⏱ Time Tracker App using Flutter & Firebase

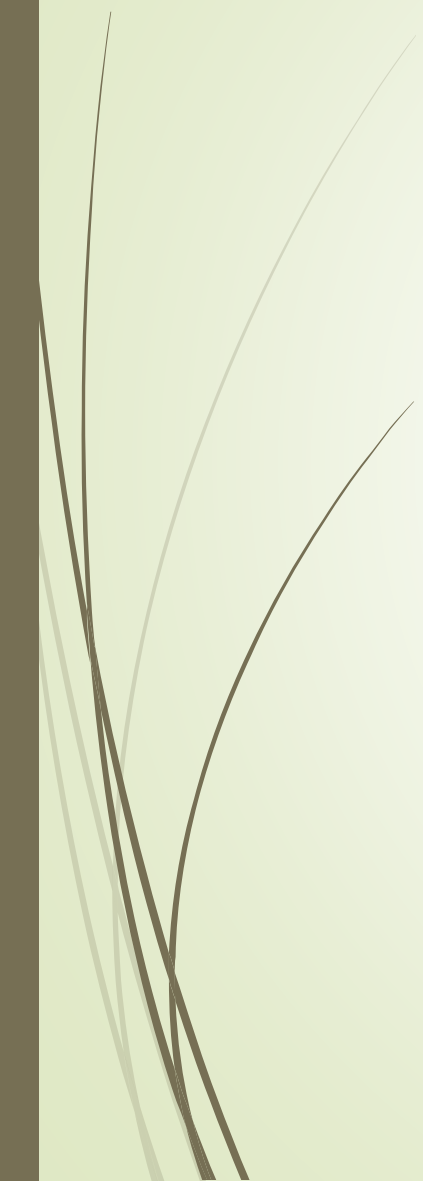Track, Manage, and Bill Your Time Efficiently

Introduction

- The Time Tracker App is developed using Flutter and Firebase to help users track their time spent on projects and calculate total cost based on hourly rates. It ensures real-time updates and secure storage.

Problem Statement

- Freelancers and developers often struggle with tracking time and calculating accurate billing. Manual methods are inefficient, error-prone, and lack real-time insights.

Objective

- ➡ - Build a user-specific time tracking system

- ➡ - Store data securely using Firebase

- ➡ - Enable project creation, timer tracking and cost calculation

- ➡ - Ensure real-time UI updates and data sync

Literature Survey

S.No.	Paper / Tool Name	Technology Used	Features	Limitations
1	**Toggl Track**	Web, Mobile, API	Real-time timer, project tracking, team reports	Limited features in free version, no direct Flutter SDK
2	**Clockify**	Web-based, Chrome Ext.	Unlimited tracking, team management, exports	Complex UI for beginners
3	**TimeCamp**	Web + Desktop + Mobile	Automatic tracking, invoicing, productivity analysis	Premium-only API access
4	**"Time Tracking using Firebase" (Research)**	Firebase, Android SDK	Uses Firebase for timer syncing and cost calculations	Android only, lacks cross-platform support
5	**Proposed Time Tracker App**	Flutter + Firebase	Cross-platform, login/signup, real-time updates, user-specific tracking	Prototype, UI/UX can be enhanced further

Technologies Used

- ◗ - Flutter (Frontend)

- ◗ - Dart (Logic)

- ◗ - Firebase Authentication (Login/Signup)

- ◗ - Cloud Firestore (Database)

- ◗ - Firebase Console (Permissions & Rules)

Features

- 🔐 User Authentication
- ➕ Add/Edit/Delete Projects
- 🟢 Start/Stop Timer with Real-Time Tracking
- 🧮 Cost Calculation Based on Time
- 📦 Firestore Integration Per User

Firebase Integration

- Firestore structure:
- Collection: projects
- Fields:
- - name (String)
- - perHourCost (Number)
- - elapsedTime (Number)
- - isRunning (Boolean)
- - userId (String)

Challenges Faced

- ⚠️ Firestore permission errors
- 📄 Required Firestore Indexes
- ⏱️ Timer sync with UI
- 🔐 Security rules debugging

Conclusion

■ The app is successfully developed to meet real-time project billing needs using Flutter & Firebase. It ensures usability and data security. Future scope includes analytics, report export, and notifications.

Thank You!

- Made with Flutter 💗
- By: Your Name
- Mentor: Faculty Name