

Proposal for GSoC '19

Enhancing Sugarizer's Exerciser Activity

Basic Details & Contacts

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Motivation

Why GSoC?

- I see Google Summer of Code as an opportunity to contribute to the open source community where, in a scheduled environment, with a mentor, one, when does things right, can gain to lots of knowledge and a number of great outcomes.
Be it an existing idea, or a new feature, working on any of them helps to learn (1) To work with a mentor. (2) Explore more in a technology. (3) How and what technologies affect people in general.

Why Sugar Labs?

- While looking up the orgs for GSoC '19, when I stumbled upon Sugar Labs, for a second I wondered what the name might be meaning. Looking into it I learnt, **its for a great cause - Education. And that too, for children!** Making something beneficial for children is challenging and satisfying, both at the same time! Plus there's, meeting a community working for the same cause as well!

Why this particular project?

- I've experience with HTML5, CSS3 and JavaScript and am familiar with ReactJS (Though, I'll get myself prepared more post the proposal-assessment period before the beginning of the program.). **Sugarizer appealed me as a concept at the first glance itself. Also, It is at the**

intersection of what I already know about and what I want to learn more. Therefore, I think it'll be a good platform for me to develop a skill I'm currently a beginner in and explore more in the skills I feel confident about while expanding the platform and hence contributing to the community as well.

What are my expectations from you during/after successful completion of the program?

- During the program, I expect that I'll be guided at least with the basics well so that I can have a starting point for any problem I may face and wish to solve. I expect that my mentor will help me get acquainted to the project and the community. And along with my own self motivation, I expect my mentor to occasionally keep encouraging me and be if not huge but a little driving force to not just complete the project but also to enhance it in a way that doesn't currently seem feasible. I love doing things which are new in the world.
- After the program, I do plan to continue my contributions to the organization (please see *Why Sugarlabs?*). Therefore, I expect my mentor to tell me about what are the current potential ideas/projects and get me familiarized with the community and the idea, the potentials of the organization as a whole, its projects etc. I'll try to be equally active post-program given an active guidance and a positive community.

Project Details

What am I making?

This project primarily aims on enhancing -- both, improving and adding more exercises to an existing Sugarizer activity - Exerciser activity. Currently, the activity has three basic exercises - MCQ, Cloze text (fill in the blanks) and reorder list.

I propose to:

- Include option to add images, audio and possibly videos to questions (As asked in the idea list itself) wherever necessary and in answer options in MCQ like questions.
- Work on adding three more exercises. Namely,
 - **Match the column (single+multiple answers) exercise**

Here, user will have the option to add a question in a two column format. Left is to be the question and right will be the answer column. Say you have 5 words in each column, then, for each word there can be a possible answer in the right column. Points awarded will be on the basis of number of correct matches. Say in the above example, 1 point for each correct match of the possible 5. Finally, the points will be shown in the score graph, as in the other activities.

The creator of the question will be provided with a form to fill up entries for the left

column, the right column and then the correct matches so as to have the record of the correct matches for judging.

- **True/False exercise**

This exercise provides the user the ability to create a one line question having only boolean answers - Either True, or False. This will be different from the current MCQ as it'll be a dedicated 2 option bool question-answer type exercise whereas, MCQ can have more than 2 options as well. The creator will be asked to provide a question and two sentences one of which is true other is false. A player will see a question and only two buttons - True and False, selecting the correct button will advance the player to the next question. Results, as the other exercises will be shown on a graph.

- **Odd-One-Out exercise**

This activity is inspired by the primary school level odd one out questions where users would be provided with a series of words, objects, say 4 words out of which, one is the odd one out, i.e. different from others! The creator would be provided with form to give entries for number of words, all the words and then the correct answer along with the reason/explanation for it to be the odd one. A player must choose the right option to advance to the next question. Although, the reason for the answer to be correct will be displayed in any case - player chooses the right option or wrong option. Results display will be same as in other exercises.

- Add ability to have multiple answers in the MCQ exercise. Current Cloze text (fill in the blanks) exercise is more like a *one word* answer type question exercise. I'd like to make it support actual paragraph based fill in the blank questions.
- Work on improving the readability of the code as well for the activity as currently, most of the functions, function names seem to need greater attention. Adding comments, explanations for the future contributors and maintainers.
- Add some styling and visual improvements to the activity (wherever possible).

Additionally, solve as many related issues as possible listed in the app's repo on GitHub.

The interface in all the additions to be done will be as simple as possible, keeping children in mind.

How will it impact Sugar Labs?

Exerciser is (I believe) a major activity in Sugarizer. It is inclined majorly towards academics for children but current set of exercises is too less and lacks some features as well (Hence the GSoC project idea, yes.). By working on this project, I'll add most of the basic features which are expected by users in such an app. The additions I will make are surely going to have a positive impact on Sugar Labs as an open source organization.

Technologies used by me?

Since the app is created in React, I'll be using ReactJS, HTML5 and CSS3 as well.

Timeline

There are 6 objectives in my project description. The detailed information on how I'll go about completing each of them if I get selected, along with the times I might not be available is given below:

Week 1

June 10 is the last date for my exams in my institute. From May 30 till this date. I'll contribute but contributions *may be minimal*. I will be active in the community though and will note down everything else to be worked upon. I will try to solve at least one issue listed on the GitHub repo though.

Week 2 - 4

Possibly, for a day or two, I will be traveling. This will be compensated for sure. Start working on the first objective - Adding the options to add images (and videos). Along with all the required restrictions on file type, size, file security, etc.

Week 5

Work on adding the smaller additions - adding abilities to the MCQ exercise and improving the Fill-Ups exercise. If the fill in the blanks exercise needs to be separate, this is when I'll start working on creating it and get it completed by mid of week 5.

Week 5 - 6

Start working on adding exercises - Match the column is what I'll start with. This includes initializing the form, an example or two and handling the locale settings for the same. Finish the exercise by the end of week 6.

Week 6 - 8

Start working on the true/false activity. As mentioned above, with all the important additions. Finish this addition by the end of week 8.

Week 9 - 10

Start working on the Odd-One-Out activity and complete it by the mid of week 10. This would complete the objective 2.

Week 11

Work on the final two issues - improve readability of code and add minor visual, style improvements wherever possible.

Week 12

Go through the work that done till date. Review the additions. In case of anything missing or left, do it in this period. Submit the code.

I've taken into considerations all the times I might not be very active and have completed the above timeline accordingly.

As evident from above, the project is broadly divided into 3 parts - improvements to existing stuff, new additions, minor changes and review. Thus, evaluations can be done accordingly.

End of August 1st week is when my institute reopens, there might be a day or two when I'll be traveling which I believe will easily be compensated with the above schedule.

In the 1st, (till mid of) 2nd week I'll be able to give 4-7 hrs. After that, I'll be able to give 24-30 hrs per week (possibly more.). For the last couple of weeks, I'll be able to give 16-20 hrs per week as my institute would've started and I need to account for the class timings.

Post GSoC Plans

As stated in the Motivation section above, I surely would like to remain a part of the organization as a contributor and as a mentor to whoever whoever is looking to make contributions to the organization. Even if I won't get selected, I'll try to work on fixing and adding things to the application.

Additional Information

- I'm an undergraduate at IIT Mandi (one of the 23 premier institutes in India), where I've been provided with many opportunities to both, learn and showcase the skills. I've developed the websites for some of the technical student society clubs - [Space Technology and Astronomy Cell](#), [Programming Club](#), [Robotics \(Robotronics\) club](#) for which I currently am a coordinator. I'm also doing a part-time web developer internship for the in-campus startup incubator IIT Mandi Catalyst so I have some experience with working professionally as well! I've also been appointed to work on the institute's official website's design as well. Both these projects are to be completed by the end of this semester (i.e. before coding phase starts) and hence won't be a hindrance in my GSoC commitments. I started a bit late, but I've been working constantly on understanding the codebase and getting familiar with the application itself.
- I have some pet coding projects as well on which I keep working now and then - [My personal website-blog](#), a firefox browser extension (helped me learn HTML/JavaScript DOM) and a few projects related to linux operating system. I've been contributing to the open source community from the past 1.5 years now and also participated in Hacktoberfest '18.
- I am a musician, a tabla player and have an experience in graphic designing also.

- I believe that if I get selected, this platform would provide me the opportunity to work on an application for a great cause and concept. I assure that the community would find me dedicated enough to work on the project.