



**AAPP012-4-2-RWDD**

**RESPONSIVE WEB DESIGN & DEVELOPMENT**

**GROUP ASSIGNMENT**

**Project Proposal**

**Project Title**

LearnLeap: Interactive Web Quiz for Java Programming

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Proposal Section	Contents	Group Member in Charge (if all member in charge, state 'All')
<b>Objectives of the Project</b> (maximum 3 objectives only)	<ol style="list-style-type: none"> <li>1. Offer users a user-friendly platform to conduct interactive tests that covering Java Programming to enhance students' programming skills</li> <li>2. To enable instructors to create, manage, and evaluate quizzes efficiently and providing timely feedback to students.</li> <li>3. Platform can involve many useful tools such as generating insightful analytical reports, tracking progress, and personalize assessment</li> </ol>	All
<b>Background Analysis and Requirement Gathering</b>  Background Analysis <ul style="list-style-type: none"> <li>• Web app context</li> <li>• End-user (minimum 3)</li> </ul> Requirement Gathering <ul style="list-style-type: none"> <li>• End-user Functional Requirements</li> <li>• Non-Functional Requirements</li> </ul>	<u><b>Background Analysis</b></u> <ul style="list-style-type: none"> <li>- <b>Web app context</b> <ul style="list-style-type: none"> <li>• “LearnLeap” is an interactive web application designed to help university students enhance their Java programming skills. LearnLeap provides a dynamic and engaging environment where students can take quizzes, receive instant feedback, as well as track their progress. Lecturers can create and manage quizzes, while administrators are responsible to oversee the platform's overall performance and user management.</li> </ul> </li> </ul> <p>To boost student engagement, LearnLeap brings in elements found in games such as badges and leaderboards. This method and approach make learning more interactive and fun. This is because elements found in games have the ability to engage and excite, and when playing games, people commonly experience e.g. mastery, competence, enjoyment, immersion, or flow (Hamari, Koivisto, &amp; Sarsa, 2016) as cited by (Xu, 2020).</p> <p>It is also noted that many students prefer to use their smartphones as a learning device, therefore LearnLeap ensures a mobile-friendly experience to maximize user satisfaction. One of the key factors that would play a big role is responsive design. It is the key to providing a seamless</p>	All

	<p>experience across all devices, making it easy for students to learn anywhere and anytime</p> <p>According to (Sterne, 2023), the reason behind this is because RWD is beneficial for SEO (Search Engine Optimization) due its ability to help people access website on different devices such as phones and computers. It also eliminates the requirement for us to build separate versions of the site for mobile an desktop.</p> <ul style="list-style-type: none"> <li>- <b>End-user (minimum 3)</b> <ol style="list-style-type: none"> <li>1. University Student</li> <li>2. Lecturers</li> <li>3. Administrator</li> </ol> </li> </ul> <p><b><u>Requirement gathering</u></b></p> <ul style="list-style-type: none"> <li>- <b>End-user Functional Requirements</b> <ol style="list-style-type: none"> <li><b>1. University Student:</b> <ol style="list-style-type: none"> <li>i. Students must register for an account and log in to access LearnLeap.</li> <li>ii. Ability to take quizzes focused on Java programming with various question types (multiple choice, coding exercises).</li> <li>iii. View scores, progress, and areas needing improvement.</li> <li>iv. Receive instant feedback and explanations for quiz answers.</li> <li>v. Access to tutorials, documentation, and practice problems.</li> </ol> </li> <li><b>2. Lecturers:</b> <ol style="list-style-type: none"> <li>i. Lecturers must log in to access their tools and manage quizzes.</li> <li>ii. Tools to create and customize quizzes.</li> <li>iii. Access to a repository of reusable questions.</li> <li>iv. Automated grading for objective questions and tools for manual grading of subjective answers.</li> </ol> </li> </ol> </li> </ul>	
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	<ul style="list-style-type: none"> <li>v. Insights into student performance and common mistakes.</li> <li>vi. Send announcements and feedback to students.</li> </ul> <p><b>3. Administrator</b></p> <ul style="list-style-type: none"> <li>i. Administrators must log in to manage the platform.</li> <li>ii. Add, remove, and manage user roles and permissions.</li> </ul> <p><b>- Non-Functional Requirements</b></p> <ul style="list-style-type: none"> <li>i. The web app should be accessible and functional on various devices, including desktops, tablets, and smartphones, ensuring a good user experience for students.</li> <li>ii. Secure login system with role-based access control to protect user data.</li> </ul>	
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## References

- Sterne, S. (2023). *The Pros and Cons of Responsive Web Design in 2023*. Retrieved from webdesignrdepot: <https://www.webdesignerdepot.com/2023/01/the-pros-and-cons-of-responsive-web-design-in-2023/>
- Xu, H. (2020). How to Gamify Online Business: A Case Study Based on “SMART” Model. *Journal of Service Science and Management* . doi:10.4236/jssm.2020.133034