**Software engineering project report**

**NOTE TAKING APP**

* **Introduction**

Note taking is an easy-to-use application. It will help users to create a note and manage their notes. It allows users to create notes on various topics and organise them into different categories for easy access. Like note taking app is available on multiple platforms, including web, desktop and on phone devices.

**Web browser:** The app can be accessed via web browsers on desktop and mobile devices.

**Desktop operating systems:** The app can be downloaded and installed on desktop operating systems such as windows, macOS, and Linux.

**Mobile operating systems:** The app can be downloaded and installed on mobile devices running on iOS and Android.

So, users can access the Notetaking App on their preferred platform and device. We will evaluate features, usability, performance, and security of the Note-Taking App.

* **Features:**

The Note-Taking App offers a range of features to help users create and manage their notes.

1. **Note creation: Users** can create new notes with various formatting options including bold, italic, and underlined text.
2. **Note Organisation:** The app allows users to organise their notes into different categories or tags for easy access and management.
3. **Note Sharing:** Users can share their notes with others via email or social media platforms.
4. **Note Syncing:** The app offers syncing across different devices, allowing users to access their notes from anywhere.
5. **Reminders:** Users can set reminders for their notes, ensuring they never miss an important deadline.
6. **Usability:** The Note-Taking App has a simple and intuitive interface, making it easy for users to navigate and use the app. The app's design is visually appealing, with a clean and modern layout. The note creation process is straightforward, and users can easily add formatting options to their notes. The app's search function is also easy to use, allowing users to quickly find the notes they need.
7. **Performance:**  The Note-Taking App performs well across different platforms, with fast loading times and smooth navigation. The app's syncing feature works seamlessly, ensuring that users have access to their notes from all their devices. The app also offers offline access to notes, making it easy for users to work on their notes even when they are not connected to the internet.
8. **Security:**  The Note-Taking App takes user security seriously, with robust security measures in place to protect user data. The app uses encryption to secure user data, and all data is stored on secure servers. The app also offers two-factor authentication, ensuring that only authorised users can access their notes.
9. **Login feature**
   1. **Registration:** The app should provide a registration process that allows users to create an account with their email address or other credentials. The registration process should be secure and straightforward, with clear instructions for users.
   2. **Login Credentials:** The login feature should require users to enter their login credentials, such as their email address and password, to access their account. The app should also provide a password reset option in case users forget their password.
   3. **Logout:** The app should have a logout option that allows users to securely log out of their account when they are done using the app.
10. **Note Content:** The Note taking web will allow users to create notes with text, images, and other multimedia elements as required. Users should be able to format the text using bold, italic, underline, and other styling options.
11. **Note Sharing:** The app will allow users to share their notes with others via email, messaging, or social media platforms.
12. **Search Function:** The app will provide a search function that allows users to find notes quickly by searching for specific keywords or phrases.
13. **Note Collaboration:** The app will provide collaboration features that enable users to work on notes together in real-time, such as simultaneous editing or commenting. Overall, a robust create note feature is crucial for the Note-Taking App to provide a seamless and efficient note-taking experience for users.
14. **Delete Note feature**
15. **User Confirmation:** The app will require users to confirm that they want to delete a note before proceeding. This ensures that users do not accidentally delete notes.
16. **User Feedback:** The app should allow users to provide feedback on the delete note feature to help the developers identify any issues and improve the feature over time.
17. **Security Measures:** The app should have robust security measures in place to protect user data and prevent unauthorised deletion of notes.

# Implementation

Firstly, we did our implementation of the code in android studio.

* **Android Studio**

Android Studio is the IDE for developing Android apps. It is developed by Google and is based on the popular JetBrains IntelliJ IDEA software. Android Studio provides a comprehensive set of tools and features that help developers create, debug, and test Android apps quickly and easily. Some of the features of android studio are

* Code editor
* Layout editor
* Gradle build system to manage the build and compilation process of Android apps
* Emulator that allows developers to test their apps on virtual devices.
* Profiling tools that help developers analyse the performance of their apps and identify areas for improvement.
* Support for multiple languages.
* In this project we have used java and html languages.
* **The signup code:**
* This is an Android Java code for the Signup Activity of a Notes App that uses Firebase Authentication.
* We have Imported necessary classes and libraries such as AppCompatActivity, FirebaseAuth, and FirebaseUser.

Firebase is a Backend-as-a-Service (BaaS) platform that provides developers with a variety of tools and services for building mobile and web applications. Some of the features offered by Firebase include real-time database, authentication, hosting, cloud storage, messaging, and analytics.

To connect to Firebase, you will need to follow these steps:

* Create a Firebase account
* Create a new Firebase project
* Get your Firebase credentials
* Add Firebase to your app
* Initialize Firebase in your app

Declared a class named signup.The private variables are EditText, RelativeLayout, and TextView variables that are used in this activity. onCreate() method sets up the activity's layout, initializes variables, and hides the ActionBar. The onClick() method for the "Go to login" TextView creates an intent to start the MainActivity. The onClick() method for the "Signup" RelativeLayout gets the user's email and password input and validates them before calling the createUserWithEmailAndPassword() method of FirebaseAuth to create a new user. If successful, the sendEmailVerification() method is called. This method sends a verification email and logs the user out, prompting them to log in again after verifying their email. Finally, it finishes the activity and starts the MainActivity.

* **Create note:**

createnote. It allows users to create and save notes in a Firestore database.

Firestore is a cloud-based NoSQL document database provided by Google as part of the Firebase platform. It is designed to store and sync app data at global scale, allowing developers to build apps that can be accessed by users from anywhere in the world, and across multiple devices in real-time. Firestore is a flexible and scalable database that provides features such as data querying, indexing, offline data synchronization, and security rules to protect data and enable secure access. It can be used for a wide range of applications, including web and mobile app development, gaming, IoT, and more.

The activity consists of two EditText fields for the title and content of the note, a FloatingActionButton to save the note, and a ProgressBar to show the progress of the note creation process. The activity also uses a Toolbar to provide a back button for navigating back to the previous screen. The m savenote OnClickListener saves the note data to the Firestore database as a document, with the document ID generated automatically by Firebase.If the save operation is successful, a Toast message is displayed and the user is taken to the notes activity screen. If the operation fails, an error message is displayed and the progress bar is hidden. The onOptionsItemSelected method is used to handle the user clicking on the back button in the Toolbar, which calls the onBackPressed method to navigate back to the previous screen.

* **Edit note:**

This is an implementation of the editnote activity class which extends the AppCompat Activity class. The onCreate method is overridden and sets the content view of the activity to the activity\_editnoteactivity layout file. EditText and FloatingActionButton variables are initialized along with Intent data to get the intent that started the activity. Firebase-related variables such as FirebaseAuth, FirebaseFirestore, and FirebaseUser are also initialized. The Toolbar is set and the back button is enabled. The onClick method for the FloatingActionButton is set to get the updated note data from the EditText fields and update the note in the Firestore database. Finally, the note data is retrieved from the Intent data and populated in the EditText fields. onOptionsItemSelected method is overridden to handle the toolbar's back button press event.

* **Forgot password:**

The code is for the "forgot password" feature of an Android app. It consists of an EditText to input the user's email, a Button to initiate the password recovery process, and a TextView to navigate back to the login screen. The FirebaseAuth library is used to send the password recovery email to the user's email address. If the email is not entered, a message is displayed, and if the email is correct, a password recovery email is sent to the user's email. If the email is not correct, an error message is displayed. The code also includes click listeners for the button and textview, as well as hiding the action bar.

* **CHALLENGES**

1. User Interface Design: A note-taking app needs to have a simple and intuitive interface that allows users to quickly and easily create and organise their notes. The app should be visually appealing and easy to navigate.
2. Data Storage and Management: The app needs to store and manage the user's notes effectively and efficiently. This includes ensuring data security, providing backups, and enabling syncing across devices.
3. Collaboration: If the app is designed for collaboration, it must support real-time collaboration features such as multiple users editing the same note at the same time, version control, and comments.
4. Integration with other apps: Users may want to use their notes in other applications, such as email or task management apps. The note-taking app should provide integration options with other popular applications.
5. Compatibility with various platforms: The app should be compatible with different platforms, including desktops, laptops, tablets, and smartphones. This requires developing and testing the app for different operating systems, screen sizes, and input methods.
6. Feature Set: The app needs to provide a comprehensive feature set that meets the needs of the user. This includes support for multimedia content, handwriting recognition, voice recording, and reminders.
7. User Privacy: Privacy is an important concern for users, and the app should provide robust security features such as encryption, two-factor authentication, and privacy settings.
8. Continuous Development and Updates: The app should be regularly updated with new features and bug fixes to keep up with changing user needs and to maintain a competitive edge in the market.

## Conclusion

In conclusion, a note-taking app is an essential tool for anyone who wants to stay organized, productive, and efficient. With the right note-taking app, you can easily capture your ideas, thoughts, and to-do lists, and keep them all in one place. When choosing a note-taking app, consider the features that are important to you, such as the ability to sync across devices, add tags and categories, use different formats (text, audio, video), and collaborate with others. Overall, a note-taking app can help you to stay organized and on top of your tasks, and can ultimately lead to increased productivity and success in both your personal and professional life.

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