

Basic Details

- **Name:** Debasis Sikdar
- **Email:** debasis.sikder123@gmail.com, **GitHub Username:** DebasisX
- **First Language:** C, C++ (then switched over to Python)
- **Location:** India (**Timezone:** GMT + 5:30)
- Personal Chatbot (**DebX** - Helps me in structuring code and formats text for me and serves me with knowledge I am unaware of): <https://github.com/DebasisX/DebX>
- My CS50x Harvard Project (**Finance** - a real-time stock market finance application using Yahoo Finance API): <https://github.com/DebasisX/CS50-Finance>
- My Hackathon Project (**DecisionHub** - a web-app for financial analysts to help them with no-code rule writing experience): <https://github.com/DebasisX/DecisionHub>
- I have not contributed to this project Sugar Labs till now, it will be my first time. But I assure you that I am a good communicator and learner so it will not be a problem.

Project Details

What are you making?

- Adding an **AI chatbot** to the **Chat Activity**.

How will it impact Sugar Labs?

- Unless there are other users, the chat activity is of no use so with this approach, users will have someone to talk to (**included voice support**) and interact with.
- Children can now talk to a chatbot that will be apart of their conversation.
- With an added support to **save the chats** with the chatbot.
- The chatbot will reply with **simple and easy** to understand **text-messages** or **voice improving** their **communication skills** and **vocabulary**.

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

- Python (pyttsx3, google.generativeai, SpeechRecognition, PyGTK)
- Gemini (GenerativeAI)
- SQLite3

Timeline:

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

Week 1:

- Exploring Gemini API's features and getting familiar with the Sugar Labs codebase.

Week 2-3:

- I'll begin integration of the Gemini API and **PyGTK** for the UI, I can add **support for voice** chat using **Speech Recognition** and **pyttsx3**.

Week 4-5:

- Chatbot Training & Refinement so that in any case it does not provide any harmful or bad response, I'll use **safety prompts** and **filter the output** i.e., text or sound generated.
- I'll save the chats in a local database (not shared due to privacy concerns) using SQLite for the user to **access any chat** they previously had.

After 1st Evaluation.

Week 6-7:

- **Testing** on **Different I/O** and making sure that answers are made **simpler** for children, I will add extra prompts for this purpose which will be abstracted away.

Week 8-9:

- The project is finally coming to an end. After **integrating, training** and **testing** we are left with **handling of edge cases** and UI.
- In this week I'll also be **designing** the UI with **PyGTK**.

Week 9-10:

- Testing the whole project after **deploying** and **fixing** any errors generated in the process.
- The project can now be **merged** with the **Source**.

This is my plan for the project listed, there can be **minor changes** to the plan **if required**.

Q2. If you will be off-the-grid for a few days, then mention those in the timeline. How many hours will you spend each week on your project ?

Most likely I will not be off-the-grid. But if I am, for some urgency I'll make sure to inform beforehand.

I am willing to spend whatever time it will require for me to make this project a success, as for an estimate, 20 - 30 hours or more if required can be expected.

Q4. How will you report progress between evaluations ?

I will keep my mentor updated and well informed about what I am doing and get any required information that needs to be applied and reviewed from him.

Q5. Discuss your post GSoC plans. Will you continue contributing to Sugar Labs after GSOC ends ?

After GSOC ends, I would be more familiar with the codebase so I would most enthusiastically be looking forward to solving any issues posted, which of course if I can help with. As I am always creating my own projects as a solo developer, collaborating with others is something I look forward to.

Other than that I will be completing my degree and will be heading for a master's degree, I want to become a computer scientist so this will be a huge step towards that goal.

Thank You,

Debasis