CMSC 495 User Guide

AI Study & Productivity Assistant

Course: CMSC 495 – Capstone Project

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User Guide – AI Study & Productivity Assistant

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1. Introduction

The **AI Study & Productivity Assistant** is a web-based academic management application designed to help college students organize coursework, manage deadlines, track progress, and receive AI-powered academic assistance.

The system combines:

- Secure user authentication

- Assignment management tools

- Progress analytics

- AI-generated study plans

- AI-generated summaries

This User Guide provides step-by-step instructions for installing, launching, and using the application effectively.

2. System Overview

The AI Study & Productivity Assistant is built using:

- Python (Flask framework)

- SQLAlchemy (database ORM)

- SQLite (local database)

- Hugging Face AI API (optional AI integration)

- HTML/CSS/JavaScript frontend

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The system operates locally on the user's computer and runs through a web browser at:

```
http://127.0.0.1:5000
```

All user data is securely stored in a local database file.

3. System Requirements

Before running the application, ensure the following requirements are met:

Required Software

- Python 3.9 or higher

- Git (to clone repository)

- Internet connection (for AI features)

- Modern web browser (Chrome, Firefox, Edge)
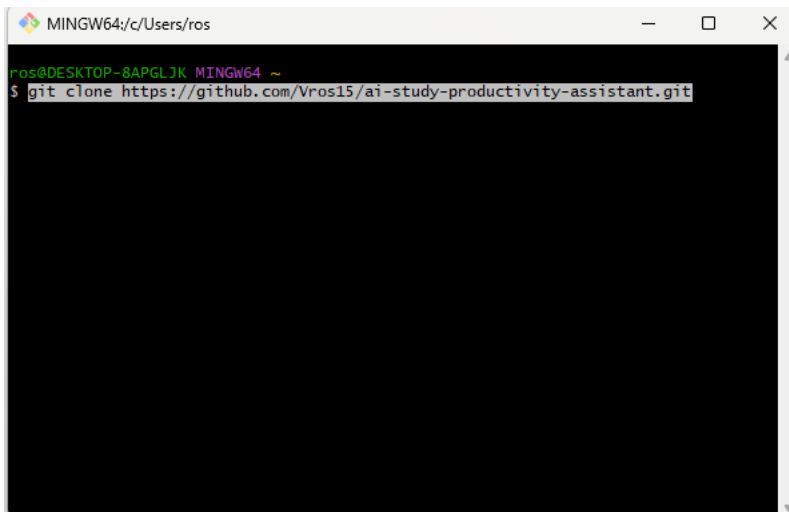
Supported Operating Systems

- Windows 10 or later

- macOS

- Linux

4. Installation and Setup

Step 1: Clone the Repository

Open Command Prompt or Git Bash and enter:

```
git clone https://github.com/Vros15/ai-study-productivity-
assistant.git
```


This downloads the application to your computer.

5. Launching the Application (Windows Users)

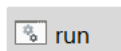The project includes an automated startup script to simplify setup.

Step 1: Locate the Project Folder

Open the folder where the repository was cloned.
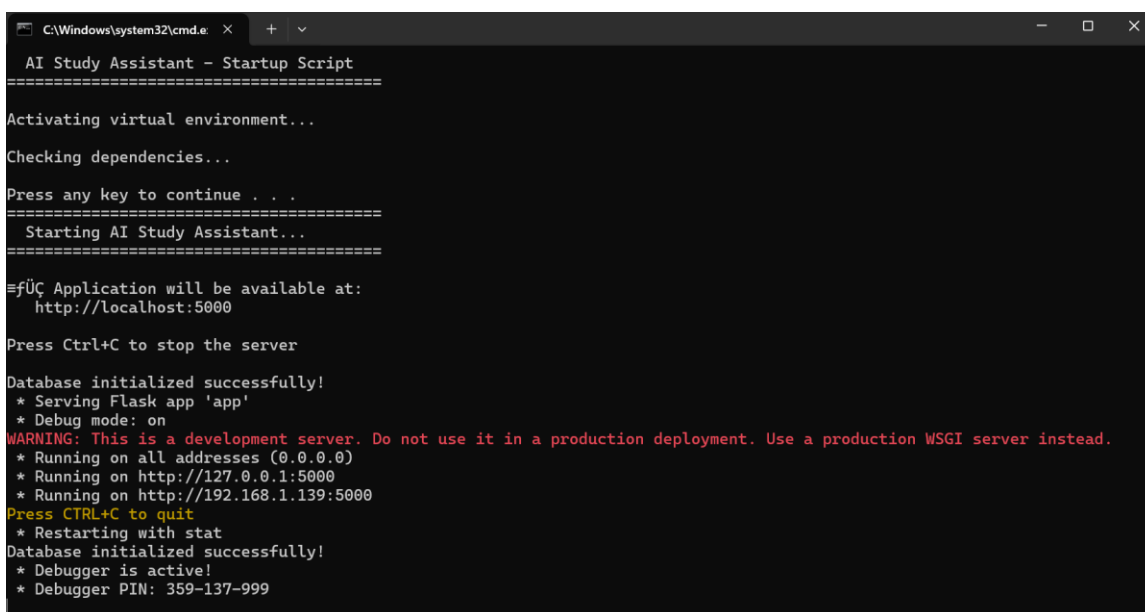
Step 2: Run the Startup Script

Double-click:

run.bat   run

The script will automatically:

- Create a virtual environment (if not already created)

- Install required dependencies

- Create a .env file if missing

- Initialize the database

- Launch the Flask server

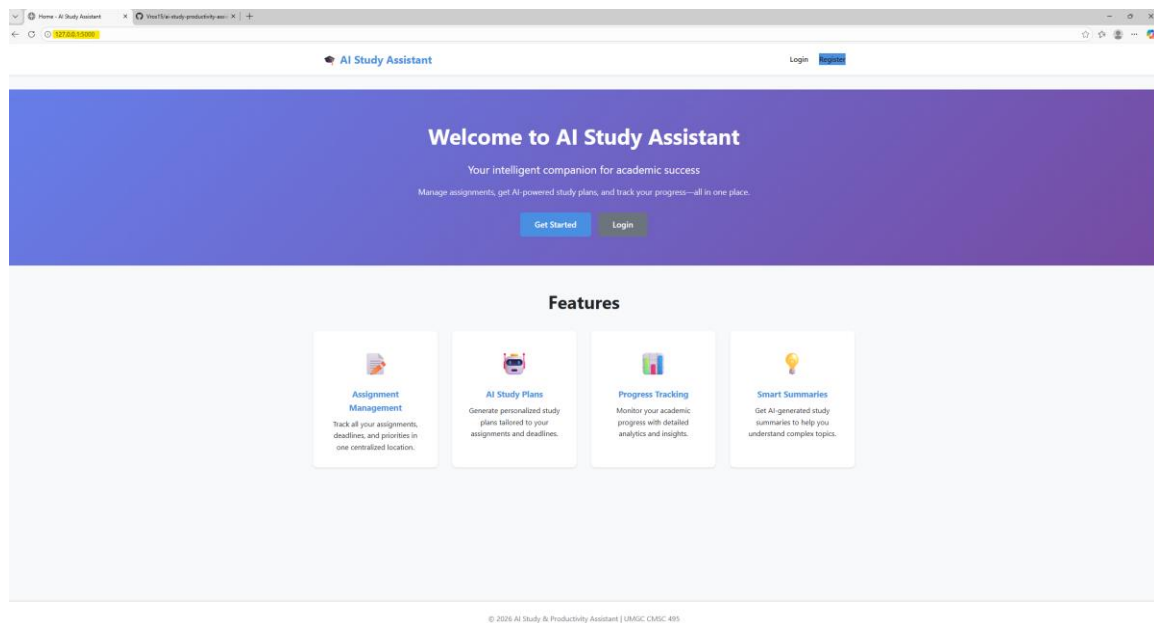**Figure 1 – Application Startup Screen**

When the application starts successfully, you will see:

```
Running on http://127.0.0.1:5000
```

Step 3: Open the Application in Browser

Open your browser and go to:

```
http://127.0.0.1:5000
```

Figure 2 – AI Study Assistant Home Page

6. Getting Started

6.1 Creating an Account

1. Click **Register**

2. Enter:

   o Username

   o Email address

   o Password (minimum 6 characters)

3. Click **Create Account**

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If registration is successful, you will be redirected to the login page.
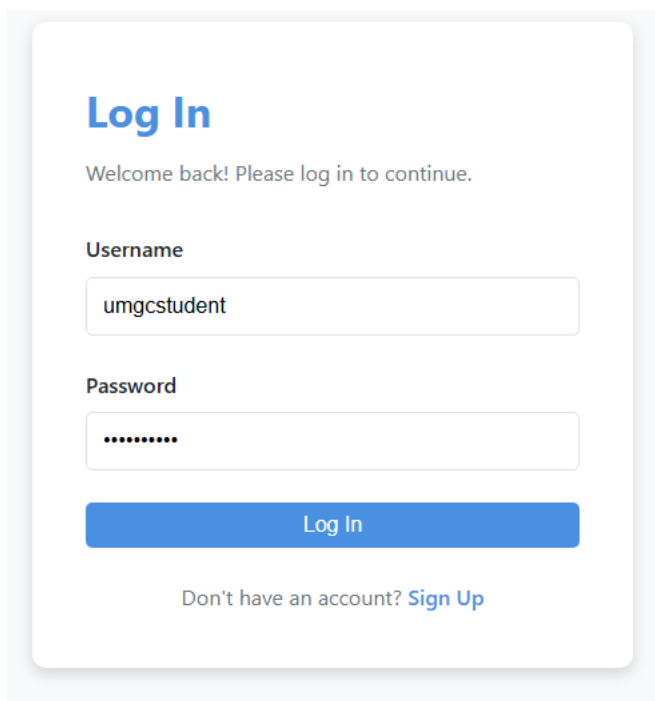
6.2 Logging In

1. Enter your username and password.

2. Click **Log In**.

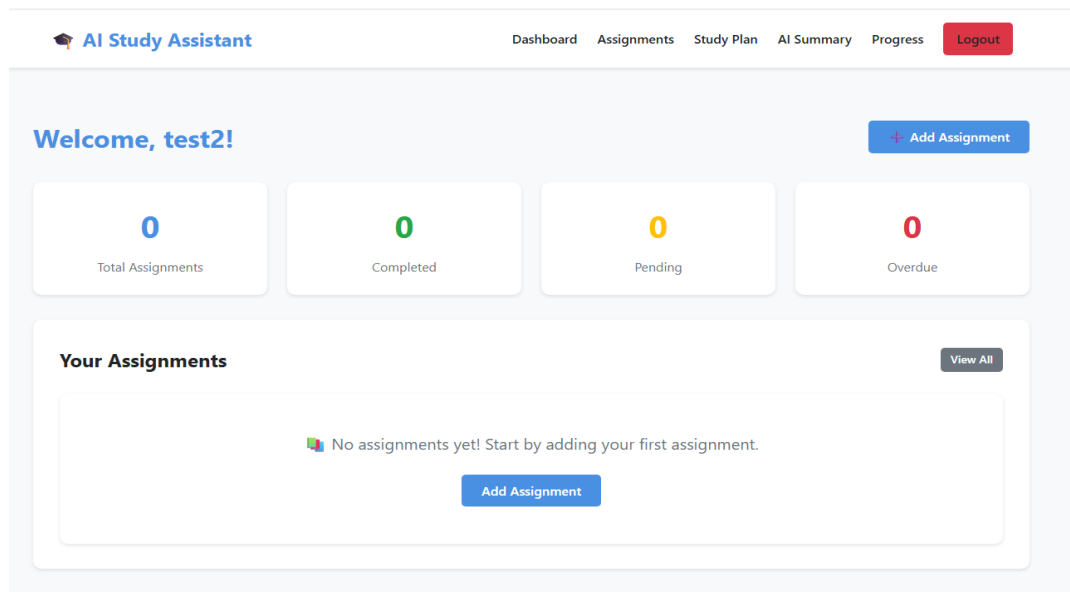3. Upon successful authentication, you will be redirected to your dashboard.

If credentials are incorrect, an error message will appear.

6.3 Dashboard Overview

The Dashboard displays:

- Total assignments

- Completed assignments

- Pending assignments

- Overdue assignments

- Assignment list with:

    o Title

    o Due date

    o Priority

    o Status

    o Action buttons (Edit, Complete, Delete)

Each user can only view their own assignments.

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6.4 Managing Assignments

Adding an Assignment

1. Click **Add Assignment**

2. Enter:

   o Title

   o Description (optional)

   o Due Date

   o Priority (Low, Medium, High)

3. Click **Submit**

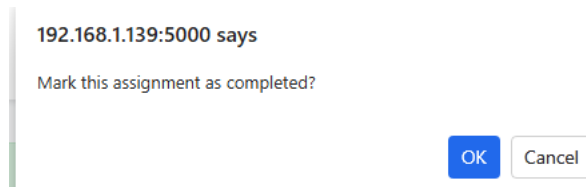The assignment will appear immediately on your dashboard.
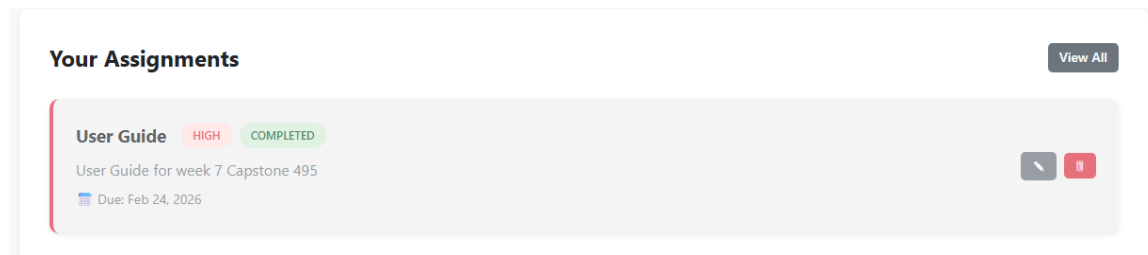
Editing an Assignment

1. Click the **Edit** icon next to an assignment.

2. Modify fields as needed.

3. Click **Save Changes**.

Marking an Assignment Complete

Click the **Complete (✓)** button.

The assignment status updates to **Completed**.

Deleting an Assignment

1. Click **Delete**

2. Confirm the action

The assignment is permanently removed from your account.

6.5 Generating AI Study Plans

1. Click **Study Plan** in the navigation menu.

2. Select one or more pending assignments.

3. Click **Generate Study Plan**.

The system:

- Sends selected assignments to the AI module.

- Generates a personalized study schedule.

- Displays recommended time allocation and strategies.

- Saves the study plan to your progress history.

If no API key is configured, the system uses a fallback generator.

🎓 **AI Study Assistant**   Dashboard   Assignments   Study Plan   AI Summary   Progress   Logout

Your Personalized Study Plan
AI-generated on February 21, 2026 at 03:51 PM

Personalized Study Plan

Your Assignments

1. UserGuide

- **Due Date:** February 23, 2026
- **Priority:** High
- **Days Remaining:** 1
- **Recommendation:** This assignment is due soon! Prioritize completing this today.

Study Tips

- Break large assignments into smaller tasks
- Schedule regular study sessions
- Take short breaks every 50 minutes
- Start with high-priority items
- Review completed work before submission

Included Assignments:

UserGuide HIGH - Due Feb 23, 2026

[Print Study Plan]   [Generate New Plan]   [Back to Dashboard]

6.6 Generating AI Summaries

1. Click **AI Summary**

2. Select an assignment OR enter custom notes.

3. Click **Generate Summary**

The AI module will:

- Analyze the content

- Generate structured study guidance

- Provide key points and recommendations

6.7 Viewing Progress

Click **Progress** to view:

- Completion rate percentage

- Priority breakdown

- Timeline view of assignments

- Recently generated study plans

This feature provides academic performance insights.

6.8 Logging Out

1. Click **Logout** in the top navigation.

2. Your session ends securely.

3. You are redirected to the home page.

7. Standards & Usage Guidelines

- Use strong passwords.

- Do not share login credentials.

- Keep API keys private in the .env file.

- Do not manually edit the database file.

- Always log out when using shared computers.

- Use the run.bat file to ensure correct startup configuration.

8. Troubleshooting

Application Will Not Start

- Ensure Python is installed.

- Confirm run.bat was executed from project root folder.

- Verify internet connection.

Cannot Access http://127.0.0.1:5000

- Confirm the terminal shows:

```
Running on http://127.0.0.1:5000
```

- Refresh the browser.

- Restart the application.

AI Features Not Working

- Verify API key is added to .env.

- Ensure internet connection.

- Restart the application.

Database Errors

- Delete the SQLite database file (development use only).

- Restart the application to reinitialize.

9. Frequently Asked Questions

Q: Can multiple users use the system?

Yes. Each user has separate account data stored securely.

Q: Is my data secure?

Yes. User authentication and session management protect user data.

Q: Does the AI feature require internet?

Yes. AI generation requires internet access.

Q: Can this be deployed publicly?

Yes, with production configuration (WSGI server required).

10. Support & Contact Information

For technical issues:

- Contact project team members

- Submit an issue on GitHub

- Review README documentation