

GSoC Proposal Template

Project Name (Ghost mode for contests)

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Technical skills

I am Ndubuisi Onyemenam, a student software developer from Nigeria. I code in PHP and Javascript and was a finalist in the Facebook Bot for messenger challenge 2017(for developers in Africa and the Middle east)Team Baba politricks([Baba politricks](#)).

I have also published an article on github auto deploy with Heroku([Medium post](#)). I have made a pull request([pull request](#)) to the omegaup repository.

Education

I am currently a second year student of computer science at Imo State University Nigeria, studying for a First Degree in Computer Science. I also have a Diploma in Computer Science. I am relatively new to Open Source, even though i have been using Github for some time.

Motivation

The “Ghost mode for contests” project idea aims at making code competition simulations on omegaup.com more real life by integrating a simulation scoreboard with submissions and standings from the original competition. The Scoreboard in the Ghost mode(simulated) contest is to be updated .at time intervals that match that of submissions and standings in the original contest.

Simulations are very important, especially if persons involved in the simulation process hope to get engaged in the real life event some day. For a simulation to achieve its goal of preparing users for real life experiences, it has to be as close as possible to the real life event.

The “Ghost mode for contests” project idea makes competition simulation more real life and

interactive, hence it is very important in helping omegaup.org achieve its goal of preparing its users for competitions. With this feature, Omegaup users will be more prepared for competitions, the interactive approach of real time scoreboard integration will also make simulation more fun for the platform users and encourage repetitive use of the platform.

Detailed project description

The “Ghost mode for contests” seeks to help users of the omegaup.org platform feel what it's like to participate in Code competitions that have already taken place. This serves two purposes

- 1) Enables the platform user step into the shoes of participants in that event and see how he/she performs under the same constraints. This enables the user evaluate their coding skills compared to the participants in the competition.
- 2) Enables the platform user prepare for future events that follow the same pattern and have the same constraints.

The Ghost mode for contests makes it appear like the competitors of the previous event are participating in the simulated event by integrating the current user scoreboard with that of competitors from the actual event in real time.

This project idea is achieved by fetching data from an already existing competition submissions database, using PHP, exposing the query data as API endpoints and rendering it at various time intervals using Vue.js.

Alternatives considered

Alternative options would have included randomly generating contest submission data to be rendered instead of that of the original competition, but this defeats the aim of simulation. It also makes for additional updates to the database which might affect the current cache system used on the omegaup.com. Also PHP and Vue.js are used in this proposal instead of other languages/frameworks because they are already in use in omegaup.com present frontend stack and won't require dependencies that are not already existing in the omegaup servers. This will also make for easy integration and maintenance.

Frontend

My proposed project requires fetching data from the database, and using such data as basics for rendering information using already existing Vue.js templates from Omegaup github

repository. The existing template may be tweaked to allow for data rendering at specified time intervals.

User experience

Since i will be using a template from omegaup for rendering, the user experience is generally the same, as obtainable in omegaup.com.

Security impact

My code will be fetching data from the database, and might possibly pose a security loophole, but am banking on the expertise and wealth of experience of my potential mentors and other contributors to omegaup platform to help me sieve out code that can bring about security vulnerabilities. I will also be making personal research on the security implications of my code.

Deployment plan

My project doesn't propose any dependencies that omegaup.org is not using at the moment, so its deployment will be normal.

Schedule

April 23 - May 13

Community bonding, getting to know mentors and understand omegaup documentation. Begin work on the project by understanding omegaup development tools and how different inhouse templates combine together in the omegaup.com website.

May 14 - June 11

- Set up Functions to query submissions database, also create test functions to verify credibility of query results.
- Set up functions to make queried data available as JSON via API endpoints, also create test functions to verify data accessibility through API endpoints.

June 15 - July 9

- Set up Functions to render all JSON data from API using omegaup vue.js template.

- Set up Functions to render JSON data from API based on time intervals as scooped from the JSON file.

July 13 - July 31

- Testing of code to ensure consistency.
- Making provisions to handle errors witnessed during test phase.

August 6 -

Commit to maintaining my code and making contributions to omegaup.

Commitments

I will be able to commit 6-7 hours daily, 6 days a week for code and discussion with mentors during the duration for the Google summer of code program.

I have no job commitments during the period of the google summer of code. It is possible though that i might get involved in school activities during the time, as University semesters in Nigeria are flexible and can last up to early August.