King Saud University
College of Computer and Information Sciences
Department of Information Technology

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Graduation Project Proposal
ASPIRA

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1 Introduction

The transition from education to professional life is a crucial phase that defines an individual's career path. In Saudi Arabia, this challenge has become a key focus as the country works towards Vision 2030, emphasizing the empowerment of youth by bridging the gap between academic education and professional development. However, many students and graduates face challenges during this transition due to the lack of personalized career guidance and targeted skill-building opportunities.

This project addresses the issue of insufficient mentorship and career guidance available to students and graduates. Without proper support, many struggle to enter the workforce with confidence, leading to a skills gap that impacts their ability to effectively participate in the job market.

To tackle this, we propose the development of a web-based platform called ASPIRA, designed to provide personalized mentorship and career development support through technology. By leveraging artificial intelligence, the platform aims to enhance accessibility and offer tailored guidance through features such as AI-powered chatbot, recommendation system, and a unified hub connecting mentees with professional mentors. This platform aims to equip students and graduates with the skills, confidence, and direction they need to succeed in their careers.

This document will provide a detailed description of the problem being addressed, outline the proposed solution, and include details about the technologies used, methodologies adopted, and expected outcomes of the project, aligning the initiative with the objectives of our Vision.

2 The Problem

In Saudi Arabia, a significant real-world problem persists: many mentees, particularly bachelor's students and recent graduates, struggle to transition effectively from education to the workforce. This challenge is particularly critical because it affects their ability to contribute meaningfully to the country's growth and long-term objectives.

For example, consider a university graduate who, despite excelling academically, finds it difficult to identify the right career path or acquire the skills needed for specific roles in the competitive job market. The lack of accessible and personalized career guidance often leaves individuals like this graduate unprepared to navigate the complexities of professional development.

Our project focuses on addressing a critical part of this issue: the absence of tailored mentorship and skill-building opportunities. Many mentees lack regular access to professional mentors who can provide career advice tailored to their goals and interests. This gap hinders their ability to plan effectively for their careers, build confidence, and acquire relevant skills. By bridging this gap, we aim to empower youth to achieve their professional potential and align with national aspirations for a skilled and competitive workforce.

3 The Solution

This project aims to address the problem by developing a comprehensive web-based platform that connects professional mentors with mentees. To solve the issue of limited personalized guidance, the platform will act as a centralized hub where mentees can access real-time career advice, gain insights into specific industries, and receive practical mentorship tailored to their unique needs. Mentees will interact with mentors committed to guiding them toward meaningful career paths, providing the support they currently lack.

The platform offers several benefits: mentees will create personal accounts. With a Recommendation System, they will be guided toward online courses that align with their goals and market demands. This personalized approach ensures mentees build relevant competencies for their career aspirations, offering a significant improvement over traditional systems.

Additionally, the platform incorporates AI-powered technologies to improve accessibility and user experience. An intelligent chatbot will provide instant assistance, answering inquiries and resolving issues quickly. This ensures mentees have continuous access to the resources they need, creating a seamless and supportive learning environment.

Aligned with Vision 2030, this solution equips Saudi youth with the tools, skills, and opportunities to build sustainable careers. By addressing the critical gap in mentorship and skill-building, the platform enhances workforce readiness and fosters a community of skilled professionals who can contribute to Saudi Arabia's growth and prosperity.

4 Product Vision

For mentees in Saudi Arabia.

Who need personalized career guidance and skill-building opportunities to transition into the workforce.

The ASPIRA platform **is** a web-based career development and mentorship platform .

That provides tailored real-time mentorship.

Unlike traditional mentorship programs or generic online mentoring platforms**.**

Our product uses AI to offer personalized guidance, a dynamic recommendation system for a seamless user experience, and AI-powered support, a chatbot to help users achieve their career goals.

5 Product Roadmap
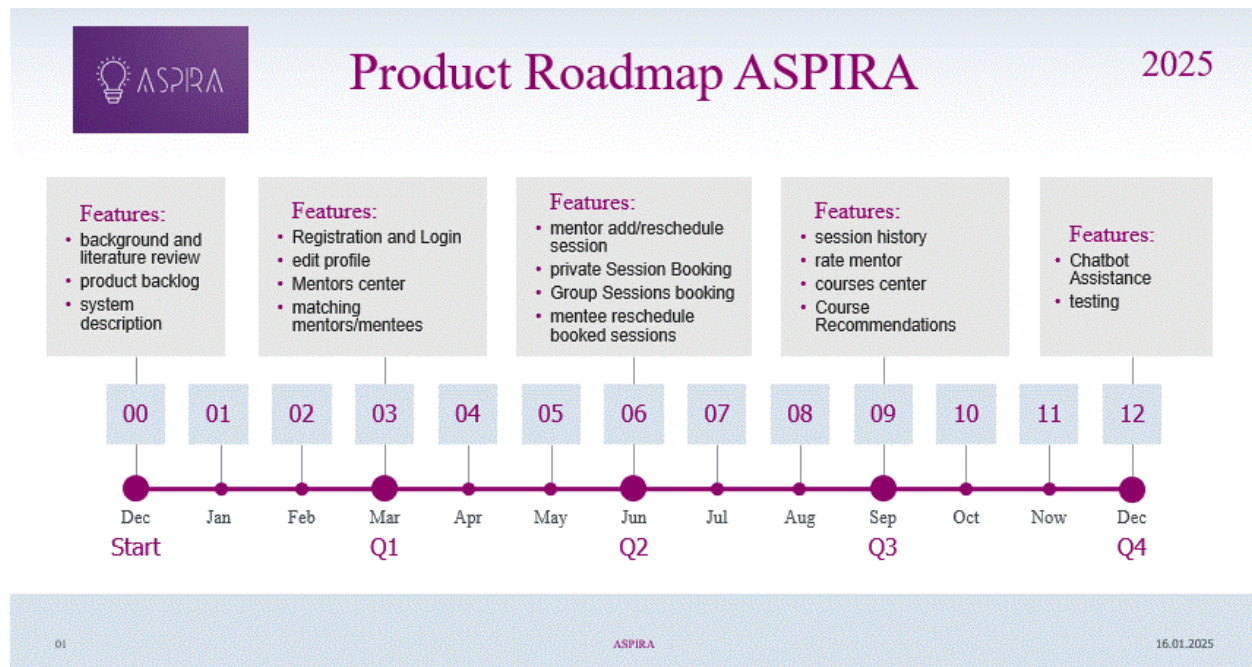
6 Objectives

Our objective is to develop the "ASPIRA" career guidance platform, designed to bridge the gap between mentees and mentors across various fields. This platform will provide several key features, including:

- **Product (customer focus-value)**:
    1. **User Registration and Login**: Enable both mentors and mentees to register and login to access the platform's features, with dedicated interfaces for each user type.
    2. **Mentors center**: A dedicated center displaying mentors profiles with information such as their name, photo, experience, availability, and brief description, enabling mentees to search mentors by name.
    3. **Mentor/mentee matching**: provide matching based on interest and specialty or on mentee preference.
    4. **Private Session Booking:** Enables mentees to book private mentorship sessions through a seamless scheduling system.
    5. **Workshops and Group Sessions:** Offer general guidance sessions open to all mentees, providing broader career advice.
    6. **Rating Feature:** Allow users to rate mentors to improve platform reliability.
    7. **Sessions History**: offer a record of previous sessions for future reference
    8. **courses center**: dedicated center displaying courses information such as their name and online link, providing an easy way for mentees to explore available learning opportunities.
    9. **Course Recommendations:** Implement a recommendation system to suggest relevant courses based on user interests and preferences.
    10. **Chat Assistance:** Integrate a chatbot to assist with platform navigation and basic career guidance queries.
    11. **Profile Management:** Enable mentors to update profiles and and change their passwords, manage availability for both private and group sessions.
    12. **Intuitive Interface:** Ensure a user-friendly experience for seamless navigation, session booking, and resource access.

- **Project (solution focus-plan):**

1. **User Research:** Conduct surveys and interviews with mentees, and mentors to identify challenges and expectations.

2. **Requirement Analysis:** Define functional and non-functional requirements to ensure user-centric platform features.

3. **Background research and literature review**: conduct domain analysis along with a comprehensive competitive analysis

4. **System Design:** Create architecture and wireframes for an intuitive and interactive platform interface.

5. **Data Collection:** Prepare mentor profiles, FAQs, and course data for integration.

6. **Feature Development:** Build key features, including the chatbot, recommendation system, and session booking functionality.

7. **Testing and Feedback:** Conduct usability testing, gather user feedback, and refine the platform for reliability and ease of use.

8. **Launch and Monitoring:** Deploy the platform and monitor performance for continuous improvement.

- **Learning (student focus):**

By completing the ASPIRA project, we aim to learn new skills that will help us in real-world software development, including:

1. **Frontend Development:** Design a responsive and user-friendly interface.
2. **Backend Development:** Build robust data management and processing systems.
3. **Database Management:** Design and manage efficient databases to handle user profiles, scheduling, and platform data.
4. **AI Integration:** Implement content-based recommendation systems and chatbot functionality.
5. **System Integration:** Connect frontend, backend, and databases for a seamless platform experience.
6. **Team Collaboration**: Improve teamwork and communication skills.

7 Scope

The ASPIRA platform bridges education and careers by supporting mentees to find relevant mentors, creating meaningful connections that align with their goals, interests and field of study. This web-based platform offers private and group real-time sessions between mentors and mentees with ability to reschedule sessions and rate mentors. A record of the previous session is available as well for future reference. The platform is accessible across devices, includes features such as AI-powered chatbot, offering automated guidance for mentees, and a smart recommendation system for real-time assistance in choosing appropriate courses. ASPIRA is designed as a guidance and recommendations platform, focusing on offering support. While activities like course registration, payment processing are outside its scope.

8 Hardware/Software Tools and Cost

Hardware Tools	
Name and Description	**Cost** *mention date it will be available*
Laptop	Every student has their own device.
Software Tools	
Name and Description	**Cost**
MySQL (Database Management)	Free
Visual Studio code is A simple code editor that helps with tasks like debugging, running jobs, and keeping track of different versions of your code and supports almost every major programming language."	Free
Courses API a simple service that provides access to a list of courses, allowing users to browse and view detailed course information effortlessly.	undefined
GitHub is a web-based hosting service for git repositories.	Free

Jira "It's the agile project management tool that teams use to plan, track, release, and support high-quality software with confidence."	Free

9 Scrum Team

9.1 Skill Set Requirements

List the set of technical skills required for the team to be able to develop the product, also highlight any skill gaps available and describe how the team will address this need.

Technical Skill Required	What is the current level of the team (*beginner-intermediate- advanced*) for each skill? How will the gap be bridged? *(if necessary*) Learning plan
Programming languages	Intermediate, additional self-learning and online courses.
Dealing with APIs	Beginner (We can enhance our API skills by reviewing fundamental concepts such as API structure from the specification document).
Database Management (MySQL)	Intermediate, Follow online tutorials and build database-driven applications
Training the AI models	Beginner (We can strengthen our skills by addressing the fundamental concept behind the AI model and seeking for small projects).
UI-UX skills	Advanced

9.2 Roles and Responsibilities

Scrum Team	
Product Owner: (list name of the project supervisor)	Dr. Arwa Alsultan
Developers: (list student names)	Aeshah Almuklifi Luluh Alyahya Shahad Alsalman Ghadi Alzahrani Noura Alwohaibi
Scrum Master (SM): (list name of designated SM for the project)	Dr. Arwa Alsultan
Stakeholders: (list names of project stakeholders, include customer names if any)	Examiners and mentees

10 References

List any references you mention in your document here