NASA EVA
Gamification

POST-IMPLEMENTATION REVIEW REPORT

PHASE II

Prepared By
Laura Addiego
Samia Alam
Kelli Corey
Charles Milk
Adeola Odusola
Hung Pham

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Executive Summary

This project was the second phase of the multi-phase development of gamification extensions for the NASA MediaWiki environment. Phase one of the project setup the database, established the user profiles, and implemented user email address verification. This phase concentrated on developing a method of assigning points to user actions, assigning users badges based on points earned, and displaying user performance versus their peers on a leaderboard. The project met its objectives and was completed on time and within scope.

Project Performance

Benefits

The client was seeking gamification tools for the NASA MediaWiki environment in order to increase user participation and engagement. The benefits of gamification would include encouraging user interaction with MediaWiki content through adding and updating articles via incentivising these activities.

This phase of the project realizes these benefits. The point and badges incentivise adding and updating articles. The leaderboard feature furthers this by showing users how they are comparing with their peers, thereby encouraging them to accumulate more points and badges.

Objectives

The objectives of this phase were to build a scalable infrastructure, and incorporate gamification elements.

This phase of the project met these expectations. The three functionalities added on are fully scalable and modifiable by NASA admin. The badges can be replaced with different images based on the client's preference. The leaderboard is scalable based on the number of users utilizing the MediaWiki environment.

Scope

The scope of the project was to extend the functionalities of phase one of the project by building an extension that consolidates the infrastructure and allows for a variety of approaches to gamification. While being scalable, the primary focus of this phase was to establish simple point measurement, a badge rewards system, and a leaderboard ranking system. This phase of the project satisfied the stated scope without extending it.

Deliverables

The deliverables for this phase of the project were the code, handover documentation, and project documentation. All deliverables were completed and delivered with the final product. Code and handover documentation were shared with the client via GitHub.

Schedule

The project followed the stated project schedule and was completed on-time.

Project Conformance

Time Management

The project was completed on schedule. The development phase of the project was completed earlier than it was scheduled to, and the resulting extra time was allotted to the testing phase and closing phase.

Quality Management

Quality management conformed to the quality management plans laid out in the Project Management Plan.

Change Management

There were no changes requested by the stakeholder after the initial requirements phase was completed.

Risk Management

Risk management conformed to the risk management plan laid out in the Project Management Plan. The most significant risk associated with this phase of the project was schedule overrun. The phase had a fixed endpoint that could not be extended. This risk was managed by close monitoring of the schedule and time management throughout the project process.

Communications Management

Communications management conformed to the communications management plan as laid out in the Project Management Plan. There were no issues with intra-team

communications, nor with communication with Dr. Brown. However, the client, Daren Welsh, ceased responding to communications approximately halfway through the project process.

Project Achievements

There were several achievements in this phase of the project, above and beyond the basic deliverables of the scope. These achievements include:
- Development of a scalable infrastructure
- Implementation of a basic gamification rules and norms
- Collection and analysis of requirements for future phases
- Development of an aesthetically appealing logo and theme
- Significant clarification of instructions to ease on-boarding for future development teams
- Clarification and standardization of current and future requirements to ease development by future teams

Project Lessons Learned

Lessons learned during this phase of the project can be applied to future phases of the project in order to improve the development process.

Future phases of this project would benefit from implementing an Agile software development methodology for their phase. The requirements, as currently established, are modular enough in nature to be approached one at a time in two to three week sprints. This would allow for more features to be developed per phase, which would increase stakeholder satisfaction.

Because the MediaWiki environment is hosted locally, all team members will have to download and install the most recent version of the project from GitHub. Due to the disparate nature of individual team members' local environments, it is important to allow for extra time in case of technical issues in the install process. While there were technical issues encountered by some team members during the MediaWiki and extension install for this phase, they were not sufficient to delay or otherwise disrupt the project schedule. However, if a team were to use an Agile methodology with short sprint lengths, technical issues could prove to be a much greater stumbling block.