sugarlabs

GSoC'23 Proposal - Sugar Labs

Improve and maintain 6 Sugar Activities

Personal Details

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About Me

I am currently in my third year pursuing a Bachelor of Technology in Computer Science at Galgotias University. As a curious individual, I thoroughly enjoy building things, and coding enables me to do just that. I possess a fair amount of knowledge in **HTML, CSS, JavaScript, Node.js, Java, and Python.**

In the field of web development, I have completed multiple projects, which have further enhanced my skills. Additionally, I participated in the **Dextrix hackathon**, an experience that provided me with a significant boost in coding.

During the **HacktoberFest 2022** event organized by **Digital Ocean**, I had the opportunity to contribute to open-source projects. It was an enriching experience, and I thoroughly enjoyed the process of contributing to an organization, which made me feel like I was part of a larger process.

Q. What projects are you applying for?

My application for the project on **Improve and maintain 6 Sugar activities.**

Q. Where are you located, and what hours (UTC) do you tend to work?

I am located in Greater Noida, India, and my time zone is **Indian Standard Time (UTC + 5:30)**. Typically, I work from **6:00 to 12:00 (UTC)**, but my time commitment to a project is flexible and depends on its demands. I can adjust my schedule accordingly and make sure to be active during the hours when my mentors are available.

Q. What is your first language?

My first language is **Hindi** but I am proficient in speaking, reading, writing, and understanding **English**.

Location and Timezone:

Location: Greater Noida, Uttar Pradesh, India

Timezone: Indian Standard Time (UTC+5:30)

Contributions

Some of my contributions are:

| Pull Request Link	Description	Status
#1210	Speak Activity UI Enhancement	Merged
#1222	Dollar Street Activity Slider can overlap	Merged
#1230	Gridpaint Activity Tour changes to IntroJS	Merged
#1238	BlockRain Activity button UI Enhancement	Merged
#1266	Get Things Done Activity button UI Enhancement	Merged
#1287	QR Code Activity button UI Enhancement	Merged
#1289	Markdown Activity Mouse Cursor UI Enhancement	Merged
#1326	Stopwatch Activity Overflow Issue	Merged

Some of my open issues are:

1. ChatPrototype Activity UI Enhancement (**Issues**)
   Link - https://github.com/llaske/sugarizer/issues/1322

2. ExerciserReact Activity UI Enhancement (**Issues**)
   Link - https://github.com/llaske/ExerciserReact/issues/153

   As of now, I have created a total of **20 issues** on the Sugarizer repository. Some of these issues have been **merged** and **closed**, while others remain open.

I have discovered the first **UI issue** **#1210** in the **Speak Activity game**. Specifically, the separator that separates the text box and the activity container has an incomplete length. As a solution, I suggested expanding the length of the separator to achieve a more symmetrical appearance. After the maintainer reviewed my proposal, they requested that I carry out the work on the issue. Upon successfully merging the changes, I felt a sense of accomplishment and proceeded to identify and address several other UI issues that ultimately resulted in a better user experience for the organization's users.

Before
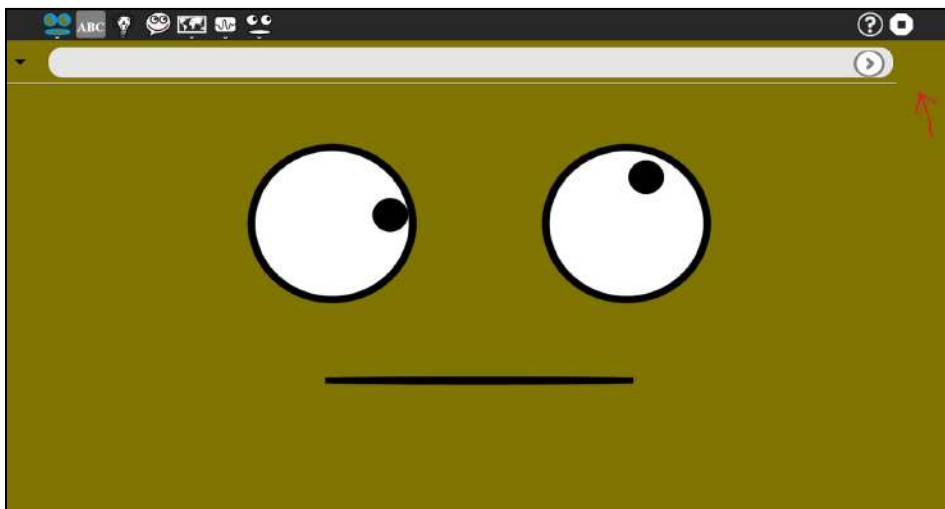
After
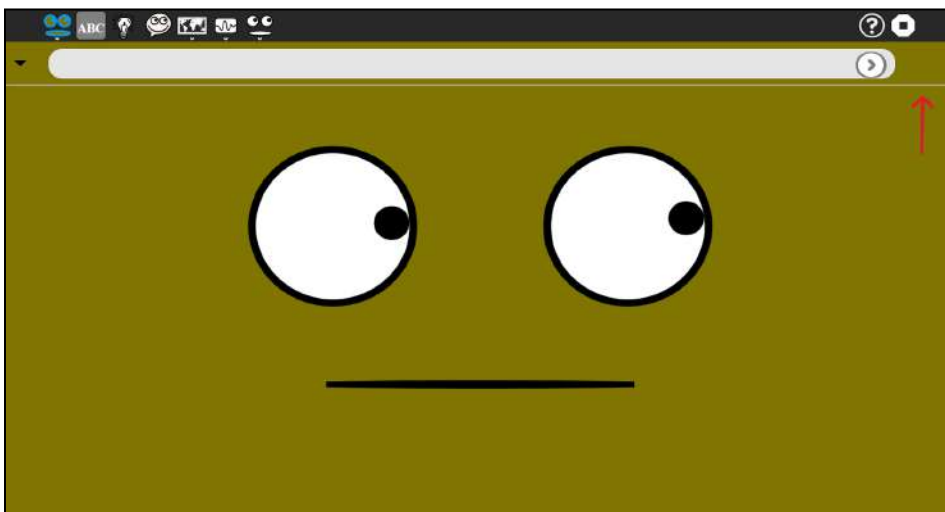
Convince us that you will be a good fit for this project, by sharing links to your contribution to Sugar Labs.

Joining Sugar Labs presents an exceptional chance for me to be part of a dynamic open-source community that shares my passion for leveraging technology to improve education. The opportunity to collaborate with like-minded individuals and contribute to a project that aligns with my abilities is particularly alluring. With this project, I can leverage my technical skills to the fullest, pushing the boundaries of what I am capable of while simultaneously enhancing my professional development. The prospect of working collaboratively with a team towards a shared objective is a thrilling prospect, as I recognize the value of working with others towards a common goal. Overall, I am ecstatic about the possibility of making a substantial contribution to the Sugar Labs community through this project and excited about the possibilities that lie ahead.

Benefits I will be getting from this project:

- ❖ Will get to work with really great people.
- ❖ Get to know more about Sugar Labs.
- ❖ A lifetime experience.
- ❖ Establish me as a core contributor!

My Background

I have prior knowledge of web development, and I am an enthusiast who loves coding and implementing ideas. My first project was a landing page **clone of Facebook**, which included features such as dark and light modes and slider functionality. I used technologies such as HTML, CSS, and JavaScript to create it. For my second project, I developed a landing page **clone of Netflix** with hover functionality, also using HTML, CSS, and JavaScript.

These are some of the minor web-based projects that I have built:
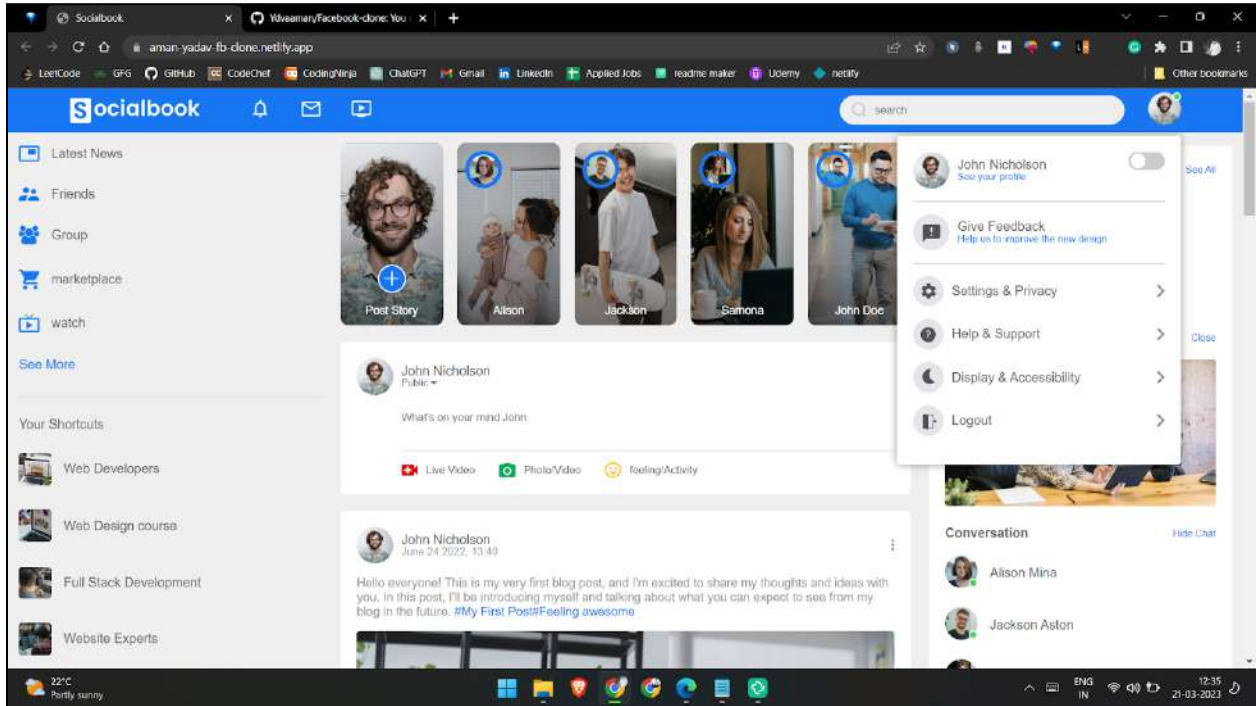
Facebook Landing Page-Clone:

A social media platform that helps people to interact and communicate with each other all over the world.
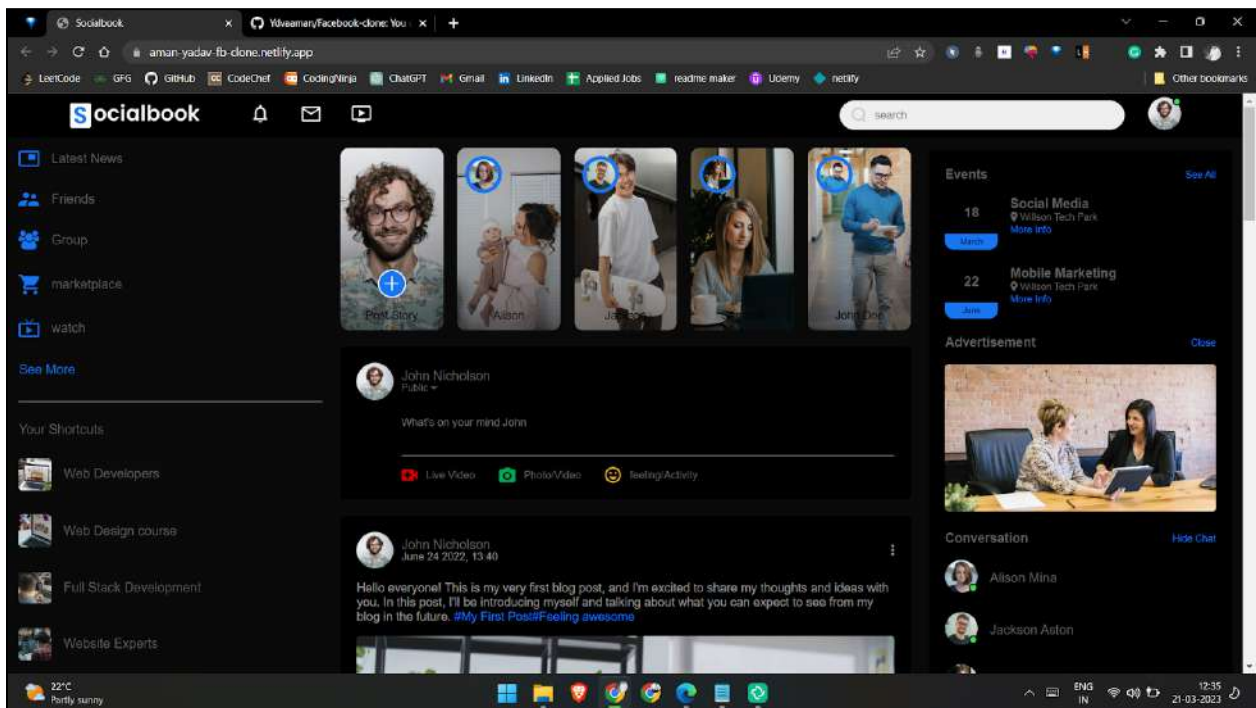
Link:- https://github.com/Ydvaaman/Facebook-clone
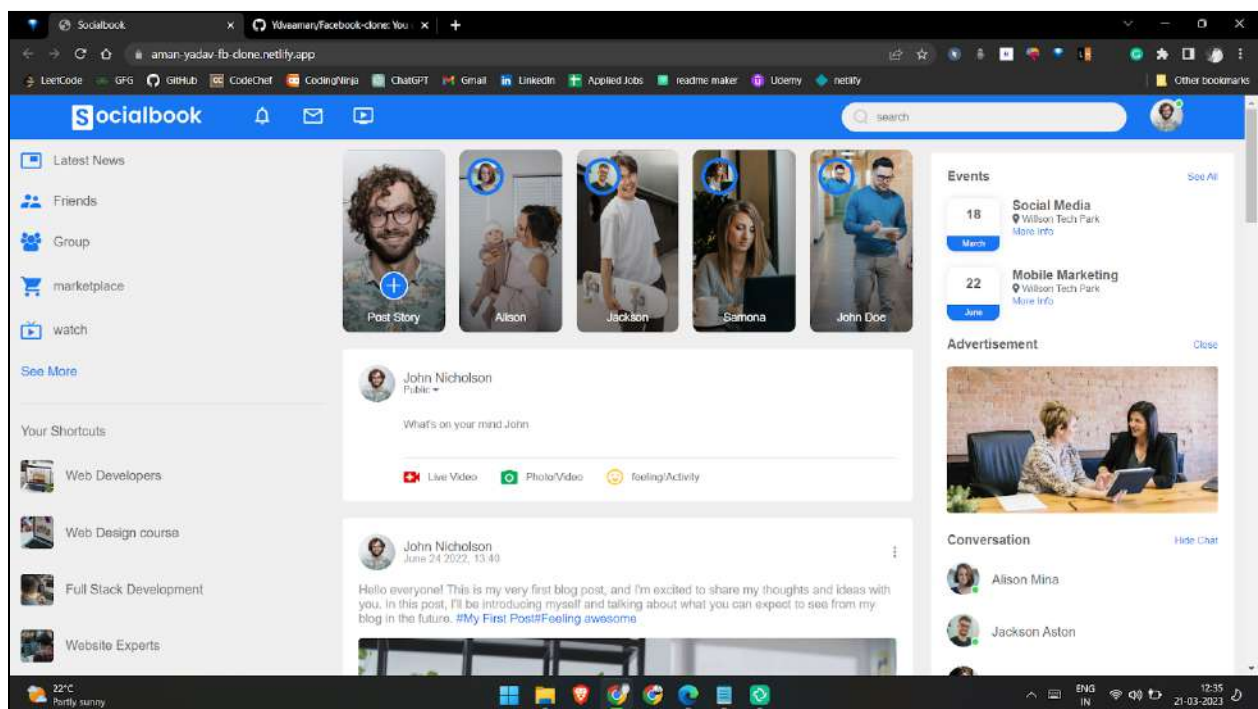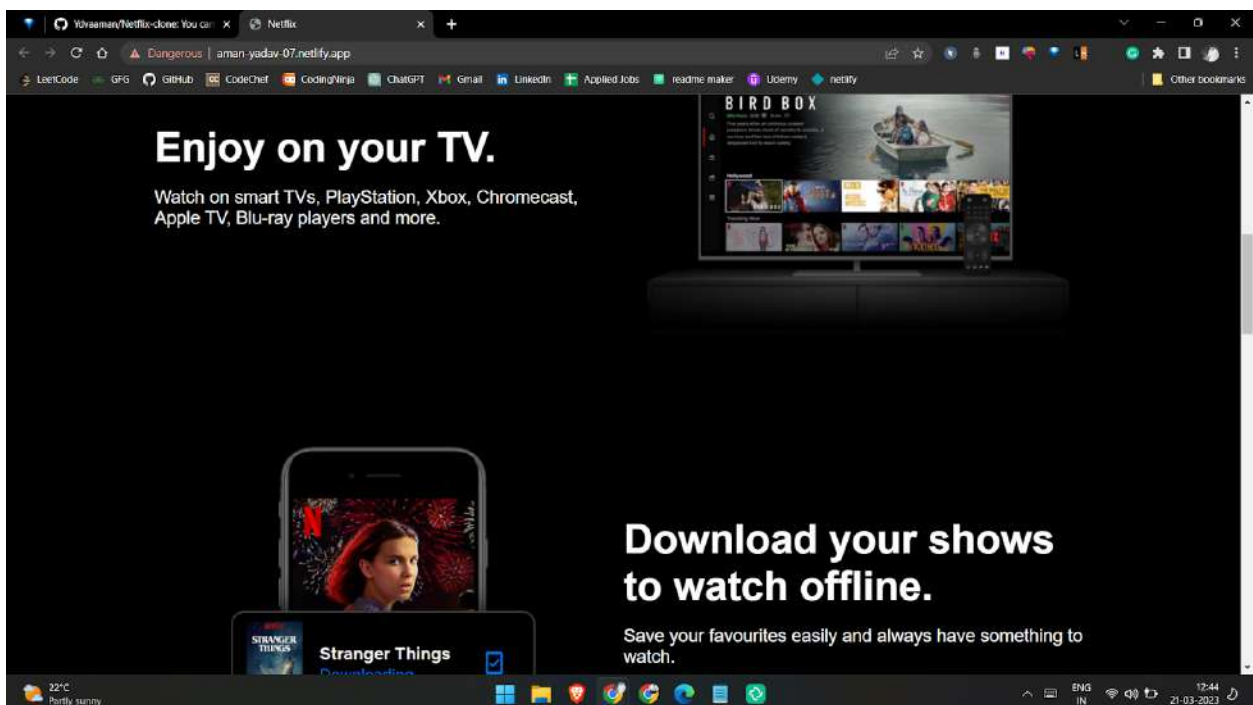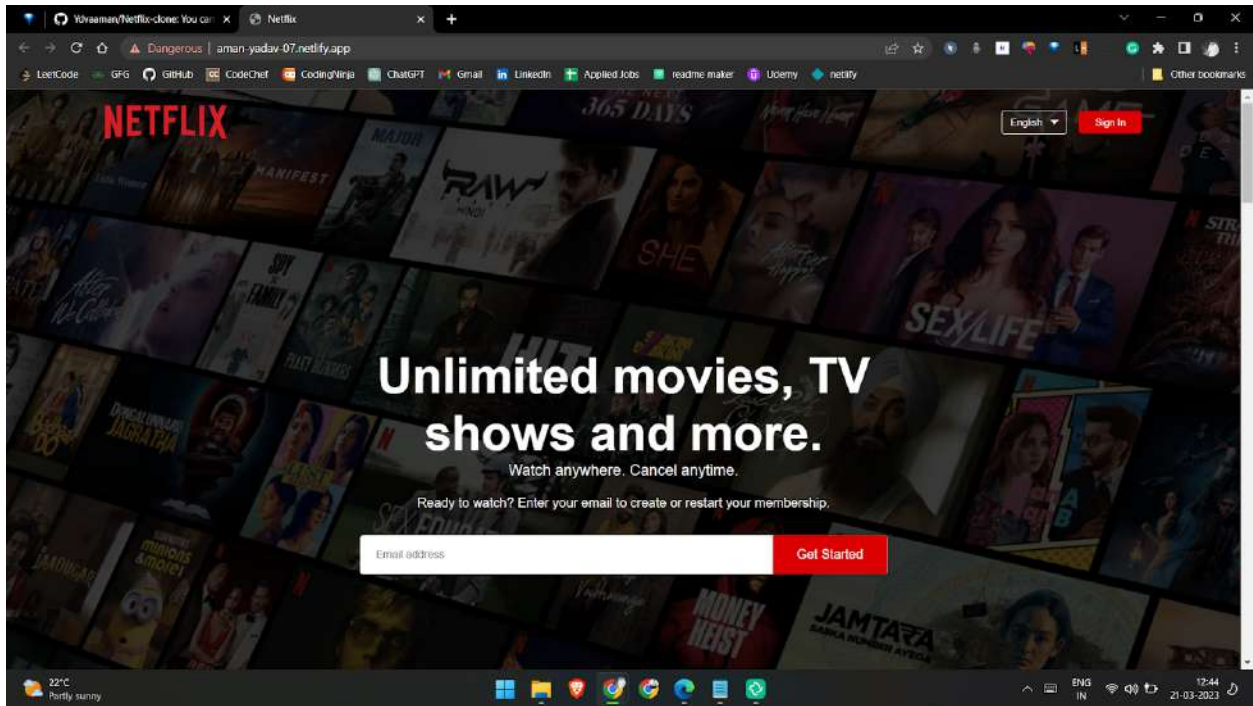
Light Mode

Dark Mode

Netflix Landing Page-Clone:

Netflix is a streaming service that allows users to watch TV shows, movies, documentaries, and other types of video content on-demand, over the internet.

Link:- https://github.com/Ydvaaman/Netflix-clone

Project Details

Q. **What is the name of your Project?**

The name of my project is **Improve and maintain 6 Sugar activities.**

**Q.** **Describe your project in 10-20 sentences. What are you making?**
Who are you making it for, and why do they need it?
What technologies (programming languages, etc.) will you be using?

Sugar Labs has a multitude of activities, with over 250 available on GitHub.
Since the support for Python2 was withdrawn from Python Foundation, porting the
activities to Python3.Implementing the basic game design features which attract users.
The primary objective of this project is to enhance the **user experience** by addressing
issues such as bugs, adding new features, updating human translations, and releasing
updates. To achieve this goal, **Python3** and **GTK+3** are utilized to improve the activity
and elevate the overall UI experience.
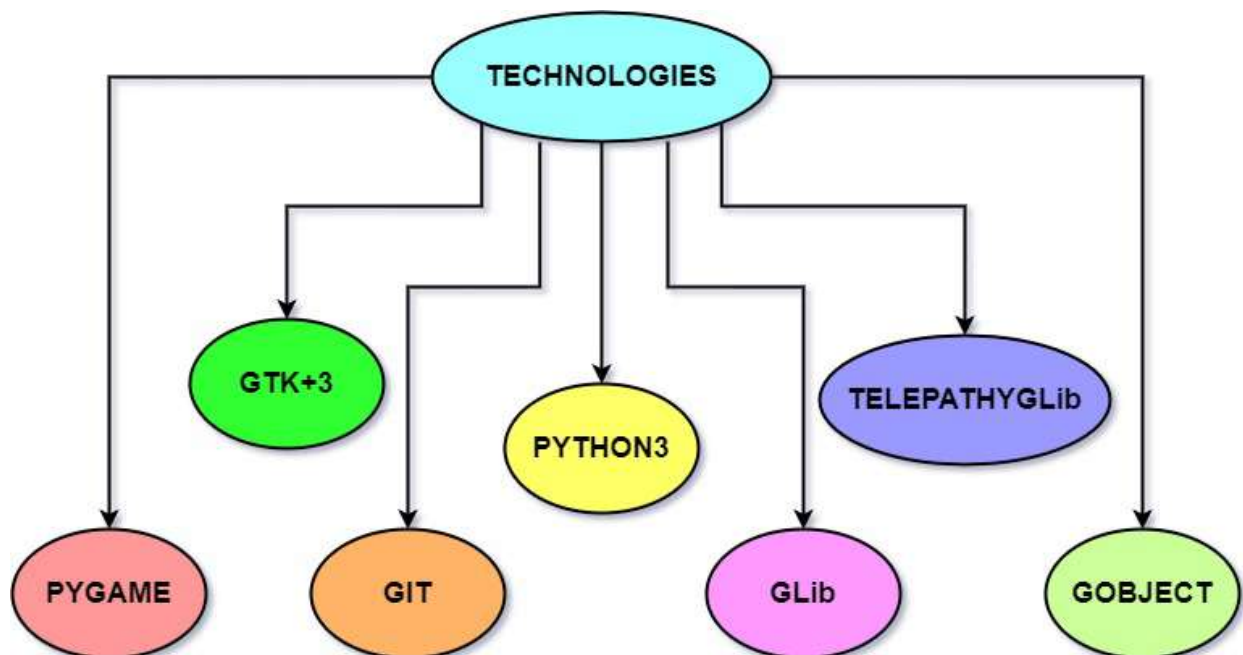
Aim of the Project:

The main aim of this project is to improve and maintain the Sugar Labs' activities. Since the support for Python2 was withdrawn from Python Foundation, porting the activities to **Python3** and **GTK+3**, Implementing basic game design features which attract users, and adding features like collaborations and enhancing User Interface & User Experience.
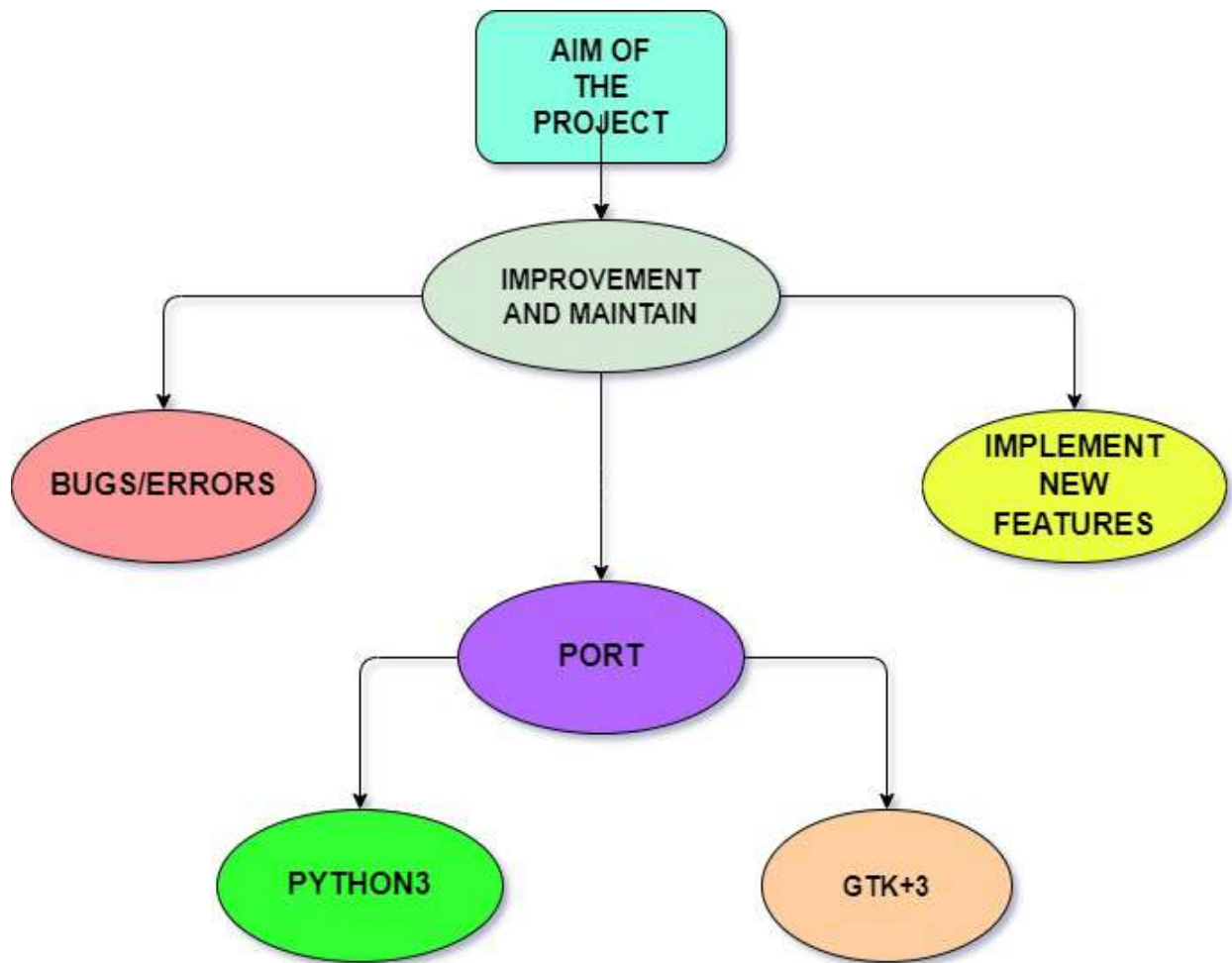
Project Goals

The main objective of this project is to enhance the Sugar Labs activities by identifying and fixing bugs, and errors, and adding new features to them.
This involves several tasks, such as

- **Porting** the activities to GTK+ 3 and Python3.
- **Implementing** basic features that attract users adding features like collaborations, and enhancing the User Interface and User Experience.
- Additionally, **testing** and **modifying** the activities to ensure that six activities are ready to be released is also a crucial part of the project.
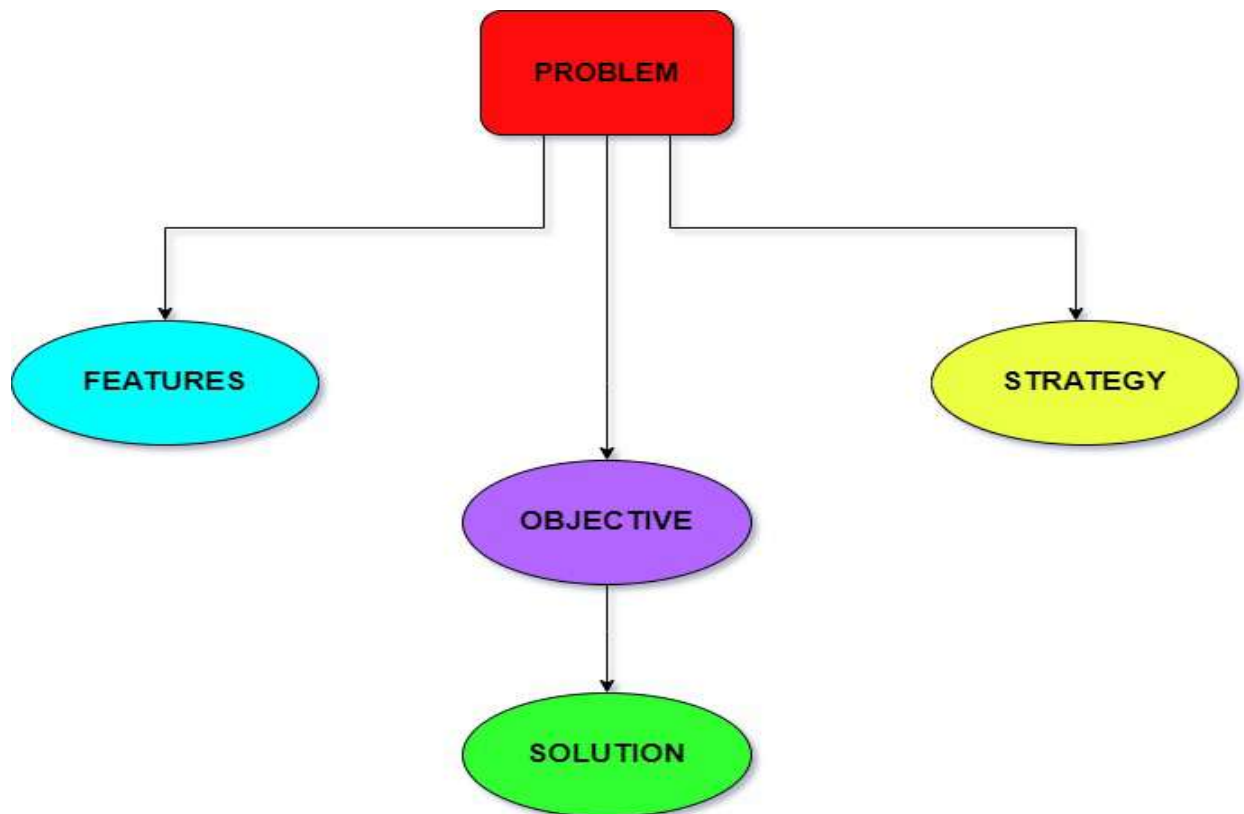
Implementation of Code from Python2 to Python3

Converting **Python 2** code to **Python 3** can involve a number of changes, as the two versions are not fully compatible. Here are some steps you can take to convert Python 2 code to Python3:-

Python2 Code:

```
1   print "Hello, World!"
```

Python3 Code:

```
1   print ("Hello, World!")
```

In Python 3, the print function is used instead of the print statement, and it requires parentheses around the argument(s) being printed.

Python2 Code:

```
1   import urllib
2   response = urllib.urlopen('http://www.example.com')
3   html = response.read()
4   print html
```

Python3 Code:

```
1  import urllib
2  response = urllib.urlopen('http://www.example.com')
3  html = response.read()
4  print (html)
```

Use the 2to3 tool: This is a built-in tool in Python 3 that can automatically convert Python 2 code to Python 3 code. It can be run on a Python 2 codebase to identify and apply the necessary changes to make it Python 3 compatible.

➜ First, create a Python 2 code file called **example.py** with the following code:

```
1  print "Hello, World!"
```

➜ Open a terminal or command prompt and navigate to the directory where **example.py** is located.

➜ Run the 2to3 tool on example.py using the following command: **2to3 example.py**

➜ The 2to3 tool will analyze the example.py file and output a Python 3 compatible version of the code to the terminal:

```
1  --- example.py  (original)
2  +++ example.py  (refactored)
3  @@ -1 +1 @@
4  -print "Hello, World!"
5  +print("Hello, World!")
```

Suggested improvement in 6 sugar activities

I have some suggestions for improving the user interface (UI) of certain activities in Sugar Labs. After observing that the UI of Sugarizer web activities is more enhanced than that of Sugar Labs activities, I believe that there is room for improvement in certain areas. Specifically, I think that the UI of some activities can be enhanced to make them more attractive and engaging to children.

Some activities which need UI enhancement and improvement are listed below:-

- ❖ FotoToon Activity
- ❖ Chat Activity
- ❖ Story Activity
- ❖ Speak Activity
- ❖ Calculate Activity
- ❖ Stopwatch Activity

FotoToon Activity

When using the "FotoToon" activity in Sugar Labs, I have noticed that when adding shapes to the activity area, there are no symbols for **resizing**, **rotating**, **deleting**, or **editing** the shape. This is in contrast to the FotoToon activity on the Sugarizer web, which includes these symbols in the form of svg file.

In my opinion, the absence of these symbols makes it difficult for children to manipulate and edit the shapes they have added to the activity area. It would be helpful to include these symbols in the Sugar Labs version of the FotoToon activity, as it would provide children with greater control over the elements of their designs.

Before
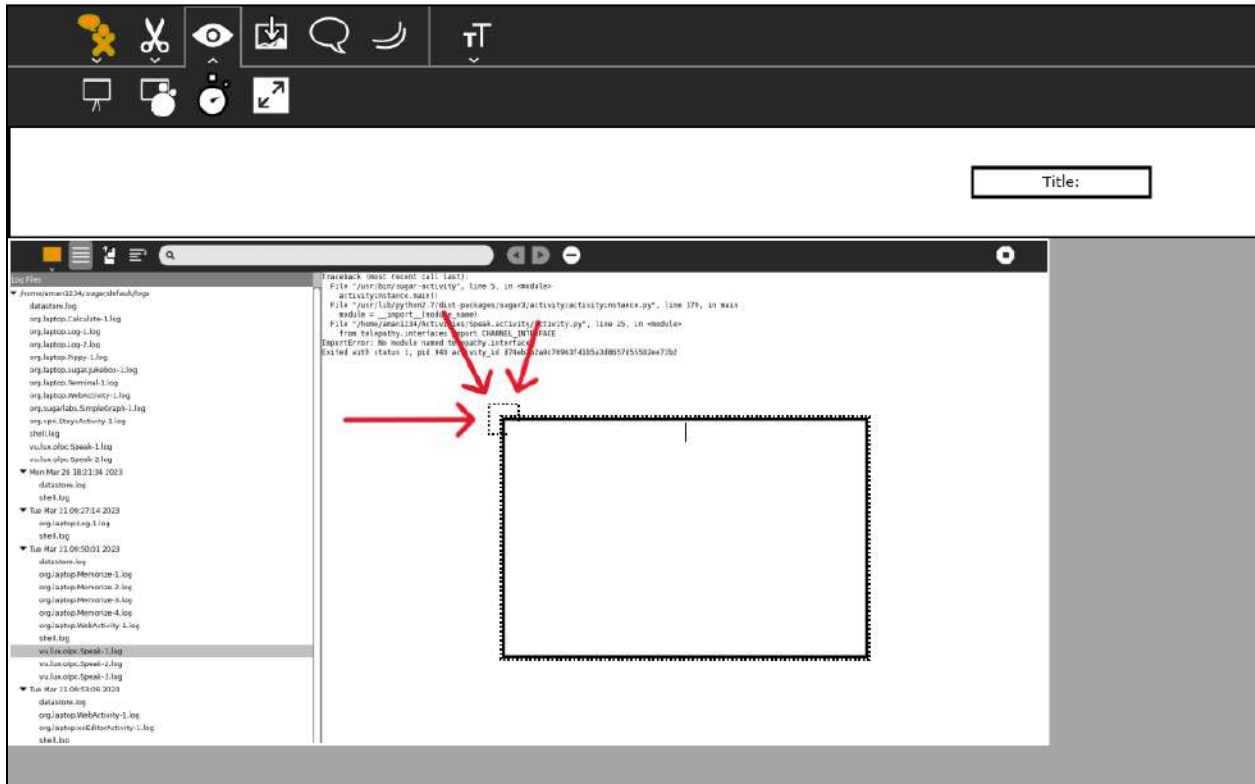
After
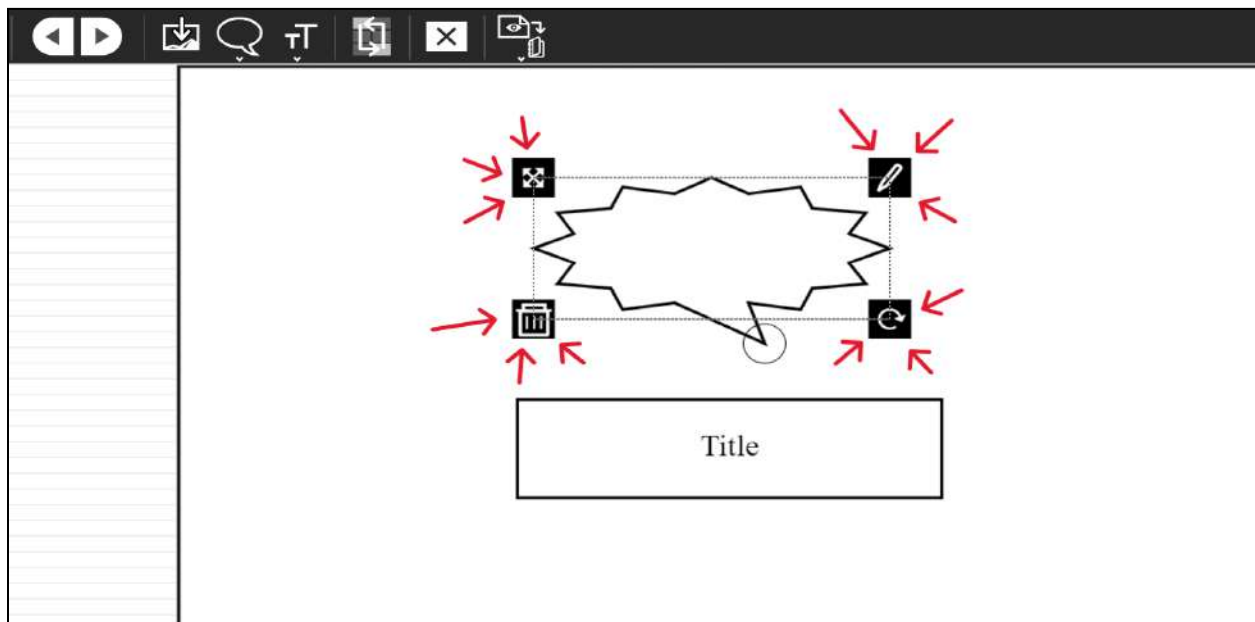
Chat Activity

In the "Chat" activity when we want to send any new message the new message was again sent in the old container instead the new container must be created for new messages so that we can easily differentiate between the messages and also want to align the new messages. The messages should come after the username so, that they look more aligned and better.

The Sugarizer web has these features so I suggest it implementing these on the sugar chat activity.

Before
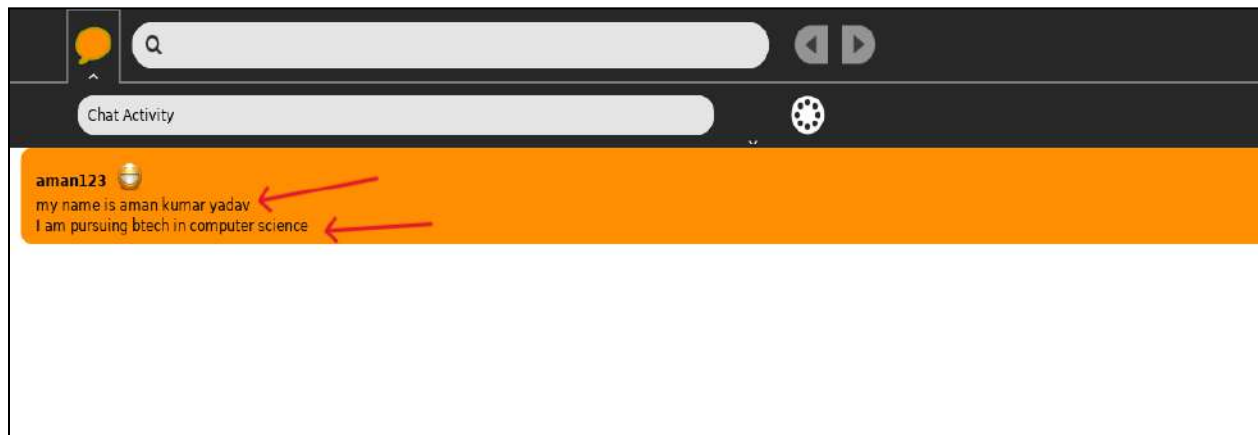
After
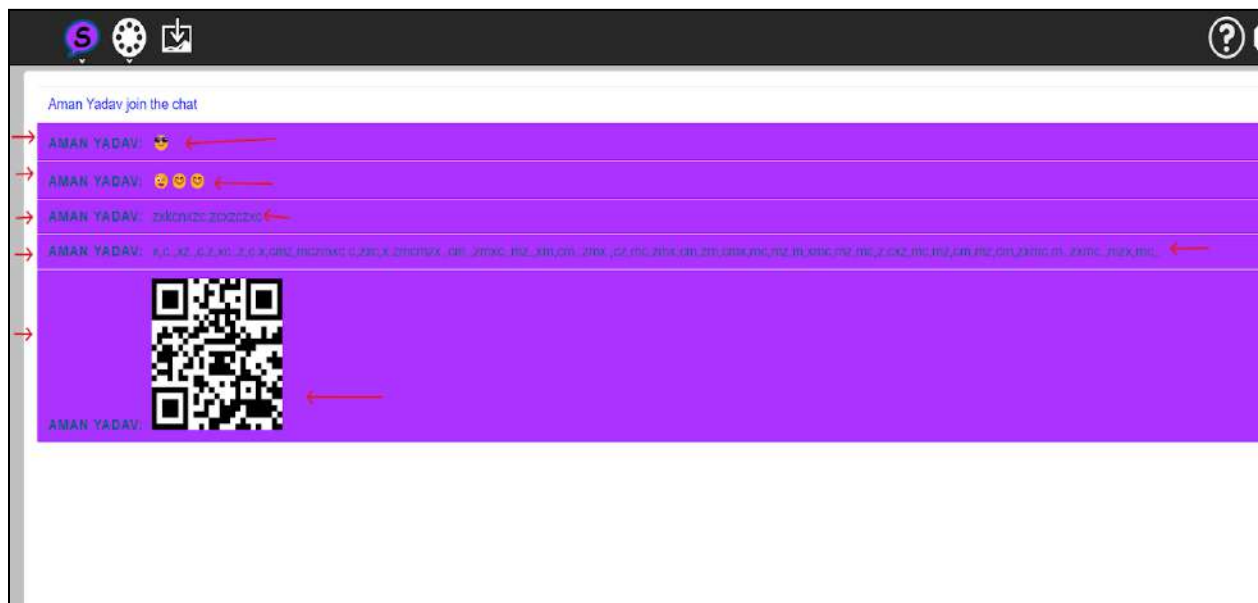
Story Activity

In the "Story" activity, we can see that when we want to write something we are unable to find the Text container due same background of the container and there is no border around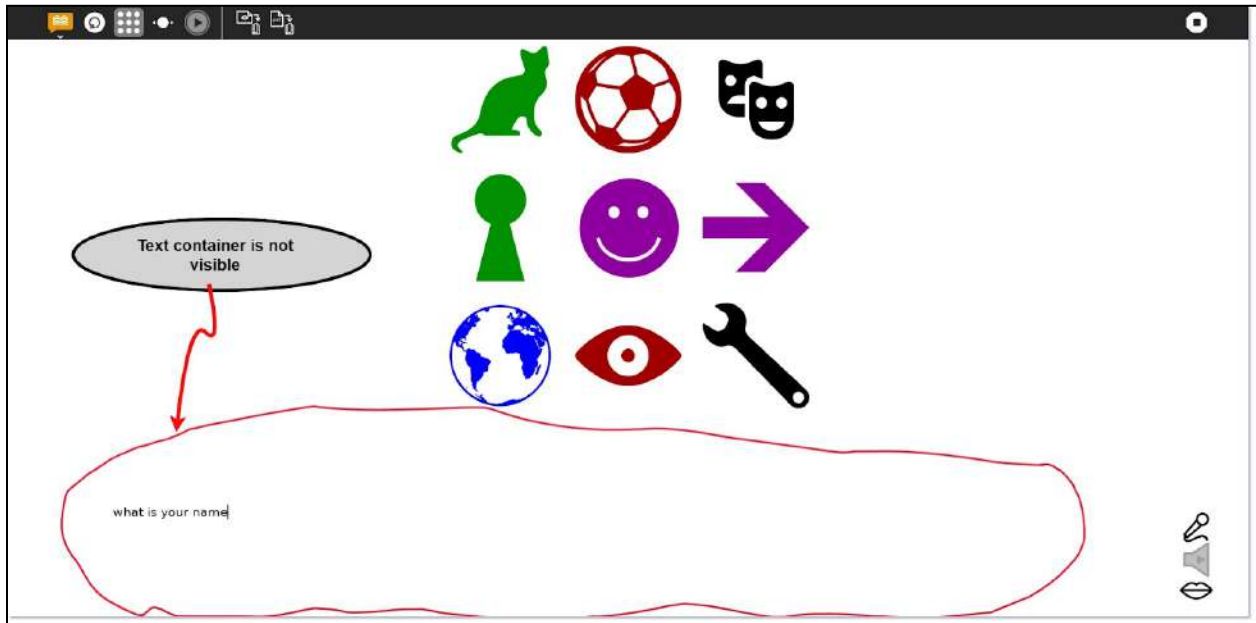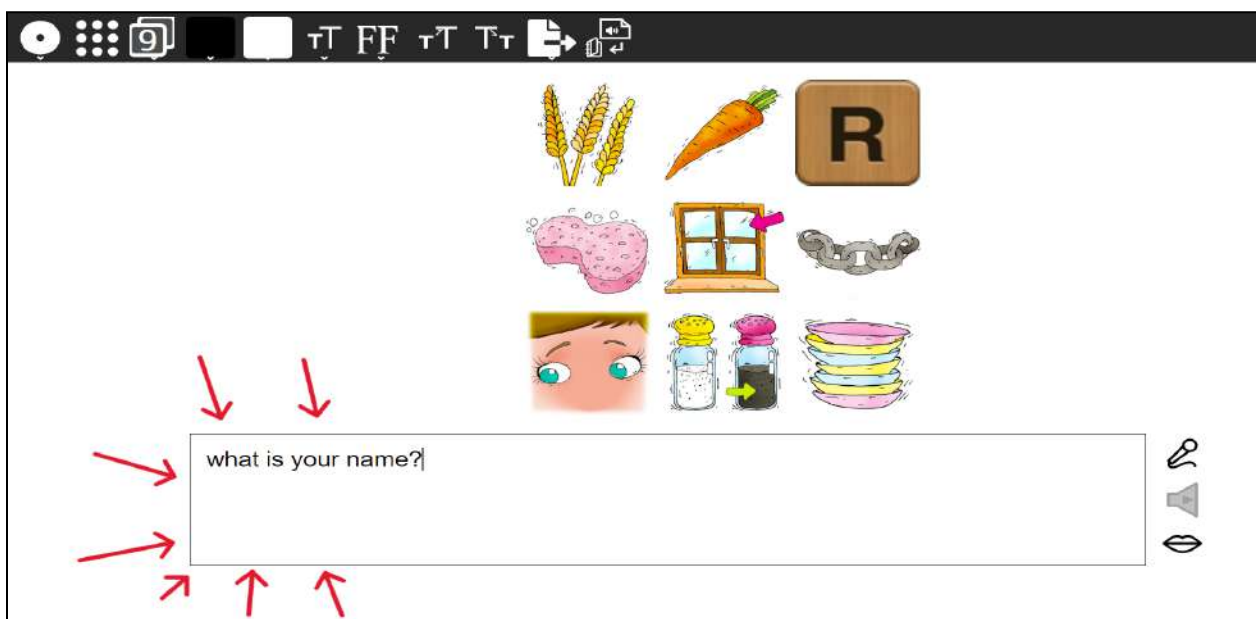 the text container. So, I suggest that there must be a border around the container or the text container should be of a different color.

Before

After

Speak Activity

In the "Speak" activity, I found a UI issue, when the description container is opened, the description button becomes invisible due to the similar background color of the header. This can create difficulties for users, particularly children, to find the button quickly. Therefore, I suggest changing the color of the button to improve the user interface experience. This will help users quickly locate the button and access the necessary information without any hassle. When I explore more than this UI issue is in all the activities of the Sugar labs.
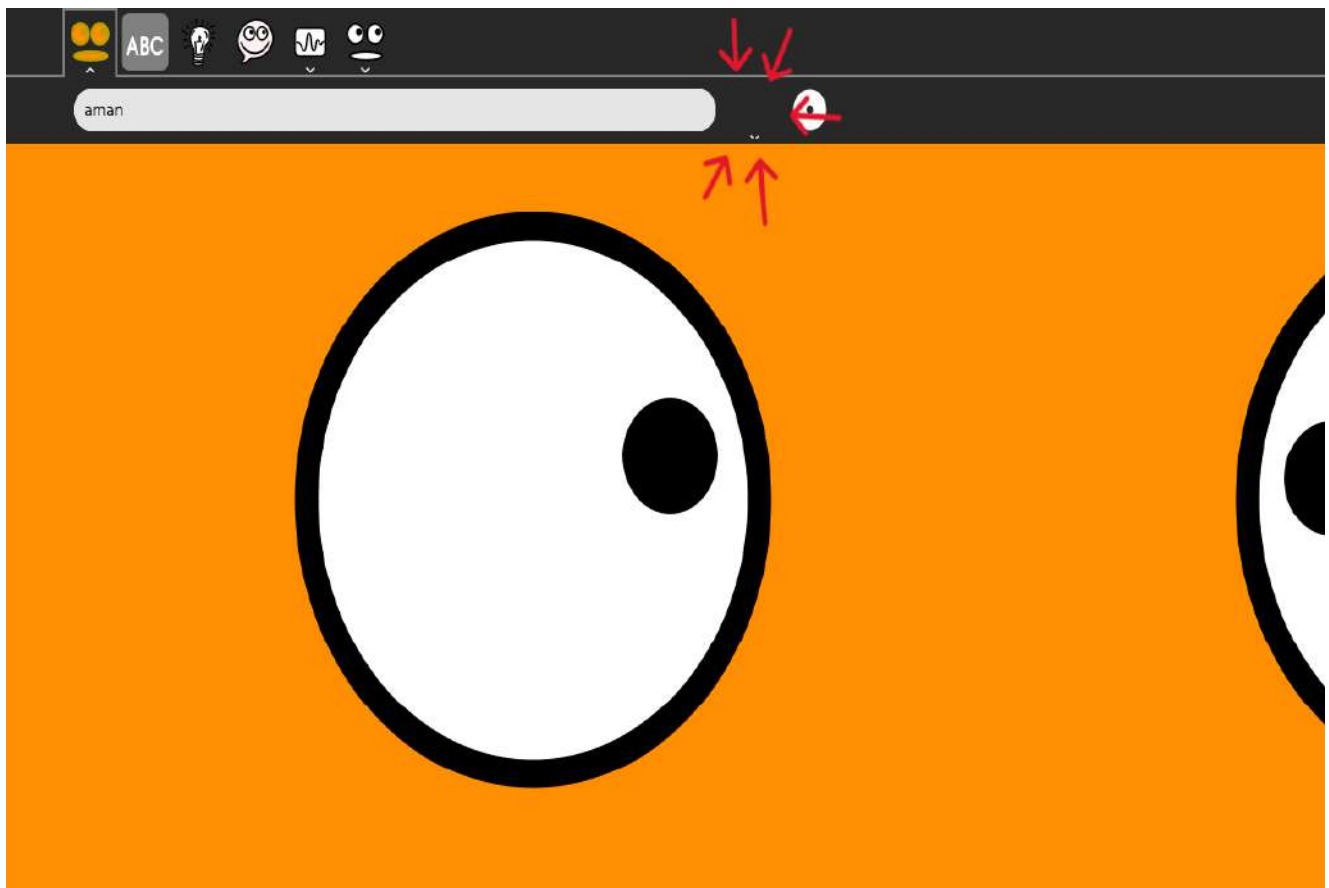
Calculate Activity

In the "Calculate" activity, there appears to be a user interface (UI) issue where the lower buttons(0 button, dot button, equal button) of the calculator are cropped due to improper padding and positioning. To enhance the user experience and improve the overall appearance of the activity, I suggest addressing this issue by adjusting the padding and positioning of the buttons. By doing so, the buttons will be obvious and easily accessible to users, thereby creating a more user-friendly interface. This solution will not only resolve the UI issue but also ensure that users can navigate the calculator without any difficulties.
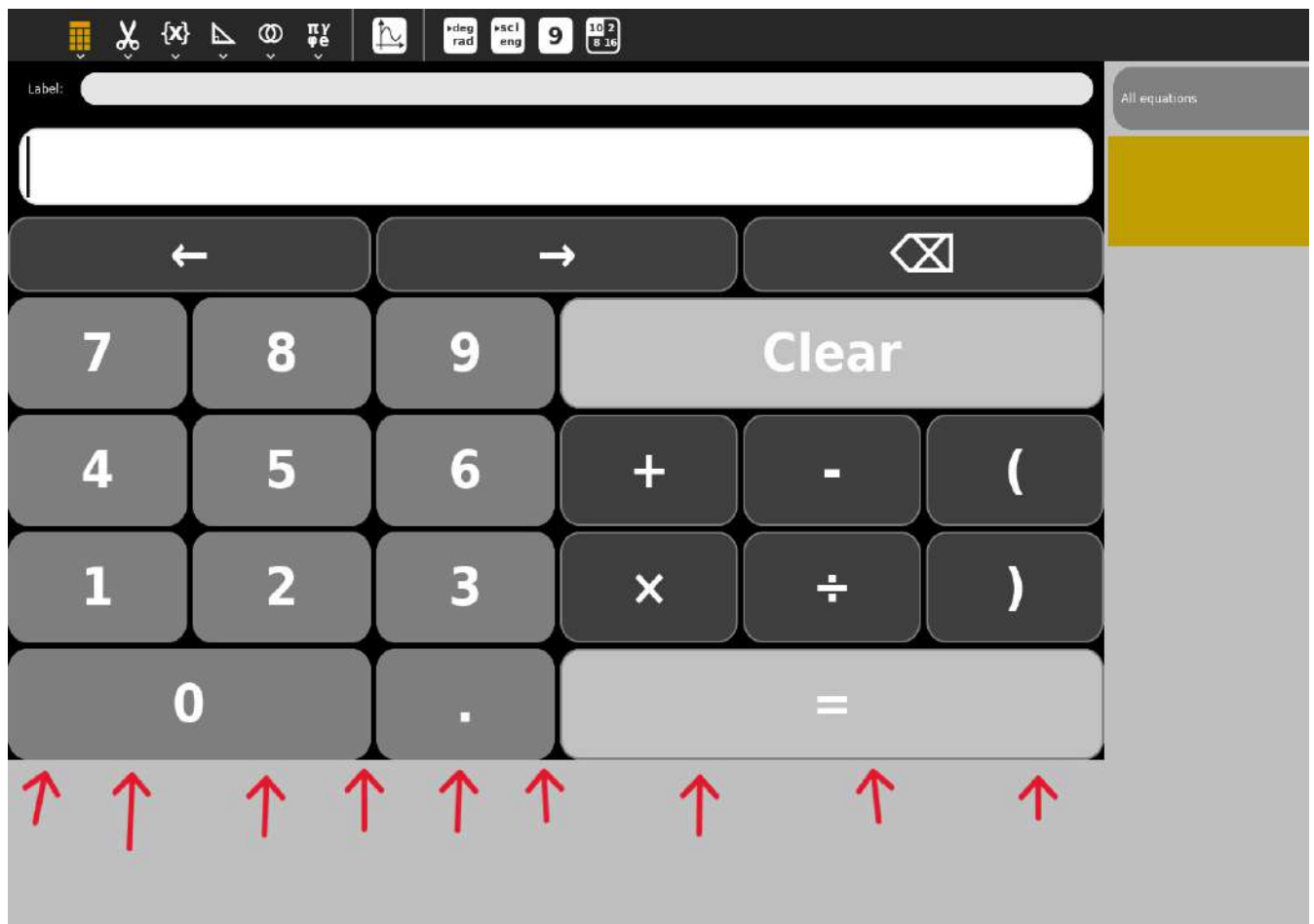
Stopwatch Activity

During the "Stopwatch" activity, it has come to my attention that there are some UI issues with the text container, start/stop button, mark button, and timer. Specifically, there appear to be padding and alignment issues that negatively impact the overall user experience by making it look less polished and visually appealing.

To address these issues, I recommend adjusting the padding and positioning of the buttons and text container to ensure proper alignment and spacing. This will help to create a more cohesive and visually appealing design that enhances the user experience.

By making these adjustments, we can improve the overall look and feel of the Stopwatch activity and provide users with a better UI experience that is both functional and aesthetically pleasing.

Q.What technologies (programming languages, etc.) will you be using?

The main aspect of the project will be **coding**, **identifying bugs** and **errors**, and resolving them, **proposing and implementing new features** for the activity.

The technology used to improve and port these activities are used **Python3, GTK+3, Git, and Pygame.** Additionally, I will focus on making some stylistic adjustments in CSS to align the new component template with the current sugar UI, thus enhancing the UI of the activities and improving the user experience.

Python 3 is an updated and improved version of Python 2, with a number of new features and improvements. Here are some reasons why Python 3 is considered better than Python 2:

Unicode: Python 3 uses Unicode by default, which means that it can handle non-ASCII characters and strings more easily and efficiently than Python 2.

Print Function: In Python 3, print is a function rather than a statement, which makes it more consistent with other functions and easier to use.

Future Compatibility: Python 2 is no longer being actively developed or supported. Therefore, any new features or improvements are only being made to Python 3.

Simplified Syntax: Python 3 has a simplified syntax that makes it easier to read and write code.

Better Support for Libraries: Many popular libraries and tools are now compatible only with Python 3, which means that developers who want to use these tools need to switch to Python 3.
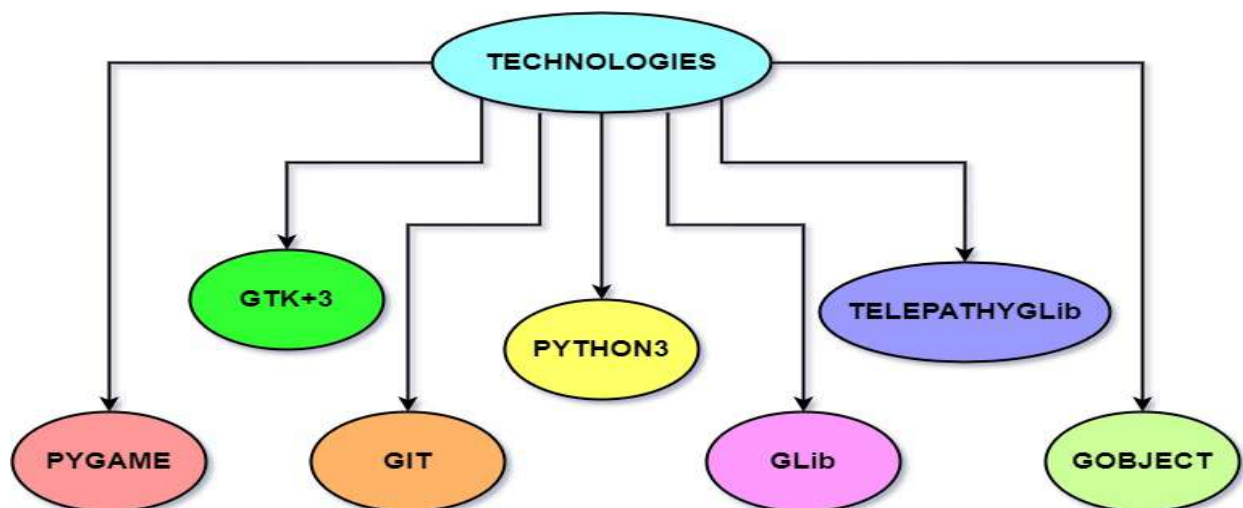
Timeline

Break down the entire project into chunks and tell us what will you work on each week.
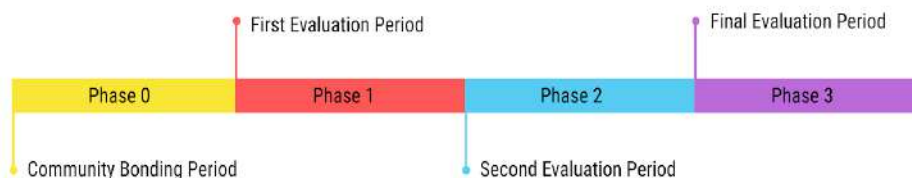

Timeframe	Start Date - End Date	Task
Week 00	4th May - 28th May	**Community Bonding Period** - Interact with the mentors of the project. - Finalize the **idea** and structure of the project.
Week 01	29th May - 4th June	- Get familiarised with the code base. - Explore the **technologies** to be used in the project.
Week 02	5th June - 11th June	- Understanding the **code base** of the given issue. - Start implementing the required changes as per the need.
Week 03	12th June - 18th June	**Porting** the deprecated activities from **Python2** to **Python3**. - After making the changes then do an immediate test.
Week 04	19th June - 25th June	At the end of phase I, the following features will be completed: **Porting** of the deprecated activities into **Python3**. - By using the python **Gobject libraries**. - Test the changes you have made so far in the module.

Week 05	26th June - 2nd July	- Suggesting the **new features** for the Sugar activities. - Make changes if the features are good for the activities. - Make necessary changes to the Sugar activities if there is a **bug/error** in the code base.
Week 06	3rd July - 9th July	- Start working on the **collaboration issue**. - Make required changes in the codebase
Week 07	10th July - 16th July	- Ask the mentor to review the changes . - Maintain **error** handling. - Conduct Regular **meetings** for updates.
Week 08	17th July - 23rd July	At the end of phase 2, the following features will be completed: **Porting** of all the required activities will be completed. - Make sure that all the activities must go through all **test cases**.
Week 09	24th July - 30th July	- Regular **bug** and **error** fixing. - Make sure that code must be **optimized**.
Week 10	31st July - 6th August	- Test and resolve bugs and then clean up the code. - Finish up all **pending issues**
Week 11	7th August - 13th August	- Create a summary and **project report**. **Documentation** will be updated.
Week 12	14th August - 20th August	- The tests will be updated and integrated. **Refactoring** code for future proof.
Week 13	21st August - 27 August	Submit final **deliverables**.
Week 14	28 August - 3rd Sept.	Prepare for the **final evaluation**.

4th September: Mentor final submission GSoc Contribution evaluations.

Availability

I am fully available for work this summer as I have no other vacation plans apart from this project. Throughout the official **GSOC period**, I will dedicate the necessary amount of time per week to complete this project. Additionally, I will maintain constant communication with the community through email and other communication channels.

Commitments

1. **Are you planning any vacations during the GSOC period?**

   No

2. **How many classes are you taking during the GSOC period?**

   None

3. **Do you have any other employment during the GSOC period?**

   No

4. **How many hours per week do you expect to work on the project and what hours do you tend to work?**

   I can easily devote over **40+ hours** every week. I have no other commitments for the summer vacation, so I can devote most of my time to GSoC

5. **Will you be able to complete the project?**

   I will devote the necessary amount of time each week to complete this project within the given timeline.

6. **How will you report progress between evaluations?**

   I will maintain an active presence on **GitHub** by making regular pull requests to Sugarizer and interacting with mentors. This will allow anyone in the organization to view my progress. Additionally, I will report my progress thoroughly on GitHub. I will be reachable at any time through **Matrix, email**, or a planned video session.

7. **What to expect from your mentor (and what your mentor expects from you)**

   What I should expect from my mentor -

- Should set my approach right if I am going in the wrong direction or wasting too much time in a less time-consuming part of the project.
- Should be punctual during meetings, and status updates and easy to reach out to.

Q. Discuss your post-GSOC plans. Will you continue contributing to Sugar Labs after GSOC ends?

Yes, I am planning to continue working on the project even after the program ends. My goal is to fix as many **bugs** and **errors** in the codebase as possible so that the application runs better, providing users with an enhanced UI experience. Additionally, I want to add more features to some of the activities to make them more enjoyable. I am amazed by the community relations and the work carried out by Sugar Labs. Contributing to this organization allows me to enhance my skills and give back to the community. I aim to develop my **mentorship** skills and guide others to help them achieve their goals. In this way, I can also give back to the community by mentoring and guiding future **GSOC** and **GCI** students.

I am excited about the opportunity to contribute to Sugar Labs during the upcoming summer season.

Best regards.

--END OF PROPOSAL--