84 hardware and software, and telecommunications with the establishment of a consortium of companies was announced open standards for mobile devices to pursue.

### **Introduction To Custom ROM**

A ROM, for those who don't know, is an operating system build that runs on your device with basic applications such as an address book, calendar, camera, etc.

A major advantage of Android Smartphone is that they can be operated by third-party systems and not only with the original ROM. Custom ROMs replace the pre-installed version of Android on devices. The substitution is made by a variation of the AOSP, adapted by volunteers with 'too much free time'.

These volunteers often work more frequently than the manufacturer itself – at least when it comes to updates.

### **About CyanogenMod**

CyanogenMod (CM) is an enhanced open source firmware distribution for Smartphone and tablet computers based on the Android mobile operating system. It offers features and options not found in the official firmware distributed by vendors of these devices.

Features supported by CyanogenMod include native theming support, FLAC audio codec support, a large Access Point Name list, an OpenVPN client, an enhanced reboot menu, support for Wi-Fi, Bluetooth, and USB tethering, CPU overclocking and other performance enhancements, soft buttons and other "tablet tweaks", toggles in the notification pull-down (such as Wi-Fi, Bluetooth and GPS), app permissions management, as well as other interface enhancements. CyanogenMod

does not contain spyware or bloatware. In many cases, CyanogenMod may increase performance and reliability compared with official firmware releases. CyanogenMod is developed as free and open source software based on the official releases of Android by Google, with added original and third-party code.

### **What's a FIRMWARE**

In the past, many simple appliances and electronics-- everything ranging from advanced toasters to microwaves to industrial machines ran on "embedded", limited-purpose computer chips (micro-controllers and such) to control their operations and user interfaces. Those embedded systems would require miniature, specialized software to, say, let someone program the VCR or to receive input from a remote control to change a TV's channel.

Traditionally, this software would be written on small-capacity memory chips, usually to be written once during manufacturing and never upgraded during the life of the product. This embedded software was known as "firmware" (halfway between software and hardware), and it still exists on many electronic products, containing the programming/logic stuff that makes much of the electronic gizmos you own work. Sometimes this firmware can be updated and new functions or bug fixes may be added. For something like a refrigerator or microwave, updating the firmware is usually a torturous process, and for most electronic things, it isn't necessary.

In the case of Android phones and tablets, as well as iOS devices-- despite the fact that they may appear simply to be a phone that can run apps, what you actually have in your hand is a full-fledged, general-purpose "computer". So while in the past, the "firmware" was just the simple software to make a mobile phone work, the name "firmware" has stuck to describe the software you load onto your phone, much like you'd load any operating system onto a computer.

So to be clear-- today, your Android devices are in fact very similar to your laptop and desktop computers. Because they are now based on so-called SoCs, or "systems on a chip", modern Android devices are effectively tiny, low-power laptops, only with touch screens instead of keyboards. CyanogenMod, based on Android, is a full-fledged operating system, just like Windows, OS X, or Linux are on laptop computers. In fact, Android runs on a version of the Linux kernel, and you can even run a full Linux desktop on many Android devices just as you would on a regular laptop.

# **CHAPTER 2**

## **LITERATURE SURVEY**

## **2. LITERATURE SURVEY**

[1]. Hossain Shahriar et al., [3] Android mobile have limited memory resources which generally have its own garbage collector. The memory leak arises when the system is out of memory which generally creates much kind of vulnerabilities. In this paper they generated random memory leak pattern and then generate the test case for discovering leak in application. They tested various methods like memory leak through bitmap and image view, memory leak through event listener, memory leak through animation activity, etc. With the following problems they proposed various solutions like Application fuzzing, Resource fuzzing, API fuzzing etc. They finally conclude that as the leak pattern to test case so that is automatically detected when the leak happen through API or RESOURCE INVOCATION.



# **CHAPTER 3**

## **PROBLEM IDENTIFICATION**

### 3. PROBLEM IDENTIFICATION

As the concept of Custom Rom is relatively new some of few studies has been

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# **CHAPTER 8**

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[2]

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