**Khed Taluka Shikshan Prasarak Mandal’s**

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**TYBBA(CA)**

**A**

**Project Report**

**On**

**“ANDROID APPLICATION DEVELOPMENT”**

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**Under Guidance**

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**Research Topic :- ANDROID APPLICATION DEVELOPMENT**

# Introduction

* Android is the world’s most popular mobile operating system, created by Google.
* It is open-source and based on Linux.
* Used in smartphones, tablets, smartwatches, TVs, and more.
* Introduced in 2008 and keeps improving with new features.

# Literature Review

 First developed by Android Inc., later bought by Google in 2005.

 Android is open-source, allowing developers to modify it freely.

 More than 70% of smartphones use Android.

 Compared to Apple’s iOS, Android offers more customization.

 New updates bring better security, AI features, and 5G support.

# Objectives of Study

 Understand how Android works.

 Learn about its features and different versions.

 Study its benefits and problems.

 See how it impacts the smartphone industry.

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# Area of Study

* **Android Architecture:** How Android is built.
* **Development & Security:** How it supports app developers and protects data.
* **Market Dominance:** Why it is the most used mobile OS.
* **Challenges & Future Trends:** Problems and future improvements.

# Research Methodology

**1. Secondary Research**

* Reading Android’s official documentation.
* Comparing Android with iOS and HarmonyOS.
* Studying research papers and articles.

**2. Practical Analysis**

* Testing different Android versions.
* Checking security, speed, and user experience.
* Reading user reviews and feedback.

**3. Case Studies**

* **Studying brands like Samsung, OnePlus, and Xiaomi.**
* **Checking how Android works on different devices.**

# Strengths and Concerns

**Strengths:**

✔ **Open-Source & Customization** – Anyone can modify it, making it flexible.  
✔ **Large App Store** – Millions of apps available on Google Play.  
✔ **Multitasking & Flexibility** – Supports split-screen and multiple apps running at once.  
✔ **Regular Updates** – Security patches and improvements from Google.  
✔ **Works on Many Devices** – Supports different brands and device types.

**Concerns:**

❌ **Fragmentation Issue** – Updates are slow and different for each brand.  
❌ **Security Risks** – Some apps from unknown sources may have malware.  
❌ **Performance Issues** – Budget phones can be slow due to weaker hardware.  
❌ **Battery Drain** – Some apps use too much power in the background

**7. Conclusion**

* Android is a powerful and flexible OS, leading the smartphone market.
* It is popular due to its open-source nature, app variety, and regular updates.
* However, it has problems like security risks, update delays, and performance issues.
* Android will continue to evolve with AI, security improvements, and better performance.

# 8.References

📌 Google Developers – [developer.android.com](https://developer.android.com)  
📌 Research papers on Android and mobile OS.  
📌 Market reports and technology blogs.