

GSoc 2024 Proposal

For

Sugarlabs

Idea: Maintain Port 12 Sugar Activities to Flatpak

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Pull Requests: (Merged Manually)

<https://github.com/llaske/sugarizer/pull/1512>

Note: Although the pull request appears as closed, it was actually merged manually because I made a slight mistake while pushing it. I inadvertently pushed the changes to the wrong branch.

In this pull request, I've addressed an issue where players could exploit a bug in the game. Essentially, they could cheat by hitting the pause button while the ball was mid-bounce, causing the game not to register the round, giving them an unfair advantage.

To fix this, I've implemented a solution that disables the pause functionality when the ball is in play after the first round. This ensures that players cannot pause the game during crucial moments, preserving the fairness and integrity of gameplay.

Summary

I'm a third-year computer science student at Helwan University. Throughout my studies, I've gained experience in backend development and have participated in three internships covering diverse areas within computer science.

My first internship focused on SOC Analysis, where I delved into Linux fundamentals and became proficient in using Ubuntu. In the second internship, I sharpened my problem-solving skills through competitive programming. Finally, my most recent internship centered on backend development, allowing me to further enhance my skills in this area.

I've actively contributed to numerous projects and have gained a strong understanding of various technology stacks. This exposure has equipped me with the ability to learn quickly, making me a fast and efficient learner. Additionally, I'm adept at self-learning, enabling me to adapt and excel in new environments and challenges.

Maintain Port 12 Sugar Activities to Flatpak Project Details

Objective:

Maintaining and expanding the availability of Sugar Activities on the Flatpak platform. Essentially, Updating existing Sugar Activities to ensure they remain compatible with the latest versions of Sugar Desktop and other dependencies. Additionally, Porting more Sugar Activities to Flatpak, thereby increasing the number of educational software applications accessible through the Flatpak repository.

Impact:

1. **Wider Accessibility:** By offering Sugar Activities on Flatpak, more people can easily access educational tools across different Linux distributions, expanding their reach and impact.
2. **Platform Flexibility:** Making Sugar Activities compatible with Flatpak enhances their usability on various Linux systems, providing users with more options for accessing educational resources.
3. **Sustainability:** Proactively maintaining and expanding Sugar Activities on Flatpak ensures the longevity and relevance of the educational software ecosystem, supporting Sugar Labs' mission of accessible and innovative education.

Required Technologies:

In this project, I'll mainly be using Python. I'll use it to update and port these activities. I'll also be working with Flatpak, a handy tool that helps me package and share these activities across different versions of Linux. Since I'm using Ubuntu myself, I'll make sure everything works smoothly in this environment. It's like making sure my house is in order before inviting guests over!

Activity Selection

For this project, I have selected the following Sugar Activities to port to Flatpak:

1. Falabracman

- GitHub Repository: <https://github.com/sugarlabs/falabracman-activity>

2. Calculate

- GitHub Repository: <https://github.com/sugarlabs/calculate-activity>

3. Constellation

- GitHub Repository: <https://github.com/sugarlabs/Constellationsflashcards>

4. Clock

- GitHub Repository: <https://github.com/sugarlabs/clock-activity>

5. Get Books

- GitHub Repository: <https://github.com/sugarlabs/get-books-activity>

6. Record

- GitHub Repository: <https://github.com/sugarlabs/record-activity>

7. Country

- GitHub Repository: <https://github.com/sugarlabs/countries-activity>

8. Read

- GitHub Repository: <https://github.com/sugarlabs/read-activity>

9. Sonic Jump

- GitHub Repository: <https://github.com/sugarlabs/sonic-jump-activity>

10. Make Them Fall

- GitHub Repository: <https://github.com/sugarlabs/make-them-fall-activity>

11. 2 Cars

- GitHub Repository: <https://github.com/sugarlabs/2-cars-activity>

12. Lemonade

- GitHub Repository: <https://github.com/sugarlabs/Lemonade>

Timeline

Weeks 1-2: "Getting Started: Understanding and Porting Falabracman"

- Familiarize myself with the source code of the "Falabracman" activity.
- Learn about Flatpak packaging.
- Begin porting "Falabracman" to Flatpak.
- Test the Flatpak version of "Falabracman."
- Resolve any issues encountered during testing.

Weeks 3-4: "Expanding Horizons: Porting Calculate and Constellation"

- Focus on understanding the source code of "Calculate" and "Constellation" activities.
- Continue porting "Calculate" and "Constellation" to Flatpak.
- Test the Flatpak versions of "Calculate" and "Constellation."
- Resolve any issues encountered during testing.

Weeks 5-6: "Diving Deeper: Porting Clock, Get Books, and Record"

- Shift focus to understanding the source code of "Clock," "Get Books," and "Record" activities.
- Start porting "Clock," "Get Books," and "Record" to Flatpak.
- Test the Flatpak versions of "Clock," "Get Books," and "Record."
- Resolve any issues encountered during testing.

Weeks 7-8: "Exploring Diversity: Porting Country, Read, and Sonic Jump"

- Dive into the source code of "Country," "Read," and "Sonic Jump" activities.
- Continue porting "Country," "Read," and "Sonic Jump" to Flatpak.
- Test the Flatpak versions of "Country," "Read," and "Sonic Jump."
- Resolve any issues encountered during testing.

Weeks 9-10: "Challenging Endeavors: Porting Make Them Fall, 2 Cars, and Lemonade"

- Concentrate on understanding the source code of "Make Them Fall," "2 Cars," and "Lemonade" activities.
- Proceed with porting "Make Them Fall," "2 Cars," and "Lemonade" to Flatpak.
- Test the Flatpak versions of "Make Them Fall," "2 Cars," and "Lemonade."
- Resolve any issues encountered during testing.

Weeks 11-12: "Final Touches: Review, Documentation, and Quality Assurance"

- Review any challenging or complex areas of code.
- Document my learnings and any issues encountered during the process.
- Ensure all activities are successfully packaged and ready for submission to Flathub.