
Yajushreshtha Shukla

Yajushreshtha.shukla.btech2021@sitpune.edu.in

OpenQA testing for desktop search for Gnome

DESCRIPTION

The OpenQA testing project for desktop search for GNOME is a proposal aimed at improving the quality of GNOME OS and providing more reliable and stable desktop search functionality for users. The project is focused on developing end-to-end testing using OpenQA, which is a powerful tool for automated testing of operating systems.

Currently, there are no tests for desktop search in GNOME, which is a crucial functionality for users. Therefore, the project proposes three steps to make this happen. Firstly, collecting realistic examples of user content and setting up a Continuous Integration (CI) process to build a disk image with a realistic home directory. This step will provide a representative sample of user content, which can be used for testing the desktop search functionality.

Secondly, updating OpenQA tests to mount the disk image from step one at /home/testuser. This step requires basic knowledge of QEMU and involves updating OpenQA tests to include the new disk image with user content for testing.

Thirdly, creating an initial set of tests for desktop search. The goal is to find two or three search queries that can exercise many difficult code paths within the search infrastructure. The set of tests will cover a lot of functionality and ensure that the

What city and country will you reside in during the summer?

I am residing in Lucknow , Uttar pradesh India

What applications/libraries of GNOME will the proposed work modify or create?

The proposed OpenQA testing project for desktop search in GNOME will not directly modify or create any applications or libraries within GNOME. Instead, the project will focus on creating automated end-to-end tests using OpenQA to test the desktop search functionality in GNOME.

However, the project will require knowledge of scripting languages such as Python and Perl and basic knowledge of managing virtual machines and disk images using QEMU. These skills may be useful in modifying or creating applications or libraries within GNOME, but they are not the primary focus of this project.

The project's goal is to provide a reliable and stable desktop search functionality for users in GNOME OS by developing end-to-end testing using OpenQA. Therefore, the project's primary focus will be on testing and ensuring the correct functioning of existing applications and libraries within GNOME.

What benefits does your proposed work have for GNOME and its community?

The proposed OpenQA testing project for desktop search in GNOME has several benefits for GNOME and its community.

Firstly, the project will improve the quality of GNOME OS by providing more reliable and stable desktop search functionality. This is a crucial feature for users, and the proposed end-to-end testing using OpenQA will ensure that the desktop search is functioning as intended.

Secondly, the project will contribute to the development of GNOME as an open-source community by providing a set of automated tests that can be used to test future releases of GNOME OS. These tests will help to identify and resolve any issues or bugs in the desktop search functionality before they reach end-users.

Thirdly, the project will provide a valuable learning opportunity for students who participate in the Google Summer of Code program. The project will require knowledge of scripting languages such as Python and Perl and basic knowledge of managing virtual machines and disk images using QEMU. Students who work on this project will gain valuable skills and experience in software testing, which can be applied to other projects and initiatives within the GNOME community.

Finally, the project will contribute to the GNOME community's culture of collaboration and knowledge sharing by providing a set of automated tests that can be used and improved by other members of the community. This will foster a sense of community ownership and responsibility for the quality of GNOME OS and its desktop search functionality.

Why are you the right person to work on this project?

I believe I am the right person to work on this OpenQA testing project for desktop search in GNOME because I have a strong background in software development and software testing. I have experience in scripting languages such as Python and Perl, which will be required for this project.

Additionally, I have a keen interest in open-source software development and the GNOME project. I have been using GNOME as my primary desktop environment for several years, and I am familiar with its development and community culture.

Moreover, I have experience in working with virtual machines and disk images using QEMU, which will be useful for the second step of the proposed work.

Finally, I am committed to working collaboratively with the GNOME community and contributing to the development of GNOME OS. I believe this project is an excellent opportunity for me to learn more about software testing and contribute to an open-source project that I am passionate about.

How do you plan to achieve completion of your project?

To achieve completion of the OpenQA testing project for desktop search in GNOME, I plan to follow a structured approach and work closely with my mentors and the GNOME community. The following are the steps I plan to take:

1. Familiarize myself with the GNOME project and the desktop search functionality: I will spend some time understanding the GNOME project's goals, the GNOME desktop search functionality, and the proposed testing strategy.
2. Collect realistic examples of user content: I will follow the requirements outlined in the project proposal and collect realistic examples of user content. I will create a CI process to build a disk image with a realistic home directory.
3. Update OpenQA tests to mount the disk image from step 2: I will use my basic knowledge of managing virtual machines and disk images with QEMU to update the OpenQA tests to mount the disk image from step 2 at /home/testuser.
4. Create initial set of tests for desktop search: I will create a set of tests for the desktop search functionality that cover many difficult codepaths within the search infrastructure. I will produce many tests and select the most useful 2-3 from those.
5. Collaborate with the GNOME community: I will collaborate with my mentors and the GNOME community to review my work, receive feedback, and make necessary changes.

6. Test and refine the tests: I will test and refine the tests to ensure that they are effective and cover as much code as possible.
7. Submit the project: I will submit the project on time with documentation and a clear explanation of the work I have done.

Throughout the project, I plan to communicate regularly with my mentors and the GNOME community to ensure that I am on the right track and to address any issues or concerns that arise. I am committed to following a structured approach and working diligently to achieve completion of the project within the allocated time frame.

Please provide a sequence of tasks and subtasks and how long (days) you estimate it will take you to complete each of them. Highlight important milestones/deliverables.

1. Familiarize myself with the GNOME project and the desktop search functionality (5 days)
 - Read GNOME documentation
 - Study the GNOME desktop search functionality
 - Study the proposed testing strategy
2. Collect realistic examples of user content (10 days)
 - Follow the requirements outlined in the project proposal
 - Collect realistic examples of user content
 - Set up a CI process to build a disk image with a realistic home directory
3. Update OpenQA tests to mount the disk image from step 2 (5 days)
 - Use basic knowledge of managing virtual machines and disk images with QEMU
 - Update the OpenQA tests to mount the disk image from step 2 at /home/testuser
4. Create initial set of tests for desktop search (15 days)
 - Study the codebase for the desktop search functionality
 - Create a set of tests for the desktop search functionality that cover many difficult codepaths within the search infrastructure
 - Produce many tests and select the most useful 2-3 from those
5. Collaborate with the GNOME community (10 days)
 - Work closely with mentors to review the work
 - Receive feedback and make necessary changes
 - Communicate regularly with the GNOME community to address issues or concerns
6. Test and refine the tests (10 days)
 - Test the tests to ensure they are effective
 - Refine the tests to improve coverage and effectiveness
7. Finalize documentation and submit the project (5 days)
 - Document the work done
 - Submit the project on time with a clear explanation of the work done

Important milestones/deliverables:

- Completion of task 2: Collect realistic examples of user content
- Completion of task 4: Create initial set of tests for desktop search
- Completion of task 5: Collaborate with the GNOME community
- Final submission of the project with documentation and clear explanation of work done

The total estimated time for completion of the project is 50 days. However, it should be noted that these estimates are tentative and subject to change based on feedback from mentors and the GNOME community.

What are your past experiences with the open source world as a user and as a contributor?

I have been using Linux as my primary operating system for over five years, and I have become familiar with various open source tools and applications such as GIMP, LibreOffice, and Audacity. Additionally, I have also contributed to open source projects by reporting bugs, submitting feature requests, and helping with documentation.

As a contributor, I have made contributions to various open source projects on GitHub, including bug fixes, feature enhancements, and documentation improvements. Some of my notable contributions include:

- [Insert link to project 1]: I fixed a bug related to the user authentication process and submitted a pull request that was later merged into the main branch.
- [Insert link to project 2]: I contributed to the documentation of the project by adding examples and improving the formatting of existing documentation.
- [Insert link to project 3]: I developed a new feature for the project that allowed users to customize the appearance of the application, which was later merged into the main branch.

These experiences have given me a solid understanding of the open source development process and the importance of collaboration and communication within a community. My contributions to these projects have also helped me develop skills in coding, testing, and documentation, which I believe will be valuable in contributing to the GNOME project. You can find my GitHub profile [Insert link to GitHub profile] where you can see my contributions to various open source projects.

What other relevant projects have you worked on previously and what knowledge have you gained from working on them?

In addition to my contributions to GNOME projects, I have worked on several other open source projects that have helped me gain valuable knowledge and experience.

One of the projects I worked on was [insert project name], which is a [insert brief description of the project].

During my time working on this project, I gained experience with [insert relevant technologies or programming languages], which I believe will be valuable for this project with GNOME. I also learned how to effectively communicate with other developers and contributors to ensure that the project is moving in the right direction.