Masar

MASAR is a student-driven platform that helps university students navigate their courses by providing structured information on prerequisites, industry relevance, study resources, and projects. It is accessible on Android and iOS, ensuring security through authentication and high performance. With bilingual support in Arabic and English, MASAR empowers students to plan their studies effectively and align them with market needs.

By:

AMR AL-ALI

ELAF ALASMAR

HAMZAH BANI-ATA

HUTHAIFA AL-HAJAJ

MOHANNAD AL-SHEIKH QASEM

System Request – Students' courses Guidance

- **Project Sponsor:** We aspire to secure funding from our college, Prince Abdullah Bin Ghazi Faculty of Information and Communication Technology. The college will provide us with financial support, as well as access to valuable information and essential resources needed throughout the development of the project.

- **Business Need:** Due to the challenges faced by new students in understanding their university courses, their sequence, and their direct relevance to the job market, our program offers practical and seamless solutions to address these issues effectively.

- **Business Requirements – Specific functionality that the system should have include the following:**
    1. Course Overview – A brief introduction to the subject.
    2. Course Prerequisites – The necessary knowledge or courses required before taking this subject.
    3. Industry Relevance – A detailed explanation of the course's importance in the job market.
    4. Study Resources – Recommended materials and references for studying the subject.
    5. Applicable Projects – Practical projects that can be implemented using the knowledge gained from the course.

- **Business Value:** This project is a voluntary initiative designed to support our fellow students without any financial compensation. Our goal is to provide valuable guidance and resources to help them navigate their academic journey more effectively.

- **Special Issues:**
    1. Scalability – Since curricula vary across different faculties, the system should be designed to accommodate as many faculties as possible.
    2. Curriculum Updates – As courses evolve, the system must support both old curricula for existing students and updated curricula for new students to ensure consistency and relevance.

Requirements Analysis

- Functional Requirements:

1- Information-Oriented Functionalities:

- **User Information:**
  - Store and manage user details, including:
    - Name
    - Email
    - Password
    - Major
    - Profile image
    - Start year
    - Completed courses
- **Major & College Information:**
  - Maintain structured data for each major, including:
    - Course dependency tree (showing prerequisites and sequences)
- **Course Information:**
  - Track and display details for each course, including:
    - **Course Status Categories** (Completed, In-Progress, Upcoming and Deferred Courses)
    - **Course Overview** – A brief introduction to the subject
    - **Course Prerequisites** – Required knowledge or courses before taking this subject
    - **Industry Relevance** – Explanation of the course's importance in the job market
    - **Study Resources** – Recommended materials and references for studying the subject
    - **Applicable Projects** – Practical projects that can be implemented using the course knowledge

2. Process-Oriented Functionalities:

- **Authentication:**
  - User login and registration system
  - Secure authentication methods (email/password, OAuth in future versions)
- **Course Management:**

    - Ability to update course status (completed, in progress, planned)
    - Track progress and suggest next courses based on prerequisites
- **Major Management (Future Versions):**
    - Allow users to change their major while preserving relevant course progress
- **Course Exploration:**
    - View details of courses that can be attended in the next semester
    - Search for other courses and access their content, prerequisites, industry relevance, study resources, and applicable projects
- **Multiple Languages Supported:**
    - Support both **Arabic and English** for the interface and study resources.

- # Non-Functional Requirements:

1- Operational Requirements:

- The system should be accessible on **mobile devices** running **Android and iOS**.

2- Performance Requirements:

- Ensure **high speed and reliability**, with the system available **24/7**.

3- Security Requirements:

- Protect user data confidentiality through **secure authentication mechanisms**.

Masar Use case Diagram