ReFL3KT - Frictionless Productivity Solution for Students

Project Description

ReFL3KT is a seamless productivity and goal-tracking platform designed for students. It integrates time tracking, goal setting (with hierarchy and group features), journaling, and analytics into a unified, intuitive workflow. AI-driven prioritization, gamified LUBE points, and minimal manual input ensure students can focus on growth, not admin tasks. The mobile-first approach ensures accessibility and engagement, while group goals and community features foster accountability and collaboration.[1][2]

Setup Instructions

1. **Clone the Repository** git clone
2. **Set Up Virtual Environment** python -m venv venv venv\Scripts\activate # On Windows
3. **Install Dependencies** pip install -r requirements.txt
4. **Configure PostgreSQL**

- Install PostgreSQL and create a database/user as per your environment.
- Update `backend/settings.py` with your DB credentials.

5. **Apply Migrations** python manage.py makemigrations python manage.py migrate
6. **Run the Development Server** python manage.py runserver

Tech Stack Used

- **Frontend:** Flutter (Dart)
- **Backend:** Django (Python)
- **Database:** PostgreSQL
- **Other:** Gin (Go, for microservices/AI), SQL

Dependencies

- Django
- Django REST Framework
- psycopg2-binary
- django-cors-headers
- PostgreSQL
- Flutter & Dart SDK (frontend)
- Gin (Go, for AI/microservices, optional)

See `requirements.txt` for full Python dependencies.

Team Details

Team Mangoes

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Workflow Explanation

User Flow:

1. **Sign Up/Login:** Secure authentication for students.
2. **Time Tracking:** Log tasks with categories and durations.
3. **Goal Tracking:** Set personal/group goals, track progress, maintain streaks, and earn LUBE points.
4. **Journaling:** Reflect on daily activities and goal progress.
5. **AI Recommendations:** Receive smart suggestions and dynamic scheduling.
6. **Analytics:** Visualize time usage and goal achievement.
7. **Group Study:** Collaborate and track shared goals.

Backend Workflow Diagram:

[User]->[Frontend (Flutter)]->[API Gateway (Django REST)]->[Core Modules: Time Tracking | Goal Tracking | Journal | Analytics]->[PostgreSQL Database]

Explanation

- **Mobile App (Flutter):**
  Students interact with a user-friendly mobile interface to log time, set goals, journal, and view analytics.
- **API Layer (Django REST API):**
  The app communicates with the backend via RESTful API endpoints. This layer handles authentication, request validation, and routes requests to the appropriate modules.
- **Core Modules:**
  - **User Management:** Handles authentication, registration, and user profiles.
  - **Time Tracking:** Manages time entries, categories, and integrates with goals.
  - **Goal Tracking:** Supports hierarchical and group goals, progress, streaks, and LUBE points.
  - **Journal:** Stores and retrieves daily reflections and logs.
  - **Analytics & AI Recommendations:** Processes data to generate productivity insights, dynamic scheduling, and personalized recommendations.
  - **Group Goals:** Manages collaborative goal setting and progress tracking.
- **Database (PostgreSQL):**
  All modules interact with a centralized PostgreSQL database, which stores structured data such as users,

time entries, categories, goals, journals, analytics, and group goal information.

This modular backend ensures seamless integration of time tracking, goal management, journaling, and analytics, enabling frictionless productivity and personalized recommendations for students.

Important External Links

- [Project Documentation]
- [Team & Problem Statement (Hack_Some_Thorns_Mangoes.pdf)]
- Official PostgreSQL Download
- Django Documentation
- Flutter Documentation

> **ReFL3KT: Align your time, goals, and growth—frictionlessly.**