sugarlabs

Maintenance/bug fixes for Music Blocks 3

Dhruv Mishra

General Information

About Me

I am Dhruv Mishra, a 3rd-year undergraduate student pursuing Computer Science and Engineering from the Indian Institute of Technology BHU Varanasi, India. I am a curious student and am still exploring as much as possible. The field of web development has intrigued me and I always try to implement my skills in solving real life issues and always aim to work for the betterment of society. I have worked on various projects ranging from personal projects to the development of E-CELL IIT BHU website.

I have a strong foundation in software engineering principles, and I enjoy exploring new technologies and approaches to improve my skills. Apart from this, I enjoy reading books (currently migrating from fiction to self-help) and I write poems in my native language. As expressed above, I like to work for the betterment of society and what can be more joyful than contributing to such a great organization, which strived for the development of small children. Sugar Labs coordinates volunteers around the world who are passionate about providing educational opportunities to children through the Sugar Learning Platform. I believe that my skills and my passion for innovative

research make me a good fit for this project, and I am excited about the opportunity to contribute to its success.

Contact Information

Full name -   Dhruv Mishra
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Education

Institute -   Indian Institute of Technology BHU Varanasi
Degree -   B. Tech
Major -   Computer Science and Engineering
Graduation year - 2024
Courses taken -   Intelligent Computing, AI, Computer Graphics, IT,
                   Computer Vision, Computer Architecture, DBMS, OS, Software
                   engineering etc.
Current CGPA -   9.42/10

Other details

1. I had done my internship at CISCO Systems.
2. I am the tech team manager at E-CELL IIT BHU.
3. Worked with other top firms like BYjus as a freelancer.

Tech-stack and programming languages

C++, C, Python, JavaScript, MERN, VueJs, ChartJs, HTML, CSS, Django

Resume link : **Resume@Dhruv_Mishra**
Github link : **DhruvMishra1826**
LinkedIn : **Dhruv Mishra**

Languages i speak : English (Full proficiency) and Hindi (Mother tongue)

Location & time zone : Varanasi, India (UTC +5:30)

Project Details

Description :

SugarLabs is largely in maintenance mode for Music Blocks 3.0 while they continue to move forward on Musick Blocks 4.0. That said, there are a number of small bugs/regressions that would be worth fixing.

Task and details :

This project mainly deals with enhancements and bug fixes in the music blocks of sugarLab. I had gone through the issue section of the music block and saw that you are aiming to fix many minor bugs which are prevalent in music block version 3.0.

Some of the major issues which i have found are as follows :

1. As of now, the menu items of the palette box pops up, when we click on any element of the palette box.
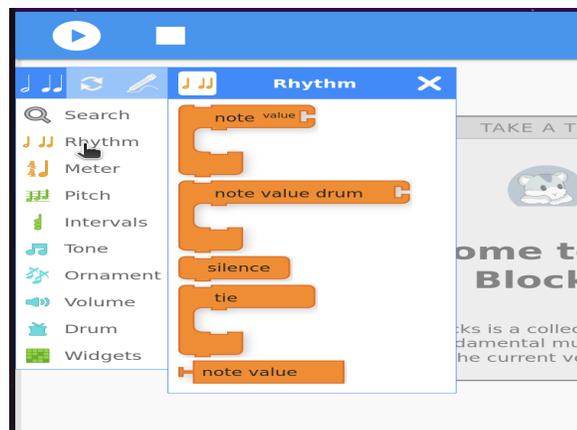
My proposal : In place of calling the event of opening the menu box (onClick), we should make that event fire (onMouseover). By doing this a student will be able to see the content of palette items by hovering or clicking on it.

2. The search bar in the palette box looks highly awkward, as when we click on search a search box appears which partially overlaps with the palette box.
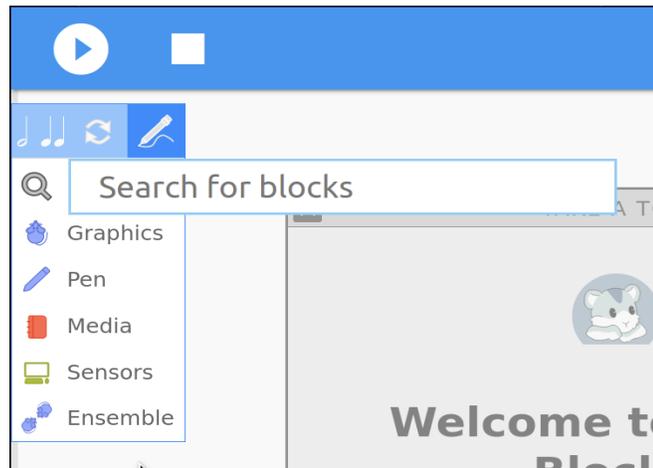
My proposal : In place of simply returning a HTML tag on (onClick) event, we should add an HTML tag having few stylings like margin, padding and the absolute positioning of the search box. This will provide the search box a non-overlapping interface.
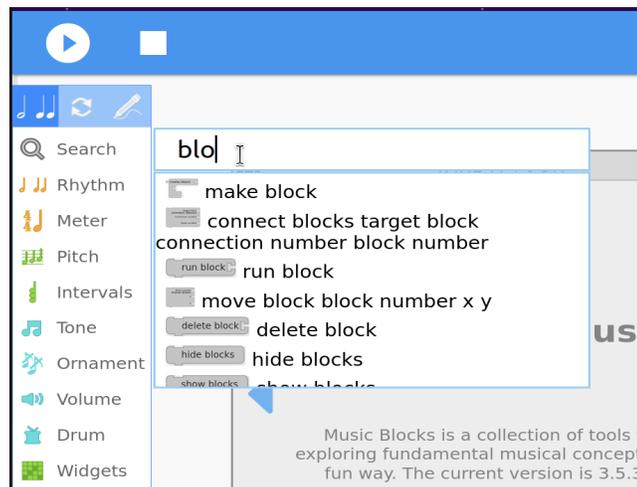
3. The menu items once popped out, can only be closed after clicking on the cross button on top right of it.
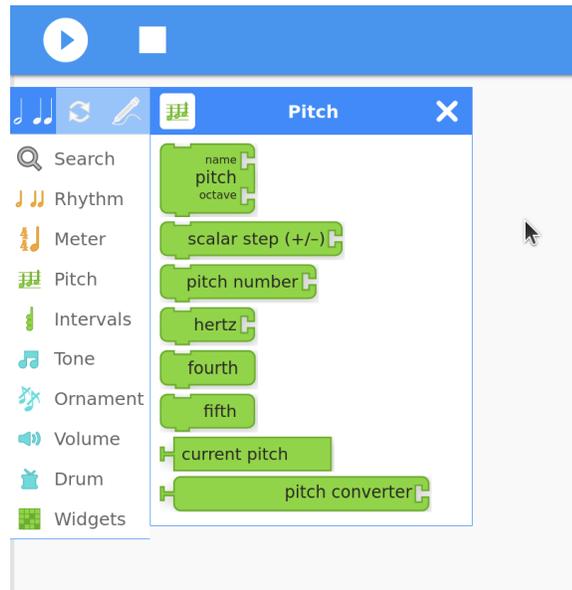
My proposal : The change should be made. A user should be able to close this menu item box even if he/she clicks anywhere else on the screen, not necessarily on the cross button. This can be easily implemented and amended.

4. The central "Take a tour" box once minimized does not show an option to maximize it, rather it again provides the option to minimize it. But now clicking on that minimizing button it maximizes the box.
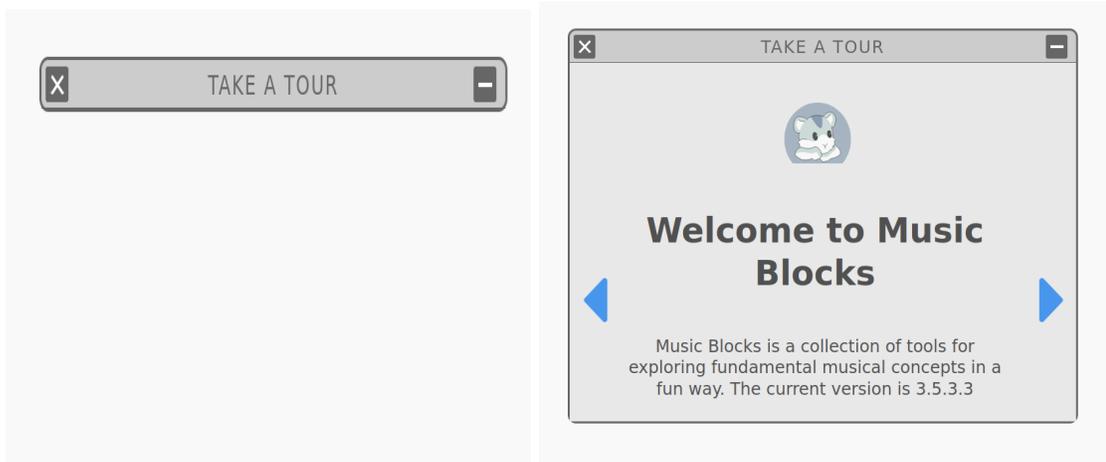
My proposal : Once the "Take a tour" box is minimized, now in place of the minimization button, a button to maximize should appear.

5. The selection wheel should be enhanced as the boundaries are not clear and the selected option should have some distinct features. In the current version the selected element is just changing its color to white but does not show clear distinction between the selected elements and the other elements.

My proposal : The wheel should be given proper styling such that it looks attractive and differentiate well between different options. It should also show the selected item with reasonable distinctions.
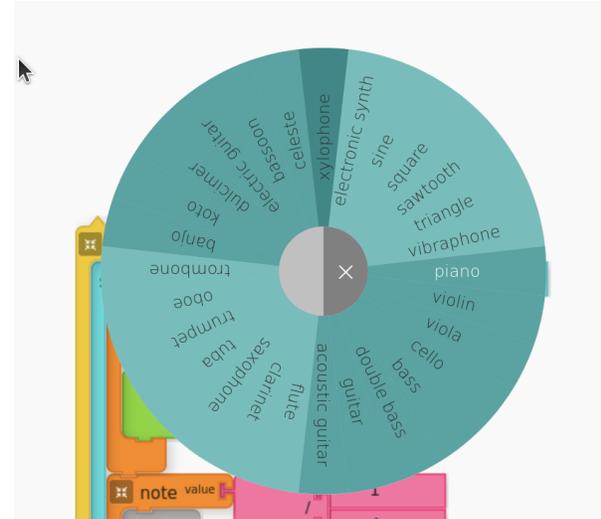
6. Clicking the "Home" button on the main page distorts the initial interface of the app.

    Initial landing page :
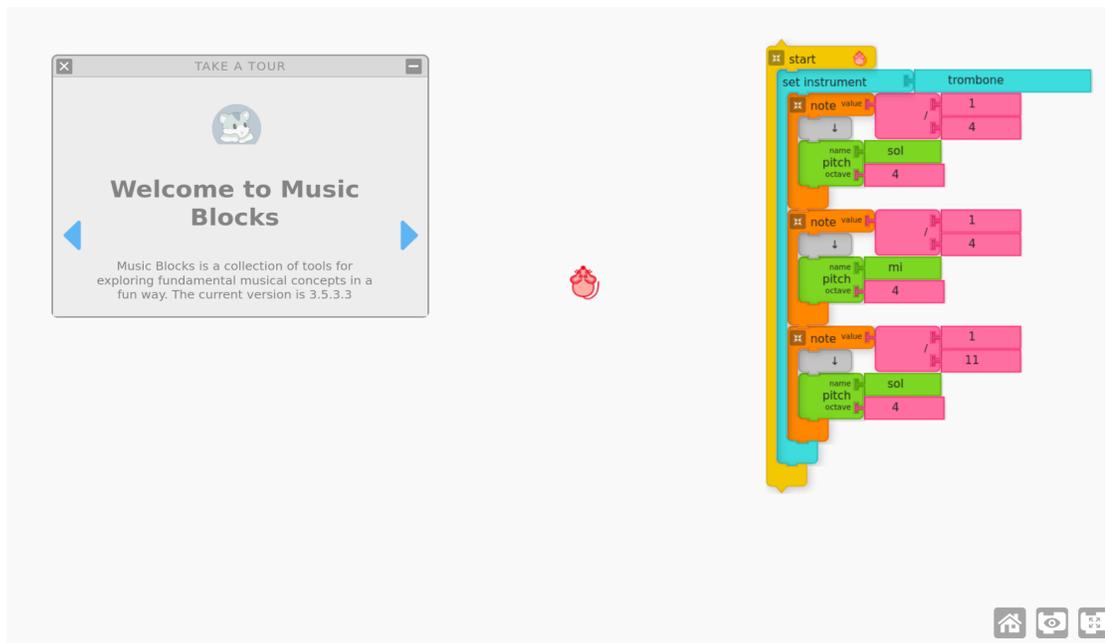
Landing page after clicking "Home button":
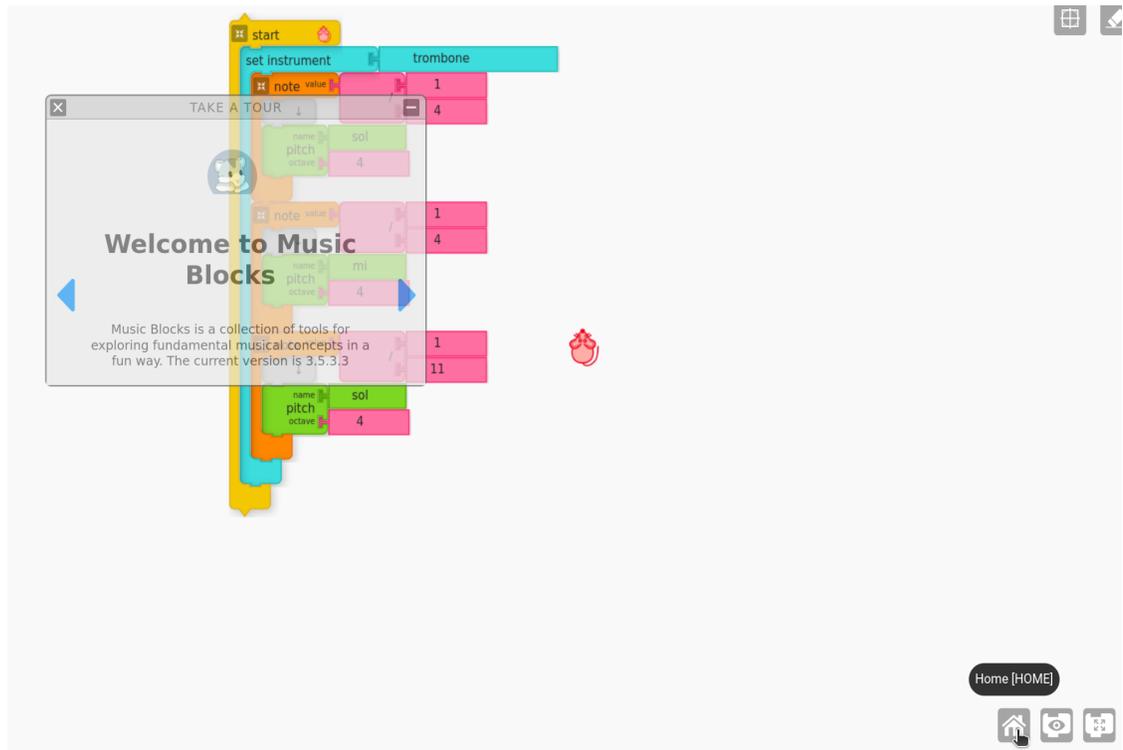
My proposal : On clicking the "Home" button the UI should not be distorted rather it should remain intact as it was earlier.

7. Remix titles are backwards in Japanese. ([#3078](#)).
8. Dismissing an error message removeArrow() is not found. ([#3066](#)).
9. Enhancement to full screen functionality of widgets. ([#2808](#)).

There are a few more bugs which can be solved on recommendation of mentors.

Open source experience and contributions

I got introduced to open-source projects and community in the second year of my undergraduate studies. Since my first year, I kept myself involved in developing and learning about software and technologies. I have been contributing to Sugar Labs for the past few months. During this time, I have contributed to various repositories of sugar labs like **ExerciserReact** , **sugarizer** and **music blocks** and fixed documentation, bugs, UI changes, enhancements etc.

These past two months have been a great learning experience. I also created a few genuine issues and some of them were considered by mentors and were fixed by me.

These are my contributions to Sugar Labs:

Pull request / Issues links	Description	Status
#3228	Fixes in the sugarizer Palette box's search bar (PR)	**Merged**
#172	Drag box fixes (PR)	**Merged**
#1347	Description box overflowing issue (PR)	**Open**
#161	Title bar lacks favicon (Issue)	**closed**
#162	Exerciser landing page UI (Issue)	**closed**
#165	MCQ Quiz question alignment (Issue)	**Open**

and many other issues ......

I am actively contributing to other github repositories also for the sake of overall development of the open source community. I am also a competitive programmer active on codeforces, codechef and atcoder and this too enhances my development skills as I not only aim to fix bugs or suggest solutions rather I aim to lay down a more optimized and efficient approach to solve them.

Projects / research works :

a. WaDS: IP Watermarking Using Dated Handwritten Signature
   I am the **co-author** of this research paper.
   This paper presents a novel dated handwritten signature based IP watermarking technique to secure the IP cores against piracy, counterfeiting and false claim of IP ownership threats. The results reveal that the proposed scheme outperforms the related approaches without incurring considerable design cost overhead.
   Status : Finished (To be published by Elsevier)

b. A decentralized approach to criticality and energy aware fog computing for remote health monitoring.
   I am the **author** of this paper.
   This paper basically deals with the computation of severity of the patient on the basis of data collected by various sensors on a local device like mobile and IOT devices. As the computation power of local devices are limited, hence for fast and latency free computation of severity of patients, we will be doing a medical offloading to fog servers which have higher computation power and allocation will be based on decentralized SAP based approach. Our main objective is to maximize the utility function which increases with decrease in patient cost and increases with increase in revenue to hospital.
   Status : Finished (Yet to be published)

c. A machine learning approach to matching graphs of audio and graphs of visuals of a news video, so that it can be checked whether what a reporter is speaking and what visuals the audience are viewing are congruent or not.
   Status : Finished

Timeline and Deliverables

	TIMELINE	DELIVERABLES	
MILESTONE 1	Week 1 May 29, 2023 - Jun 4, 2023	Basic planning of files and folder structure	
	Week 2 Jun 5, 2023 - Jun 11, 2023	Bug fixing -1	
	Week 3 Jun 12, 2023 - Jun 18, 2023	Bug fixing -2	
	Week 4 Jun 19, 2023 - Jun 25, 2023	Bug fixing -3	
	Week 5 Jun 26, 2023 - Jul 2, 2023	Bug fixing -4	
	Week 6 Jul 3, 2023 - Jul 9, 2023	Bug fixing -5	
	Week 7 Jul 10, 2023 - Jul 16, 2023	Bug fixing -6	
	Week 8 Jul 17, 2023 - Jul 23, 2023	Bug fixing -7	
MILESTONE 2	Week 9 Jul 24, 2023 - Jul 30, 2023	Bug fixing -8	
	Week 10 Jul 31, 2023 - Aug 6, 2023	Bug fixing -9	
	Week 11 Aug 7, 2023 - Aug 13, 2023	Amendments	
	Week 12 Aug 14, 2023 - Aug 20, 2023	Buffer	
	Week 13	Buffer	

	Aug 21, 2023 - Aug 27, 2023		

General Questions

1. **How many hours will you spend each week on your project?**
   Starting from May 16th until July 18th, I will be on summer break from college. During this period, I will be available for approximately 42-50 hours per week, and once college resumes, I can devote about 35-40 hours per week. With no other obligations during my summer break, I am able to dedicate the majority of my time to GSoC.

2. **How will you report progress between evaluations?**
   My activity on GitHub will be consistent as I plan to regularly submit pull requests to Sugarizer and engage with my mentors, providing visibility of my progress to anyone in the organization. This ensures that my advancements are well-documented on GitHub. Additionally, I intend to create weekly or bi-weekly blog posts to share updates on my progress, challenges encountered, and their corresponding solutions.

3. **How will it impact Sugar Labs?**
   It will enhance the user experience as our system will be less prone to bugs and provide a stable base version to version 4.0.

4. **Discuss your post-GSoC plans. Will you continue contributing to Sugar Labs after GSOC ends?**
   As I discussed in the introduction part only, I like to work for noble causes. The vision with which sugar Labs is working, highly attracts me to work for it even during GSOC

and after it. The satisfaction which I get after solving such issues provides me immense satisfaction and motivates me to work better in the next go. As, to conclude my answer is a big "YES".

5. Why should you select me for this project ?
   A simple and crisp answer to this question, I am very confident about this project and the work which I have to do in this project. For 1 month I have been scanning the complete codebase of sugarizer and music blocks. I feel I have required necessary skills and will be a highly fit person for this project. I have also tried to implement the things which are to be implemented during GSOC (screenshots provided). I hope you will surely provide me with a chance to prove it.

I am looking forward to contributing to Sugar Labs this summer season.
Kind Regards.