

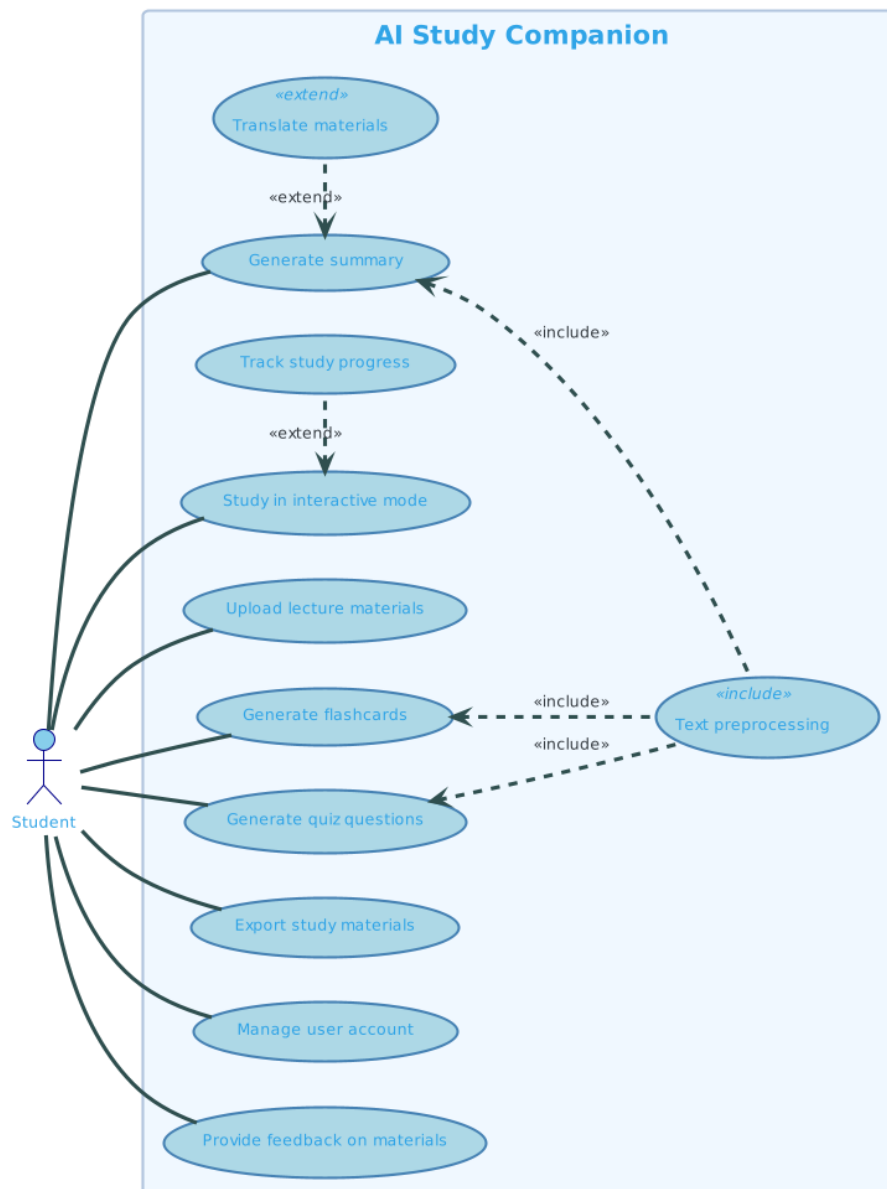
1. Student Interaction Diagram (Main Use Case)

Actors: Student

Purpose: Represents how a student uses the AI Study Companion for learning.

Use Cases:

- Upload lecture materials (*PDF, DOCX, TXT*)
- Generate summary
- Generate flashcards
- Generate quiz questions
- Study in interactive mode (flashcards/quiz)
- Track study progress
- Export study materials (*PDF/JSON*)
- Manage user account (*Login, Save session*)
- Provide feedback on generated materials



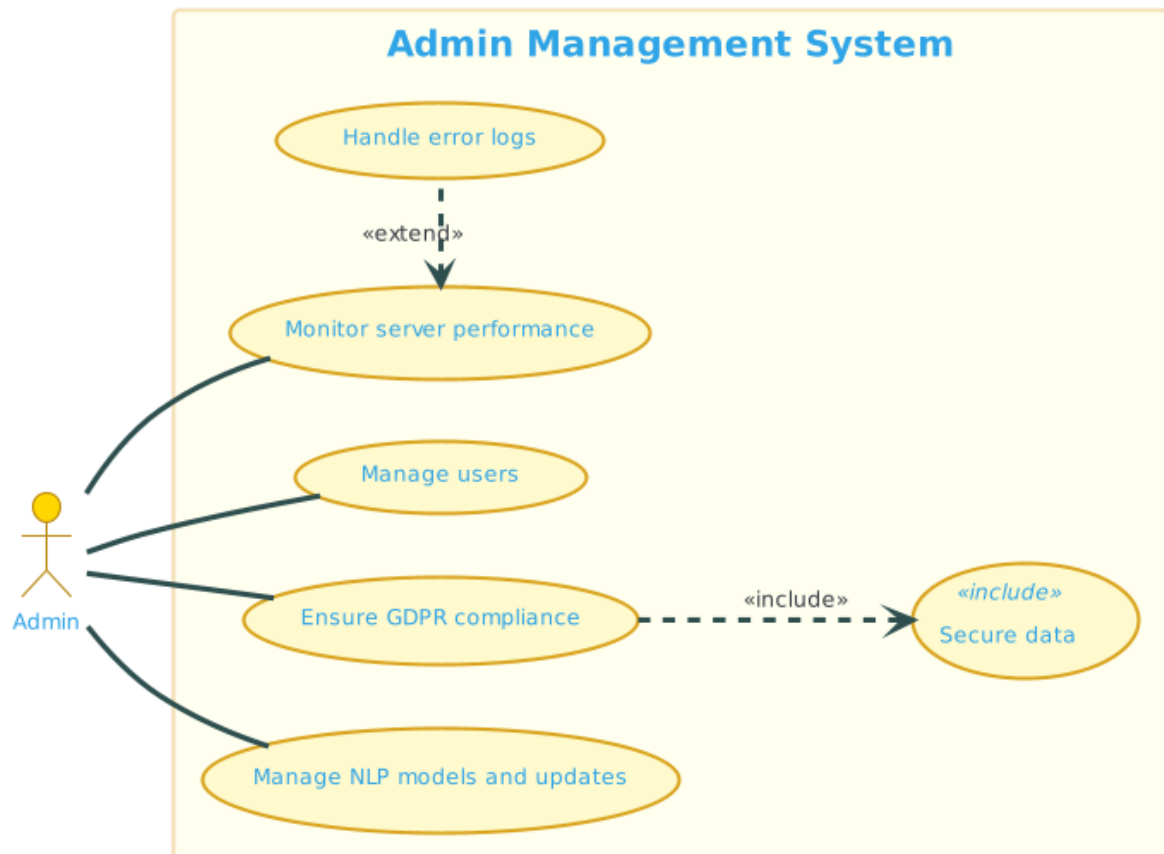
2. Admin Management Diagram

Actors: Admin

Purpose: Describes administrative and maintenance actions.

Use Cases:

- Manage users (view, deactivate, audit)
- Monitor server performance
- Ensure GDPR compliance
- Manage NLP models and updates
- Handle corrupted uploads / error logs
- Secure data (SSL, encryption)



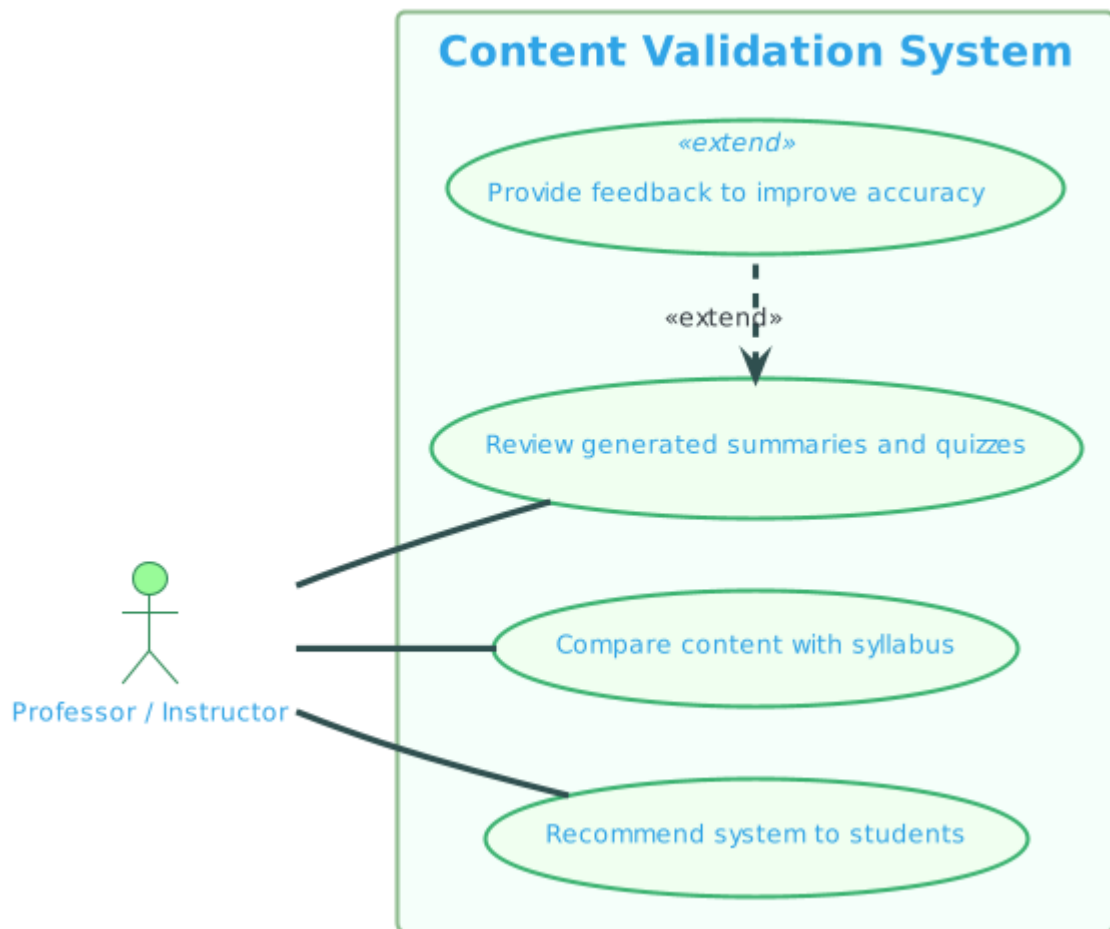
3. Professor / Instructor Review Diagram

Actors: Professor / Instructor

Purpose: Represents validation of AI-generated educational materials.

Use Cases:

- Review generated summaries and quizzes
- Compare content with syllabus
- Provide feedback to improve accuracy
- Recommend system to students



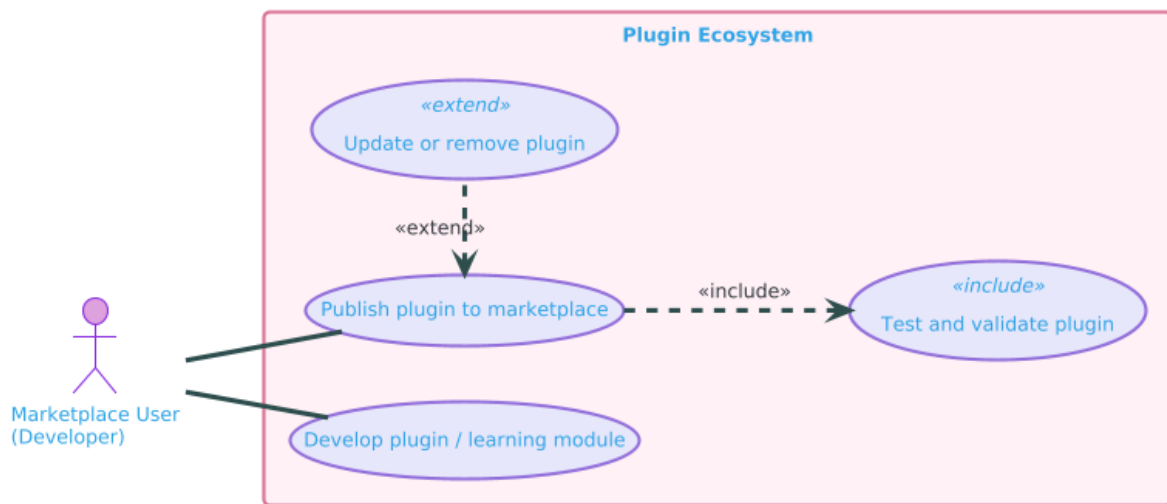
4. Plugin Marketplace Diagram

Actors: Marketplace User (Developer)

Purpose: Represents interaction with plugin ecosystem.

Use Cases:

- Develop plugin / learning module
- Test and validate plugin
- Publish plugin to marketplace
- Update or remove plugin



5. System-Level Overview Diagram

Actors: All main roles (Student, Admin, Professor, Marketplace User)

Purpose: High-level summary showing all interactions with the AI Study Companion.

Core System Use Cases:

- File Upload and NLP Processing
- Content Generation (Summaries, Flashcards, Quizzes)
- Interactive Study Tools
- Progress Tracking
- Account & Authentication
- Administration & Security
- Plugin Management

