

## 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