

**Comp 442-Software Engineering**

**Internship Guide**

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# Project description

## Project overview:

Our project aims to simplify the creation of training programs for companies, helping them align with learning objectives. It will collect company data, including whether the training is paid. The website will be built with HTML, CSS, and JavaScript, featuring multiple pages that include sections for companies to add training programs and for students to input their major and training preferences. This platform streamlines the process of finding relevant training opportunities.

## Project Objectives:

1. Simplify the process of setting up training programs for companies.
2. Help identify and create training programs that align with specific learning goals.
3. Collect detailed company information, including whether the training is paid or free.
4. Build a website using HTML, CSS, java script and MySQL to manage data.
5. Improve the efficiency of finding relevant training programs and enhance the overall user experience.

## Background:

The Internship Portal is designed to bridge the gap between companies seeking fresh talent and students looking to gain hands-on experience. In today's competitive job market, internships are an essential pathway for students to apply their academic knowledge in real-world scenarios, develop practical skills, and build professional networks. For companies, offering internships not only helps them nurture future talent but also provides an opportunity to assess potential employees. This portal simplifies the process for both parties, allowing companies to post internship opportunities easily, while students can find relevant internships that match their career interests and goals. By providing an intuitive platform, the portal enhances the

efficiency of connecting students with meaningful internship opportunities, helping them grow their skills and gain valuable work experience.

## Literature Review:

Internship platforms play a crucial role in providing students with the opportunity to gain practical experience in their chosen fields. These platforms not only connect students with companies but also help businesses identify and nurture potential future employees. In Lebanon and across the world, many platforms exist to facilitate these connections, ranging from local services to international networks. While these platforms offer various advantages, such as providing access to global internships and promoting professional growth, they also face challenges such as competition, limited availability of positions, and costs for participants. This literature review highlights notable internship portals and their characteristics, along with the advantages and challenges they present.

1. **UNICEF Lebanon Internship Program**  
   Offers eligible students the chance to gain practical experience within UNICEF's operations in Lebanon.
2. **GoAbroad.com**  
   A comprehensive platform connecting students with internship opportunities worldwide, including Lebanon.
3. **GoOverseas.com**  
   Provides reviews and guides for students seeking internships abroad, including Lebanon.
4. **Absolute Internship**  
   Offers international internship programs in various cities worldwide, including options in Lebanon.
5. **The Intern Group**  
   Provides international internship programs in multiple cities, including Lebanon, and offers both in-person and virtual options.
6. **AIESEC**  
   An international youth-run organization offering business development internships in over 100 countries, including Lebanon.
7. **IAESTE (International Association for the Exchange of Students for Technical Experience)**  
   Exchanges students for technical work experience in various countries, including Lebanon.
8. **CRCC Asia**  
   Offers internships in various countries, including China and Japan, with cultural immersion opportunities.
9. **Cultural Vistas**  
   A nonprofit that facilitates professional exchange programs for students seeking opportunities abroad.
10. **Network of Intercultural Exchange (NICE)**  
    A German Argentine cooperation focused on educational and cultural exchange between Europe and Argentina.

## Applications:

1. Program Development Simplification: The website is a unified platform where students and job aspirants can browse, apply, and track internship opportunities. The website has a simple interface through which one can make profiles, upload CVs, and apply for internships at the click of a button. The firms can even place internship opportunities and manage applications easily.
2. Learning Objectives Alignment: The website ensures that internships listed meet specific learning goals as well as industrial requirements. This allows students and job seekers to get suitable internships for their career goals and enables companies to list opportunities for gaining appropriate skills for their target market.
3. 3.Efficient Data Management: The website employs MySQL as the database management system, which enables efficient storage, retrieval, and management of the data collected. This robust infrastructure supports the functionality and scalability of the website.
4. 4.Seamless User Experience: The website is built using modern web technologies like HTML, CSS, and JavaScript to create a dynamic and interactive user interface. This provides a smooth and engaging experience to employers as well as internship seekers with smooth navigation, applying for internships, and effective management of postings.
5. Hobbyist learning: hobbyists or enthusiasts can utilize the website to find out more about their skills or intended internship
6. Career preparation: students can prepare for a career by obtaining a whole understanding of their skills, which is needed in most internships in the profession.
7. Educational: By providing an extensive understanding of the skills whom they will gain through the training, the website can facilitate students to achieve the knowledge required to succeed in their studies and professional careers

## Alternative Design:

1. Dark Mode: Implement a dark color scheme that reduces eye strain and provides a contemporary look. Also, offer a toggle switch to allow users to switch between light and dark modes.
2. Full-screen Visuals: Employ large, high-quality images or videos that span the entire screen. Also, implement subtle animations or parallax effects to add depth and interactivity to guide user attention.
3. Mobile-first Design: Prioritize mobile responsiveness and ensure a seamless user experience across different screen sizes. Utilize mobile-specific features, such as touch gestures or swipe able carousels.
4. It will offer video tutorials to know how to utilize the website.
5. The website must be designed using modern technologies to ensure fast loading speeds and optimal performance.

# Project Planning

## Project constraint

1. **Implementation Environment of the Current System**

InternGuide is a web-based platform designed to bridge the gap between students seeking internships and companies offering internship opportunities. The system is developed using modern web technologies for ease of use and scalability.

* **Frontend**: The platform's user interface is built using **HTML, CSS, and JavaScript**, ensuring a responsive and accessible experience for both students and companies.
* **Backend**: Developed using Node.js for a reliable and scalable server-side environment.
* **Database:** Internship listings and user data will be stored efficiently using MySQL.
* **Hosting**: The system will be hosted on a reliable web platform such as GitHub Pages.

1. **Partner or Collaborative Applications**

The platform may integrate with third-party services such as LinkedIn, allowing students to import their profiles easily. Additionally:

* Email services will be used to send notifications and updates regarding internship applications and postings.
* Collaboration with universities will help verify student credentials and validate internship opportunities.

1. **Off-the-shelf Software**

To enhance development speed and efficiency, the project will leverage existing libraries and frameworks:

* **Prototype Reuse:** The project builds upon an existing prototype, refining its functionality and integrating additional features.
* **Backend Framework:** Node.js for a reliable and scalable server-side environment.
* **CSS Frameworks:** Tailwind CSS for professional, responsive design.
* **Authentication Services:** Firebase Authentication for secure login management.
* **Cloud Storage:** Firebase Storage or AWS S3 for storing company documents and resumes.

These tools offer extensive documentation and active community support, ensuring easier troubleshooting and feature implementation.

1. **Anticipated Workplace Environment**

Development and testing will be conducted in multiple environments:

* **University Labs:** Used for collaborative development, debugging, and testing.
* **Remote Work:** Developers and designers will work remotely, sharing progress via collaboration tools like GitHub and Discord.
* **Future Deployment:** The platform will be deployed online for public and corporate access.

1. **Schedule Constraints**

* Developers must balance coursework, exams, and project development, making time management critical.
* Regular updates and testing must be scheduled to prevent delays.
* The project is expected to be completed within **three months**, with specific milestones for each phase: planning, design, development, testing, and deployment.
* **Learning Curve:** Due to limited web development experience, the team must allocate time for skill acquisition and best practice implementation.

1. **Budget Constraints**:

The project has a **limited budget**, primarily covering hosting, domain registration, and third-party services. Open-source tools and frameworks will be prioritized to minimize costs without compromising quality.

## Project issues

* 1. **Unresolved Issues:**
* **Security**: Protecting student data and preventing unauthorized access.
* **Matching Algorithm**: Designing an effective system to recommend internships to students based on their skills and preferences.
* **Scalability**: Ensuring the platform can handle a growing number of users over time.
  1. **Transition from Prototype to Full Product**
* Moving from a prototype to a fully functional web application.
* Implementing a mobile-friendly version for easier accessibility.
  1. **Risks**
* **Data Privacy**: Ensuring compliance with data protection regulations.
* **Low Engagement**: Initial challenges in attracting companies and students.
* **Regulatory Compliance**: Following legal requirements for internship postings and data security.

## Team Members and Tasks

**Manager**

* Oversees project progress, ensuring milestones are met and the budget is maintained.
* Acts as the primary point of contact for stakeholders, providing updates and gathering feedback.

**Designer**

* Creates an intuitive and visually appealing user interface.
* Develops wireframes, prototypes, and final UI elements for consistency across the platform.

**Developer**

* Responsible for coding the frontend and backend.
* Implement user authentication, database interactions, and ensure the site is responsive and high performing.

## Ethical Issues

1. **Data Privacy:** Protecting user information and preventing unauthorized access.
2. **Transparency:** Ensuring all internships posted are verified and legitimate.
3. **Fair Access**: Preventing bias in internship recommendations and ensuring equal opportunities for all students.

## Software Model Process

The project follows Agile **Development Methodology**, allowing for:

* Iterative development with continuous feedback.
* Frequent testing and debugging.
* Flexibility adjusting features based on user needs.

## Feasibility Study

* **Technical Feasibility**: Web technologies (HTML, CSS, JavaScript) are widely used and well-supported.
* **Economic Feasibility**: Low-cost development with minimal financial investment.
* **Operational Feasibility**: The platform fulfills a real need for students and companies, making it a viable project.

## Tools/Technology

* **Frontend**: HTML, CSS, JavaScript
* **Frameworks**: Tailwind CSS
* **Backend**: Node.js
* **Database**: MySQL
* **Hosting**: GitHub Pages

## Standards

* **W3C Web Accessibility** standards to ensure usability for all students.
* **Security Best Practices** to protect user data.
* **User Interface Guidelines** for a smooth and engaging experience.

## Milestones

1. **Project Proposal & Research**

* Define project scope and requirements.
* Research similar platforms and industry standards.

1. **Frontend & Backend Setup**

* Develop UI components.
* Set up backend infrastructure (if required).

1. **Database Integration & Authentication**

* Implement user authentication.
* Establish database structure for internships and users.

1. **Development of Core Features**

* Implement internship posting and student application features.
* Develop filtering and recommend algorithms.

1. **Testing & Debugging**

* Conduct usability testing.
* Fix performance and security issues.

1. **Final Deployment & Documentation**

* Deploy the platform online.
* Prepare final project documentation and presentation.