

Task Manager

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The aim of our project Task Manager is to help people keep on track with their tasks so that they can accomplish what they need or want.

Functional and non-functional requirements

Functional Requirements:

1.) User Registration and Login

Users can register with a username and password.

Users can log in using their registered credentials.

Users can reset their password via the Password Reset feature.

Authentication is stored securely in Firebase Authentication.

2.) Task Management

Users can add and delete tasks.

Tasks have:

Title

Description

Repeating days (Monday–Sunday or Everyday)

Tasks are stored in Firebase Firestore under the user's account.

Tasks update dynamically in the UI.

3.) Reminders

Users can create reminders for tasks.

Reminders include:

Title

Time

Active/Inactive status

Users can toggle reminders on/off and delete reminders.

4.) Navigation

Bottom Navigation Bar for Routine (Tasks), Timer, Reminders, Profile/Settings.

Each tab maintains the user's session.

5.) Notifications

Reminders can trigger notifications at the scheduled time.

Data Persistence.

6.) Filtering

Tasks can be filtered by status (complete/incomplete).

7.) Timer

Allows the user to start a countdown timer.

Allow the user to pause and resume the timer.

Notifies the user when the timer finishes.

Allows the user to cancel the timer.

Nonfunctional Requirements:

1.) Usability

Simple, intuitive UI with minimal clicks to create or view tasks/reminders.

Responsive design compatible with Android phones.

2.) Reliability

App should handle offline scenarios:

User can view cached tasks/reminders.

3.) Scalability

Firebase backend allows multiple users to store tasks/reminders simultaneously.

4.) Security

User authentication via Firebase Auth.

5.) Maintainability

Modular Dart/Flutter code:

Separate screens for Login, Registration, Tasks, Reminders, Settings.

User Stories

1.) User Account Management

Registration:

As a new user, I want to register with a username and password, so that I can securely access my tasks and reminders.

Login:

As a registered user, I want to log in with my credentials, so that I can access my personal tasks and reminders.

Password Reset:

As a user who forgot my password, I want to reset it via a reset form, so that I can regain access to my account.

2.) Task Management

Add Task:

As a user, I want to create a new task with a title, description, and repeating days, so that I can organize my daily routine.

Delete Task:

As a user, I want to delete a task I no longer need, so that my task list stays relevant.

3.) Reminders

Add Reminder:

As a user, I want to add a reminder for a task at a specific time, so that I am notified to complete the task.

Toggle Reminder:

As a user, I want to enable or disable a reminder, so that I can control which notifications I receive.

Delete Reminder:

As a user, I want to delete a reminder, so that I do not receive unnecessary notifications.

4.) Navigation & Usability

Bottom Navigation:

As a user, I want to navigate between Routine (Tasks), Timer, Reminders, and Profile tabs, so that I can access different features easily.

Filter Tasks:

As a user, I want to filter tasks by status, so that I can quickly find relevant tasks.

5.) Data Persistence

Cloud Sync:

As a user, I want my tasks and reminders to be stored in Firebase, so that my data persists across devices.

Offline Access:

As a user, I want to view tasks and reminders offline, so that I can plan my day even without internet access.

6.) Timer

As a user, I want to start a timer for a task so that I can focus on it for a set period.

As a user, I want to pause/resume the timer so that I can take breaks without losing progress.

As a user, I want to be notified when the timer ends so that I don't forget to move on.

As a user, I want to reset or cancel the timer if I change my plan.

Test Cases

User Authentication:

Test Case ID	Description	Precondition	Steps	Expected Result
TC01	Register new user	No existing account	1. Open app 2. Go to Register 3. Enter valid name, email, password 4. Click Register	User account created and stored in Firebase
TC02	Login with valid credentials	User account exists	1. Open app 2. Enter correct username and password 3. Click Login	User is redirected to task page
TC03	Login with invalid credentials	User account exists	1. Enter wrong username or password 2. Click Login	Error message: "Incorrect username or password"

Task Management:

Test Case ID	Description	Precondition	Steps	Expected Result
TC01	Add a new task	User logged in	1. Click Add Task 2. Enter task title, description, days, save	Task appears in task list
TC02	Delete task	At least 1 task exists	1. Select task 2. Click Delete	Task removed from list

Timer:

Test Case ID	Description	Precondition	Steps	Expected Result
TC01	Start timer	App running, user logged in	1. Go to timer 2. Set duration 3. Tap Start Timer	Timer starts counting down
TC02	Pause timer	Timer is running	1. Tap Pause button	Timer stops but value is saved

TC03	Resume timer	Timer is paused	1. Tap Resume button	Timer continues from paused time
TC04	Cancel timer	Timer is paused	1. Tap Cancel button	Timer resets to 0
TC05	Timer Completion	Timer runs to 0	1. Wait until timer ends	Notification displayed
TC06	Background mode	Timer running	1. Switch tabs 2. Wait for timer to finish	Notification shown even in different tab

Reminders:

Test Case ID	Description	Precondition	Steps	Expected Result
TC01	Add reminder for a task	At least 1 task exists	1. Go to Reminders 2. Add Reminder 3. Select task, time	Reminder appears in list
TC02	Toggle reminder active/inactive	At least 1 reminder exists	1. Switch toggle ON/OFF	Reminder is enabled/disabled
TC03	Delete reminder	At least 1 reminder exists	1. Tap delete icon	Reminder removed from list

Firebase Database:

Test Case ID	Description	Precondition	Steps	Expected Result
TC01	Store data in Firebase	No existing account	1. Register into the app	Stores username, email, password in database
TC02	Store data in Firebase	Create task	1. Create task	Stores task name, description, days in database
TC03	Store data in Firebase	Create reminder	1. Create reminder	Stores task name, reminder days, time in database

Individual's Role

Figma:

Task Page, Tasks Added, Sort Tasks, Settings, About me, Contact us: Adiyar

Homepage, Login, Registration, Password reset, Password reset confirmation, Timer, Reminders:
Adam

Dart:

UI: Adam

API: Adiyar

Logic: Adam and Adiyar

Firebase:

Database: Adiyar