

Campus Connect Plan

Overview:

Objective: Build a collaborative and personalized student platform accessible via web and mobile.

Duration: 4 months (16 weeks)

Approach: Agile methodology

Team and Roles

- **Backend Developers:** Abdulrahman Abu Zied, Omnia Gamal, Tasbeeh Ismail,
 - **Frontend Developers (Web):** Mona Alhusseiny, Abdelrahman Ahmed
 - **Mobile Developers:** Moamen Aymen, Mina Zarif
 - **UI/UX Designer:** Noor Allam
 - **UI/UX Support & Security:** Abdullah Mohammed
 - **Security Specialist:** Ziad Ahmed
 - **AI Specialist:** Youssef Abdelmaksod
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Timeline (4 Months)

Sprint	Duration	Key Deliverables
Sprint 1	Weeks 1–3	Requirements, Architecture, Documentation
Sprint 2	Weeks 4–5	Backend APIs, Web & Mobile Skeletons
Sprint 3	Weeks 6–7	AI Chatbot, Recommendation Engine for Web & Mobile
Sprint 4	Weeks 8–10	Event Planner, Community Platform for Web & Mobile
Sprint 5	Weeks 11–12	Security Integration for Web & Mobile
Sprint 6	Weeks 13–16	Testing, QA, and Deployment

Functional Requirements

1. Event Planner

- **Description:** Allows users to manage academic events.
- **Features:**
 - View and RSVP events.
 - Sync with personal calendars.
 - AI-suggested events based on interests.

2. Community Platform

- **Description:** Sharing hub for students.
- **Features:**
 - Upload and categorize content.
 - Participate in discussions.

3. AI-powered Chatbot

- **Description:** Responds to institutional queries.
- **Features:**
 - FAQ responses.
 - NLP-powered suggestions for resources.

4. Recommendation Engine

- **Description:** Personalized academic content feed.
- **Features:**
 - Suggest posts, events, and resources.
 - Adaptive learning from user behavior.

5. Security

- **Description:** Ensure data protection and privacy.
- **Features:**

- OAuth 2.0, JWT, SSL/TLS implementation.
 - Vulnerability scanning with tools like OWASP ZAP.
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Initial Diagrams

- **Use Case Diagram:** Displays user interactions with features like the chatbot, event planner, and community.
 - **ER Diagram:** Illustrates relationships between users, posts, events, and recommendations.
 - **Flow Diagram:** Visualizes user flows for core journeys.
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Sprint Breakdown

Sprint 1: Requirements, Planning, and Documentation

- **Duration:** Weeks 1–3
- **Objective:** Establish clear project goals, architecture, and necessary documentation.

Tasks

1. Requirements Gathering

- Conduct workshops for feature alignment (Noor, Abdullah).
- Collect insights for web and mobile workflows (Noor).

2. Documentation

- Draft functional and non-functional requirements (Noor, Backend).
- Define user stories and journeys for web and mobile (All leads).

3. Architecture Design

- Backend: Database schema and architecture (Omnia, Tasbeeh, Abdulrahman).
- Frontend: Wireframes for web and mobile (Noor).
- Mobile: Define mobile UI/UX guidelines (Noor, Moamen, Mina).

4. Project Management

- Set up Agile board and sprint backlog (Abdullah, Ziad).

Deliverables

- Requirements document.
 - Architecture diagrams.
 - Wireframes for web and mobile.
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Sprint 2: Backend, Web, and Mobile Skeletons

- **Duration:** Weeks 4–5
- **Objective:** Set up core infrastructure for web and mobile development.

Tasks

1. Backend Development

- Implement user authentication APIs (Omnia, Tasbeeh).
- Build CRUD operations for posts and events (Abdulrahman).

2. Frontend (Web)

- Create login and navigation pages (Mona).
- Implement basic authentication logic (Abdelrahman).

3. Mobile Development

- Build mobile navigation and login screens (Moamen, Mina).
- Integrate user authentication APIs (Moamen).

4. Security and DevOps

- Set up JWT for secure authentication (Ziad, Abdullah).
- Configure CI/CD for web and mobile (Ziad).

Deliverables

- Backend APIs for authentication and basic operations.

- Web and mobile skeletons with navigation and authentication.
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Sprint 3: AI Chatbot and Recommendation Engine for Web and Mobile

- **Duration:** Weeks 6–7
- **Objective:** Implement AI-powered features across both platforms.

Tasks

1. Chatbot

- Train FAQ models and integrate Rasa/Dialogflow (Youssef).
- Build APIs for chatbot functionality (Backend).
- Add chatbot UI components for web (Mona) and mobile (Moamen).

2. Recommendation Engine

- Design and train recommendation algorithms (Youssef).
- Develop APIs for serving recommendations (Tasbeeh).
- Integrate recommendation feed for web (Abdelrahman) and mobile (Mina).

Deliverables

- Functional chatbot on web and mobile.
 - Personalized recommendation feeds for both platforms.
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Sprint 4: Event Planner and Community Platform for Web and Mobile

- **Duration:** Weeks 8–10
- **Objective:** Develop collaborative and organizational features for web and mobile.

Tasks

1. Event Planner

- Build APIs for event creation and RSVPs (Omnia).
- Sync events with calendars for web and mobile (Mina, Moamen).
- Develop event management UIs for web (Mona) and mobile (Moamen).

2. Community Platform

- Create APIs for uploading resources and managing discussions (Abdulrahman).
- Design post and discussion interfaces for web (Abdelrahman) and mobile (Mina).

Deliverables

- Event planner and community platform fully functional on web and mobile.
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Sprint 5: Security Integration for Web and Mobile

- **Duration:** Weeks 11–12
- **Objective:** Finalize security across all platforms.

Tasks

1. Security

- Implement OAuth 2.0 for external integrations (Ziad).
- Conduct vulnerability scans and penetration tests (Ziad, Abdullah).

2. Mobile and Web Refinements

- Ensure secure data flows between web/mobile and backend (Moamen, Mina, Mona, Abdelrahman).

Deliverables

- Secure authentication and data flows for web and mobile.
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Sprint 6: Testing, QA, and Deployment

- **Duration:** Weeks 13–16

- **Objective:** Ensure platform stability and launch readiness.

Tasks

1. Testing and QA

- Conduct unit, integration, and system testing for web and mobile (All teams).
- Test AI accuracy and user flows (Noor, Youssef).

2. Bug Fixes and Optimization

- Resolve bugs across platforms (All developers).

3. Deployment

- Deploy the platform to AWS/GCP (Backend team).
- Publish mobile apps to app stores (Moamen, Mina).

Deliverables

- Fully tested platform deployed to live environments.
 - Web app and mobile app available for users.
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User Stories and Journeys

Event Planner

- **User Story:** As a student, I want to view, RSVP, and organize events to manage my schedule.
 - **Journey:**
 1. Login via web or mobile.
 2. Access the event planner.
 3. Browse events or create one.
 4. RSVP and sync with the calendar.
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Community Platform

- **User Story:** As a student, I want to share academic resources and participate in discussions.
 - **Journey:**
 1. Login via web or mobile.
 2. Access the community section.
 3. Post content or comment on discussions.
 4. Receive notifications for interactions.
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AI Chatbot

- **User Story:** As a student, I want quick answers to university-related questions.
 - **Journey:**
 1. Open the chatbot via web or mobile.
 2. Ask a question.
 3. Receive a relevant response.
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Recommendation Engine

- **User Story:** As a student, I want personalized suggestions for events and resources.
 - **Journey:**
 1. Login via web or mobile.
 2. View a personalized feed.
 3. Interact with recommended items.
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