

Maintain and Port 12 Sugar Activities to Flatpak

Basic Details

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Languages Known: English and Hindi

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Work on previous open source projects

I have contributed to one of the telegram bot named amibot-tg which provides functionalities of our college website directly on telegram and this is open source.

Here are the links to my contributions.

Feature Added

- [Calendar for class schedule](#)
- [Show room and mode of exam](#)
- [Display exam timing](#)

Issues Fixed

- [Exception handling](#)
- [Wi-Fi registration error](#)
- [Feedback message error](#)
- [Invalid MAC](#)
- [Class schedule message](#)
- [Attendance Widgets](#)

My Projects

- This is a [home automation and security](#) device which uses ESP32 module and [Blynk](#) API to work.
- This is a GUI [Metro ticket booking](#) project made using python Tkinter and Sqlite.

Contribution by me at SugarLabs

- **Merged Pull Requests:**
 - [Sugarapp](#)
 - [Speak](#)
 - [Pippy](#)
 - [Paint](#)
 - [Memorize](#)
 - [Measure](#)
 - [FotoToon](#)
 - [Physics](#)
 - [MusicKeyboard](#)
 - [SolarSystem](#)
 - [SwiftFeet](#)
 - [Chess](#)
 - [FractionBounce](#)
 - [Pukllanapac](#)
 - [ColorDeducto](#)
 - [ImplodeActivity](#)

- Chart
- StoryActivity
- Words
- Sliderule
- Finance
- TurtlePondActivity
- Maze
- AbacusActivity

- **Opened Pull Requests:**

- Improvement in [Tic-tac-toe activity](#)
- Update for Flatpak [BaseApp](#)
- [MusicKeybaord](#)

Below are the similar Pull Requests for Flatpak

- [SolarSystem](#)
- [SwiftFeet](#)
- [Chess](#)
- [FractionBounce](#)
- [Pukllanapac](#)
- [ColorDeducto](#)
- [ImplodeActivity](#)
- [Chart](#)
- [StoryActivity](#)
- [Words](#)

- [Sliderule](#)
 - [TurtlePondActivity](#)
 - [Finance](#)
 - [Maze](#)
 - [AbacusActivity](#)
 - [FotoToon](#)
 - [Pippy](#)
 - [Physics](#)
 - [Dimensions](#)
 - [Paint](#)
 - [Speak](#)
 - [Measure](#)
 - [ReadETexts](#)
 - [Memorize](#)
-
- I have ported [Tic-Tac-Toe](#) activity to flatpak [Tic-Tac-Toe Flatpak](#).
 - I have made a math activity [Nim Game](#) and ported it to flatpak [NimGame Flatpak](#).

Project Details

Type: Large

This project aims to maintain existing flatpak applications and port some of the new activities to flatpak, there are already 27 flatpak

sugar activities out of which 25 need maintenance, and BaseApp also needs maintenance.

How will it impact Sugar Labs?

In this project, We will be making flatpak activities more accessible to people. By extending Sugar activities beyond the Sugar environment, we can reach a wider audience, offering them the opportunity to experience and benefit from these activities.

Current version is using Gnome runtime 44

Since we are going to release [BaseApp](#) version 24.04 we need to update all flatpak activities to use new BaseApp.

I am going to use Gnome 46 as a runtime-version for all of our flatpak existing applications as well as for the BaseApp.

To ensure the updated applications work smoothly, I will follow these steps:

1. Update the manifest of each activity to Gnome runtime-version 46 and BaseApp version 24.04.
2. Update all dependencies accordingly. As we are going to use Gnome 46 which is bundled with Python 3.11, I will modify any references to Python 3.10 to reflect the use of Python 3.11 in manifest.

3. Before pushing the update to the Flatpak repository, I will thoroughly test the updated version on the local system to ensure compatibility and functionality.

Selected Activities for flatpak port

I have selected 12 activities based on usability, popularity and its impact on users. Below is the list of all the activities.

Flappy bird

This game is quite addictive, however, it's important to note that Flappy Bird is not available in Flatpak, by this game people can know about sugar and its interface.

It is also in top popular games on activities sites

- <http://activities.sugarlabs.org/>
- <https://v4.activities.sugarlabs.org/>

Make Them Fall

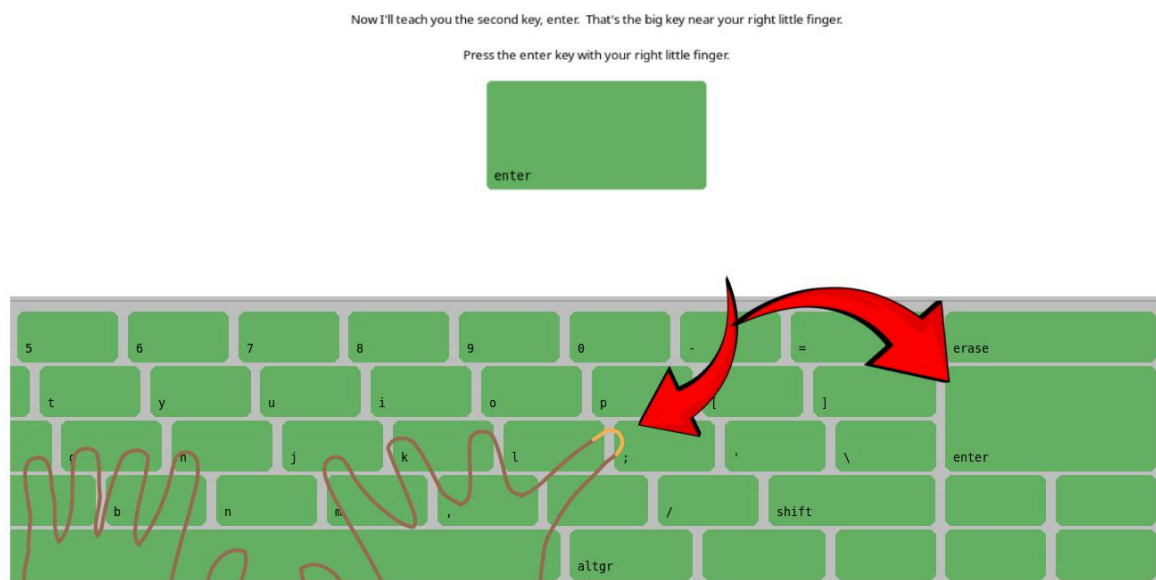
This activity requires multitasking either the player can use up to 6 fingers or ask another player to help him control the game.

Typing Turtle

I have tried many touch typing applications on flatpak but none of them has an interface like Typing Turtle. It is similar to [Typing master](#)

which was used by many people to learn touch typing including me which has a similar feature as Typing Turtle.

The best feature about the Typing turtle is that it shows the finger's position. However It needs some improvement with finger's position and number of lessons. In the picture below you can see that instead of pointing to **enter** it is pointing to **semicolon ;** .



Abecedarium

This is alphabet and english learning activity and it is on top in popular games on <http://activities.sugarlabs.org>

We can port it to flatpak so that it can reach greater audience and it has potential to reduce the need of other similar activities such as

- [AEIOU](#)
- [iknowmyabcs](#)

Falabracman

This activity was most popular with around 3.7 Lacs downloads on <http://activities.sugarlabs.org/> and is unique to Sugar and Falabracman was the winner of the OLPC Game Jam Brasil 2008.

CellGame

Playing cellGame can help to improve problem solving skills. This is one of the classic games.

Math-hurdler

This game challenges players to solve mathematical calculations under pressure. The player has to give the answer within a few seconds, and this helps in boosting calculation skills through hands-on experience. Students in elementary school can use it through flatpak.

Calculate

The Calculate Activity is a graphing calculator that shows math in pictures, porting it to flatpak will make it easier for students and professionals to understand and solve problems.

Block party

Block party is like one of the Tetris games, this can be ported to flatpak so that players can enjoy the classic game with better controls.

Jumble

This game will be useful for the children between the age of 3 to 6 (Kindergarten children). This Picture matching activity can help them in identifying objects.

Stick Hero

Stick hero is available for platforms like android and iOS but it is not available on any linux distro, it would be beneficial to port it to flatpak so that people can experience this game on their desktop.

Fifty Two

Porting 52-card deck activity to flatpak will provide fun for everyone. It can help people improve their thinking skills. This game is suitable for various age groups.

Timeline

May 1 - 26 (Community bonding period)

- Completing the required setup for the project
- Discuss about the application which needs maintenance and the new application which should be ported to flatpak.
- Understanding the working of the sugar core activities and in depth knowledge about flatpak builder.

May 27 - June 2 (Week 1)

- Port **Flappy bird** to flatpak

- Updating dependencies

[MusicKeyboard](#), [SolarSystem](#) and [SwiftFeet](#)

- [SwiftFeet](#) has low resolution videos and those videos can be converted to higher resolution

June 3 - 9 (Week 2)

- Port [Make Them Fall](#) to flatpak
- Updating dependencies

[FractionBounce](#) and [Pukllanapac](#)

June 10 - 23 (Week 3 and Week 4)

- Correcting the finger's position
- Adding a **practice mode** which will ask them to type in a set of words and this will help users to test their typing speed and accuracy.
- Port [Typing Turtle](#) to flatpak

June 24 - 30 (Week 5)

- Port [Abecedarium](#) to flatpak
- Updating dependencies

[Finance](#), [Maze](#) and [AbacusActivity](#)

July 1 - 7 (Week 6)

- Port [Calculate](#) to flatpak

- Updating dependencies
[ColorDeducto](#) and [ImplodeActivity](#)

July 8 - 14 (Week 7)

- Port **Jumble** to flatpak
- Updating dependencies
[Chess](#) and [Sliderule](#)

Mid-term Evaluation

I will port all the activities listed above from Week 1 to Week 7.

Additionally, I will ensure their functionality and compatibility with the Sugar environment.

July 15 - 21 (Week 8)

- Port **Block party** to flatpak
- Updating dependencies
[FotoToon](#) and [Pippy](#)

July 22 - 28 (Week 9)

- Port **Falabracman** to flatpak
- Updating dependencies
[Physics](#), [Dimensions](#), [Paint](#), [Speak](#) and [Measure](#)

July 29 - Aug 4 (Week 10)

- Port **Stick Hero** to flatpak

- Updating dependencies
[TurtlePondActivity](#) and [Chart](#)

Aug 5 - 11 (Week 11)

- Port [Fifty Two](#) to flatpak
- Port [Math-hurdler](#) to flatpak
- Updating dependencies
[StoryActivity](#) and [Words](#),

Aug 12 - 18 (Week 12)

- Port [CellGame](#) to flatpak
- Updating dependencies
[ReadETexts](#) and [Memorize](#)

Aug 19 - 26 (Final Week)

Final Evaluation

I will check for updates of dependencies on all activities and will proceed to update them if any are found. I will also ensure that all the above listed activities are compatible with Sugar.

Questions:-

How many hours do you plan to spend each week on your project?

I don't have any prior commitments during the GSoC period, so I plan to dedicate 5-6 hours daily. Therefore I can spend at least 25-32 hours

a week on the project.

How will you report progress between evaluations?

I would like to provide weekly progress reports through github and try to maintain communication with the mentors through [Elements](#) and [mailing list](#).

Post GSoC plans?

After GSoC, I will keep contributing to Sugar Labs, supporting its community, and moving its goals forward. I'll also stay involved in open-source work, learn more about tech, and find ways to work with others in the industry.