# Project Proposal

## **Project Title:** Personal Cloud-Based Notes Management System

## 1. Introduction / Background

In today’s fast-paced world, users often require a simple and secure way to store, organize, and retrieve personal notes from any device. Traditional note-taking methods may lack accessibility and data backup features. This project proposes a web-based Personal Notes App that enables users to create, edit, delete, and securely store their notes using a cloud-based backend. User authentication will be powered by Firebase Authentication, allowing login via email/password or Google Sign-In.

## 2. Objectives

### Main Objective:

To develop a secure, responsive, cloud-based personal notes management system.

### Specific Objectives:

* To allow users to log in securely using Email/Password or Google Sign-In.
* To provide functionalities for creating, viewing, editing, and deleting personal notes.
* To store notes in a cloud database for accessibility across devices.
* To ensure an intuitive and responsive UI for enhanced user experience.

## 3. Functional Requirements

| **Feature** | **Description** |
| --- | --- |
| User Registration/Login | Users can sign up using email/password or sign in via Google (Firebase Auth). |
| Create Note | Add a new note with a title and description. |
| View Notes | Display a list/grid of all saved notes. |
| Edit Note | Update the content of an existing note. |
| Delete Note | Remove a note from the system. |
| Logout | Securely log out from the application. |

## 4. Non-Functional Requirements

| **Requirement** | **Description** |
| --- | --- |
| Security | Firebase Authentication ensures secure login. |
| Scalability | Cloud Firestore supports horizontal scaling. |
| Usability | User-friendly design with clear UI navigation. |
| Reliability | Cloud database ensures data availability and backup. |
| Responsiveness | Works well on desktop, tablet, and mobile. |

## 5. Technology Stack

| **Layer** | **Technology** |
| --- | --- |
| Frontend | React.js or Angular (Responsive UI) |
| Backend | Node.js (Express.js) or Python Flask (API endpoints) |
| Cloud Authentication | Firebase Authentication |
| Database | Firebase Firestore (NoSQL cloud database) |
| Development Tools | VS Code, Postman, Git, GitHub |
| Deployment (if needed) | Firebase Cloud / AWS Amplify |

## 6. System Architecture (Flow Overview)

User → Frontend (React/Angular) → Backend (Flask/Node.js) → Firebase Auth (Login) → Firestore DB (CRUD Notes)

## 7. Conclusion

The Personal Notes App will provide a secure and accessible platform for users to manage their notes efficiently. With support for cloud-based authentication and storage, users will experience seamless synchronization across devices, making it a practical and modern solution.