

AI Study Assistant Project Documentation

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Overview

This project is a fullstack AI-powered study assistant web application. It consists of a React frontend (Vite) and a Node.js/Express backend. Key features include chat-based study sessions, quiz generator, flashcards, bookmarks, study goals, note-taking, streak counter, and more.

Architecture

- **Frontend:** React 18, Vite, CSS modules
- **Backend:** Node.js, Express
- **Database:** MongoDB (via models in backend/models)
- **API:** RESTful endpoints for chat, user sessions, and study features

Folder Structure

...

backend/

index.js

package.json

models/

chat.js

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userChats.js

client/

index.html

package.json

vite.config.js

public/

pdf.worker.min.mjs

src/

App.jsx

index.css

main.jsx

components/

bookmarks/

chatList/

flashcards/

newPrompt/

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pdfUpload/

progressDashboard/

quizGenerator/

studyGoals/

studyNotes/

studyTimer/

upload/

context/

layouts/

lib/

routes/

...

Features

- **Chat-based Study Sessions**: AI-powered Q&A and note-taking
- **Quiz Generator**: Create quizzes from study material
- **Flashcards**: Generate and review flashcards

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- **Bookmarks**: Save important chats and notes
- **Study Goals**: Set and track learning objectives
- **Progress Dashboard**: Visualize study progress
- **Streak Counter**: Track daily study streaks
- **Response Rating**: Rate AI responses
- **PDF Upload**: Import study material

Setup Instructions

1. Install dependencies in both backend and client folders:

```
```sh
```

```
cd backend && npm install
```

```
cd ../client && npm install
```

```
```
```

2. Configure environment variables in backend/.env (API keys, DB URI)

3. Start backend server:

```
```sh
```

```
cd backend && node index.js
```

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...

4. Start frontend dev server:

```
```sh
```

```
cd client && npm run dev
```

...

Deployment Guide

- **Backend:** Deploy to Render.com or Railway.app (free tier)
- **Frontend:** Deploy to Vercel.com or Netlify.com (free tier)
- **Database:** Use MongoDB Atlas (free tier)

API Endpoints

- `/api/userchats`` - Get user chats
- `/api/chats/:id`` - Get, update, or delete chat
- `/api/chats/:id/title`` - Rename chat

Environment Variables

- `MONGO_URI`` - MongoDB connection string
- `JWT_SECRET`` - JWT secret for authentication

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- `VITE_API_URL` (frontend) - Backend API URL

How to Contribute

- Fork the repository
- Create a feature branch
- Commit changes and open a pull request

License

MIT

Contact

For support, open an issue on GitHub or contact the maintainer.

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