# BetterU: Productivity and Well-Being Mobile Application
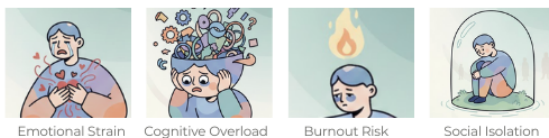
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## Abstract

BetterU is a mobile application that helps students manage their goals, track time, stay focused, record emotions, and engage safely with others.

It supports users by providing intelligent task scheduling, personalized productivity insights, and a supportive space for communication and reflection.

The application is developed using Flutter and Dart with a Python FastAPI backend, supported by Firestore, and enhanced with AI tools such as Vosk, Whisper, and spaCy to improve task categorization, scheduling, and user interaction.

## Problem Statement



Emotional Strain · Cognitive Overload · Burnout Risk · Social Isolation

## Objectives



Personalized AI Insights · Emotional Well-Being Support · Intelligent Task Management · Safe Community

## Design and Methodology

When users interact with the Flutter app frontend, it sends JSON requests through Dio to the FastAPI and reach Python backend. Python runs the AI logic or performs CRUD operations on Firestore, it returns JSON responses that the app parses into models to update contents.
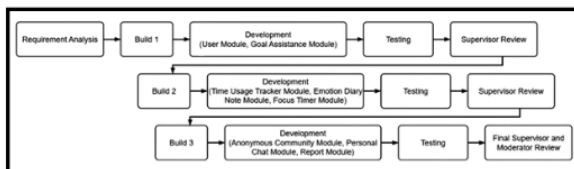


BetterU is built using an incremental model, where each build adds focused modules followed by testing and refinement. This ensures stable growth, continuous improvement, and smooth integration across the entire system.

## Contribution

- All-in-one productivity & wellness support
- AI smart analysis & scheduling
- Smart time tracking (manual, NFC, app usage)
- Social space with friendly competition



## Construction and Testing

### DEVELOPMENT TOOLS



ANDROID STUDIO · VS CODE · FAST API · FIRESTORE · FLUTTER · DART · PYTHON

BetterU was developed using Android Studio and Visual Studio Code. The app is built in Dart with the Flutter framework, communicating with a Python backend powered by FastAPI. The backend processes data and performs all transactions with Google Firestore.

The project uses common hardware, including mobile phones, personal computers, and NFC tags (NTAG213) for reading and writing app data.

### SOFTWARE SYSTEMS
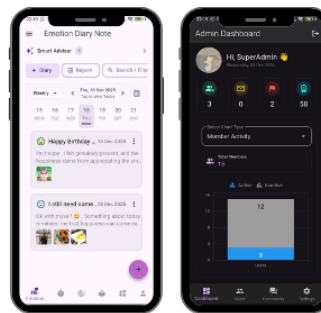


User Site · Admin Site

**User site (Anonymity is allowed)**
- Emotion Diary Note
- Focus timer with leaderboard
- Time Tracking (NFC & App Usage)
- Goal Assistance
- Community & Forum
- Group Chat & Chat
- Profile & Preference Settings

**Admin site**
- Admin Action Log
- Admin Management
- Member Management
- Reward Management
- Community Creation Review
- Flagged Content Review
- Profile & Preference Settings

### INNOVATIONS

- AI-powered emotion diary that expands notes, linked to task load that keep tracks sentiment of user and offers guidance
- AI-powered goal assistance with task extraction from speech
- Community & chat with switchable identities

## Conclusion

BetterU aims to help users achieve a healthier balance between work and personal life by improving productivity, supporting mental well-being, and reducing the effort required to manage daily tasks. Through intelligent scheduling, automatic organization, and supportive social features, the system empowers users to stay focused, organized, and emotionally grounded with minimal manual effort.