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Improve PgArchives

Google Summer of Code 2022 PostgreSQL Project Proposal

MOTIVATION

In my 4 years of being a full stack developer, I have used numerous open source softwares, frameworks and libraries. I've always marveled at the quality of these frameworks and how they enhance the developer experience. A passion for coding and development, along with the urge to contribute to and get to know other people within the open source community, gave me a strong reason to be a part of Google Summer of Code.

Among the various databases I have used across my projects, Postgres is the one I have used the most. Consequently, contributing to Postgres and providing some value to this open source project seems like the perfect opportunity.

PROJECT OVERVIEW

The primary objective of this project is to improve the user experience and add some new and useful features to pgarchives, the official archives of Postgres mailing lists. The current archives are not very user friendly and can benefit from some new useful functionalities.

POTENTIAL IDEAS

1. The first thing that can be improved is the search form. The "Advanced Search" option opens up a new page where the user selects all the parameters. We can start by including all the search parameters in the same page as the results list. This will also allow the user to mix and match the search parameters and find exactly what they are looking for.

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2. Instead of asking the user to select a month for which they want to see the archives, we should directly show the results for the particular archive latest, with the latest one being on top. And in the search parameters we should give the user an option to filter the results by month/year etc. This will allow the user to search archives according to various parameters all in one place, instead of how currently a user has to go back to select a different month of archives.
 3. Pagination is another place that can be made better. We should give the user an option to select the number of search results they want to see in a page, the options could range from 10, 25, 50 to 100, for instance.
 4. Currently, on opening a particular mail, it shows all the content and details of that email along with a list of responses to that mail and also the mail to which this one is a response, if any. To see the responses, the user is again redirected to a separate page, instead of this, the responses should be opened in the same page. When clicked on one of the responses, it should expand, revealing the content and details of that particular response.
 5. There is an option to show the complete thread of a particular archive, implementing the previous point will make this option redundant, and it can be removed.
 6. The details of each mail (like sender, receiver, date and time etc.) shown on the top should be more readable and structured.

DELIVERABLES

1. Pgarchives with an improved user experience with a simpler workflow.
2. Extra search parameters all in one place for the user to filter the results effectively.
3. Improved pagination with an option to limit the search on a single page.
4. Viewing the whole thread for a mail by implementing expanding widgets.
5. Proper documentation of the project

MILESTONES

The estimated time given for the project is 175 hours. I will be able to work 15-20 hours per week, starting in June. So that will make the duration of the project to about 10-11 weeks or 2 and a half months. The detailed timeline is as follows:-

May 20 - June 12

- Bonding with the mentor and the community.
- Understanding the codebase thoroughly.
- Planning and finalizing expectations.

June 13 - June 24 (2 weeks)

- Creating a UX workflow of how a user will navigate through the archives.
- Getting the workflow reviewed, discussing and making suggested changes.
- Finalizing the new and improved user experience workflow.
- Setting up the development environment.

June 27 - July 15 (3 weeks)

- Working on the development of the website.
- Implementing new features like the improved search and pagination limits.
- Working on the Django backend to create any new APIs required for the new features.

July 18 - August 5 (3 weeks)

- Developing the new feature to view the whole thread in one page by implementing expanded widgets or something similar in JavaScript.
- Displaying the metadata of each mail on top in a more structured and readable way.
- Refactoring the design according to the data wherever needed.

August 8 - August 26 (3 weeks)

- Bug fixes and improvements.
- Finishing up with the development process and working on the project documentation.
- Time for any unplanned or unexpected work.

ABOUT ME

I am a Computer Engineering graduate student at New York University and I completed my graduation in Electronics and Communication Engineering from Delhi Technological University in India. I have always been more interested towards the software side of things than hardware. I'm a self-taught web developer and I have done numerous internships as a frontend and a backend developer. More recently I have worked as a freelance developer and my first full-time job was that of a Software Engineer for Web Applications. Across my various work experiences and projects, I've worked on frontend technologies like HTML, CSS, React, Angular and on backend technologies like Node.js (with Express), Django, Spring Boot, and also on databases like PostgreSQL, MySQL and MongoDB. You can find my resume [here](#).

I have some experience in contributing to open source projects as a part of Hacktoberfest 2020. I have also been a mentor in an open source project as a part of [Cross Winter of Code](#) 2021 organized by IEEE Delhi Technological University. CrossWoC is an open-source event similar to GSoC, but at a smaller scale. As a mentor, I had created an [open source project](#) along with some issues (bug fixes and new improvements) that were supposed to be worked on by budding open source contributors.