

COSC 4351 Software Engineering: Assignment 4

Team

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Project Scope

For this project, we are only concerned of introducing a reward-based system that will be integrated into the current application (article catalog) of website XYZ. Development of this project will include several new interfaces, control schematics for both user/admin accounts and new functionality built into the current source code. The end product will continue to run on XYZ's existing web server and database systems which allows compatibility for all current web browsers.

We will not be making any direct changes to the source article collection as well as add any major additional UI resources onto the rest of the site.

Feasibility – Technical Requirements

Web – The reward system will need to be integrated with the current article collection, which currently utilizes basic web technologies and APIs. We will be introducing new frameworks and possible APIs with consent of the company.

Database – The article catalog is currently hosted on a database the company has chosen. Given the option, we may utilize the database to create new tables and queries to implement the reward system alongside the catalog, or, choose a separate new database to host the reward system separate from the main database.

Server – The scope of the article catalog is housed on a catalog server. With permission, we will maintain this server to install the reward-system as well in order for contributors to receive secured server-side real time notifications on rewards and achievements.

Risk Analysis

Changes to the scope – The client, XYZ, may want to change, modify or remove some of the requirements originally proposed during any stage of the project. To reduce this risk, the team will establish a clear and concise plan with the company.

Scope incompleteness – It is possible that some modules of the project may not reach completion due to time restraints, technical issues, scope changes etc. To minimize this risk, our team will set a priority score to all aspects of the project from 1 being top priority to 5 being least priority. This will also be discussed with XYZ.

Technical requirements – It is not certain how the servers, software and hardware, technical configurations are set and how it may affect implementation and design of the rewards system. In order to decrease any problematic outcomes, the team will communicate with the technical team handling these servers.

Integration of the rewards system – To successfully integrate this system, the team will need to thoroughly test code and functionality of the site and server in which it may be required to have the site offline until it is merged with the production system. To ensure a smooth transition, we will research all aspects of the current configuration.

Resource Planning

In order for the project to proceed at a pace that will reach completion on the time allotted, several external and internal resource will be required to ensure success during all iterations of the project.

- 1.** An increased number of skilled team members will be required in order to reach all phases of the project in a timely manner. Our team is currently at 2 but expansion to 7 – 8 will enable us to properly delegate tasks in pairs for all aspects of the project which include design, database and server integration, programming and testing, framework implementation and so forth.
- 2.** Working with the company's internal technical team will allow us to fully comprehend any configurations that are currently hosted on the technologies that are being used w/o risk of damaging any functionality.
- 3.** If a separate database is desired for the rewards system, we will need to purchase an entire separate database domain. If not, we will need some to full access to the current database system to ensure proper implementation of the rewards program.

4. A test server will be required if permission is not granted to utilize the current server system that is being used for the article catalog. Security and server load/stress will need to be tested to minimize any risks once the integration to production is complete and the site is live with the new changes.

Estimate cost & effort

Item	Hours	Units	Cost	Total
Team members	40	6	12,800	76,800
Adding a database		1	5,000 – 1,0000	81,800 – 86, 800
Test server		1	3,000	84,800 – 89, 800
Internal team	10~20			84,800 – 89, 800
Other expenses			5,000 – 10,000	89,800 – 99, 800

These are estimates to the total budget that may cost during the project duration for all equipment, individual team member costs at 40 hours (no overtime) at a rate of 40/hour and any additional expenses.

Project schedule

1st iteration (Month 1) – For the 1st 2 weeks, we will be meeting with the client in terms of clear goals and planning on the project. Guidelines, requirements and time expectations will be addressed as well as what deliverables will be desired. We will present the feasibility study and if given the approval to proceed, we will purchase and pursue the necessary resources to begin production of the project. For the remaining 2 weeks, we will discuss team internals and the planning stages such as module assignments, milestones and team structuring. We expect the additional team members to be situated by the end of the 1st iteration.

2nd iteration (Month 2) – This month will be dedicated to focusing on the code construction and adding frameworks to the newly introduced modules of the site. This will include any testing and refactoring as needed. We will also be either creating the new database or implementing on the current database with the reward and achievement system. An update to the client will occur twice during the mid and end of the month. At the end of the month, functionality to the database using the test server should be underway or near completion.

3rd iteration (Month 3+) – The focus will now shift to the front end design of the additional pages for the site which include element and UI/UX testing for both web and mobile platforms. Once complete, all modules will be merged together and focused unit testing and refactoring will commence. We will submit all deliverables once this stage is complete. The final sprint will have our system moved and integrated onto the main company server in which we will supervise with the internal tech team to avoid any

problems that may occur. Final tests will be conducted to secure maintainability of the site. Any additional time required after the initial 3rd month will be addressed to the client.