

# Final Year Project – Requirements Analysis Canvas

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## 1. Problem Understanding (WHY)

### Problem Statement:

Describe the core problem your target users are facing. Focus on: - What users are trying to achieve - Why existing solutions (courses, generic AI tools, platforms) are insufficient - The gap between user expectations and current tools

(Write 1-2 clear paragraphs. No technical jargon.)

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## 2. Target Users (WHO)

Define who will use the application.

### User Persona 1

- Skill level:
- Goal:
- Daily time availability:
- Pain points:

### User Persona 2

- Skill level:
- Goal:
- Daily time availability:
- Pain points:

(Optional: Add Persona 3 if needed)

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## 3. Core Use-Cases (WHAT USERS WILL DO)

Describe the user journey step by step: 1. User opens the application 2. User creates an account / logs in 3. User defines the skill they want to learn 4. User receives a personalized roadmap 5. User completes tasks and receives feedback 6. User tracks progress over time

(Focus on user actions, not system internals.)

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## **4. Functional Requirements (SYSTEM FEATURES)**

List all essential features the system must provide:

- User authentication (signup/login)
- Skill input and validation
- Roadmap generation and display
- Task assignment and completion tracking
- Feedback generation
- Progress storage and retrieval

(Only include features required for a working system.)

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## **5. Non-Functional Requirements (QUALITY ATTRIBUTES)**

Define how the system should behave:

- Performance: fast response for user actions
- Reliability: system should not crash if AI fails
- Usability: simple and beginner-friendly interface
- Scalability: should support more users in future
- Security: basic protection of user data

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## **6. AI Role Definition (BOUNDARIES)**

Clearly define the role of AI in the system:

**AI Will:** - Generate explanations and learning content - Adapt difficulty based on user progress - Provide feedback and reframing

**AI Will NOT:** - Control system logic - Decide progression rules - Replace core application flow

**AI Input:** - User skill description - User profile data - Progress data

**AI Output:** - Structured text (lessons, feedback, tasks)

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## **7. Data Requirements (WHAT DATA IS STORED)**

Identify the types of data the system needs to store:

- User profile information
- Selected skill and preferences
- Generated roadmap structure
- Task completion status
- Feedback history

(No database design required at this stage.)

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## **8. Constraints & Assumptions (REALITY CHECK)**

List real-world limitations:

- Limited development time
- Beginner-level development team
- Limited budget for AI API usage
- Academic scope and deadlines
- Internet dependency

## **9. Success Criteria (HOW SUCCESS IS MEASURED)**

Define how you will know the project is successful:

- Application can be demonstrated live
- Users can generate a learning roadmap
- Tasks and progress tracking work correctly
- AI personalization is visible in demo
- Supervisor approves scope and implementation

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**Document Status:** Draft **Next Step:** Review with Supervisor → Finalize → Move to System Design