Project Proposal

Secured Cloud Diary Application

Motivation:

Memories are meant to be recollected. Good memories are meant to be remembered, and so is maintaining a diary. There is nothing better than a joy of looking back at good old memories and perhaps realize how much we have come so far and embrace them. Maintaining a diary has many benefits including creativity, getting organized and increased memory. This project is built to motivate users to adopt a good practice of maintaining a diary.

Overview:

The primary subject of this project is a personal diary application, which implements Google Drive API for saving app data. The diary ensures that every entry made is secured. The users of this application are first authenticated using a passcode. When the authentication is successful, they are given in to make daily entries. The app data consists of a sequence of files based on the time the entry was made. Since every entry made on this application is valued personally by users, the diary uses an amalgamation of encryption systems which adds an extra layer of security.

Components:

- **Authentication:**
  The first activity of the application begins with the creation of a new user. The new user details are stored at the backend with the passcode being hashed with SHA-1. This hashed passcode is then used to validate when an existing user logs in. When the user is validated, they are redirected to make daily entries.
- **Data Encryption:**
  As new entries are made, they are encrypted with AES 128 and are stored on Android's standard SQLite database. The encrypted entries are then synced to Google Drive cloud storage platform so that the application data can be made available on all devices. When an existing user is identified from the Google Sign-in interface, their contents are retrieved onto the device being used.

Development Tools:

- Android Studio v3.0
- Java Programming Language
- Google Drive API
- SQLite Database

System Requirements:

- Android Emulator or an Android Device
- macOS v10.13

References:

- https://developers.google.com/drive/android/intro : "Google Drive API for Android", Nov 6, 2017

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