

Proposal for GSoC 2023

Resolve Issues / Fix Bugs on Area:Typography Issues

Contact Details

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About me

I am a postgraduate student in Galgotias University. I am doing a master of computer application (MCA). I am familiar with Html, CSS, JavaScript and React.js and Node.js and have basic knowledge of C and Java. Also, I have experience in React.js, Node.js and MongoDB. I use Windows 10 and Fedora 37 on a daily basis. I am confident about completing this project efficiently as I have been contributing to p5.js for quite some time. and I am familiar with the codebase. Also I like the wonderful and supportive community members at the processing foundation and would love working with them.

Project

Project Name

Resolve Issues / Fix Bugs on Area:Typography Issues

Possible mentors: Kevin Yeh, Paula Isabel Signo

Project Description

P5.js is a popular JavaScript library for creative coding and visual arts, However, there are several typography-related issues that need to be addressed. This project aims to resolve some of these issues by selecting and resolving several open issues tagged with “Area:Typography “. These issues include but are not limited.

- **Issue #3354:** Support ‘justified’ alignment as an option for textAlign.
- **Issue #3320:** Bring back textHeight()
- **Issue #3435:** Slower rendering of custom fonts (.otf, .ttf, etc.)
- **Issue #4243:** Add textlineHeight method to Typography

and many more.

This project involves improving the typography functionality of the p5.js library by fixing bugs, implementing new features, and enhancing documentation.

Deliverables

- 1. Resolve typography-related issues in p5.js library:** I will fix bugs and issues related to typography in the p5.js library. This may include issues related to text rendering, sizing, overflow, and alignment.
- 2. A robust and efficient p5.js Area: Typography codebase with improved functionality and usability:** I will work towards creating a more robust and efficient p5.js Area:Typography codebase. The new code should be designed to work efficiently across different platforms and browsers. The code changes should be well-organized, easy to understand, and follow the established coding conventions of p5.js. I will also improve the existing functionality of the p5.js Area:Typography. This may involve adding support for additional font formats or updating the typography-related APIs.
- 3. Improve typography functionality in p5.js library:** I will work towards enhancing the typography functionality in the p5.js library. This may involve adding support for additional font formats, text effects, or text transformation options. I will take care of that, the new functionality is user-friendly and can be easily integrated into existing p5.js projects.
- 4. Adding support for additional font formats** would involve expanding the types of font files that can be used in p5.js Area:Typography. Currently, p5.js supports TrueType fonts (TTF) and OpenType fonts (OTF) for text rendering. However, there are other font formats that may be used by designers and developers, such as Web Open Font Format (WOFF) and Embedded OpenType (EOT).
- 5. Update documentation for resolved issues:** I will improve the documentation of the p5.js Area:Typography. The documentation will include clear instructions and examples on how to use the new features and fixed code. It will also cover any relevant details related

to text rendering, sizing, and overflow, as well as text transformation options. I will ensure that the documentation is easily accessible and well-organized.

- 6. Enhanced code quality and reliability:** I will improve the overall code quality and reliability of the p5.js Area:Typography. The code should be well-structured, modular, and follow best practices. I will also ensure that the new code is thoroughly tested and that the tests cover different use cases and scenarios.

Timeline

Community Bonding Period (May 4 - 28)

- Introduce myself and this project to the processing foundation forum and mailing list.
- Remain in constant touch with my mentors. Set up requirements and discuss with the mentors.
- Discuss with mentors about the implementation plan.
- Try to fix bugs to get further understanding for p5.js source code.

Official coding Period (May 29 - September 4)

Week 1 - 2

- Familiarize myself with the p5.js library, its typography-related issues, and the development environment.
- Discuss and collaborate with mentors, to refine the project goals and priorities.
- Create a detailed project plan and timeline, outlining milestones and deliverables.

Week 3

- Identify and prioritize typography issues in the p5.js library.
- Analyze the root cause of issues and determine the best approach to resolve them.
- Begin implementing fixes and new features to improve typography functionality.

Week 4 - 5

- Continue implementing fixes and new features to improve functionality.
- Test the fixes and new features to ensure they work as intended and do not introduce any new bugs.
- Update the documentation to reflect the changes made.

Week 6 - 7

- Engage with the p5.js community to gather feedback and suggestions for improvement.
- Continue implementing fixes and new features as needed based on community feedback.
- Test the fixes and new features to ensure they work as intended and not introduce any new bugs.

Week 8 - 9

- Continue implementing fixes and new features to improve functionality.
- Test the fixes and new features to ensure they work as intended and do not introduce any new bugs.
- Update the documentation to reflect the changes made.

Week 10 - 11

- Ensure code quality and reliability by reviewing and refactoring code as needed.
- Engage with the p5.js community to gather feedback and suggestions for improvements.
- Continue implementing fixes and new features as needed based on community feedback.

Week 12

- Finalize implementation of fixes and new features.
- Test the fixes and new features to ensure they work as intended and do not introduce any new bugs.
- Update the documentation to reflect the changes made.

Week 13

- Submit the final project deliverables.
- Create a detailed report outlining the work completed and the impact of the project.
- Participate in the final evaluation process.

*** Final evaluation period (August 28 - September 4)**

- Deliver the working implementation of p5.js area: typography.
- Wrap up the project and submit the final evaluation of my mentor

Previous Contributions to P5.js

- [#6060](#) (merged): Allow textAlign(CENTER,CENTER) with max width but no max height
- [#6047](#) (merged): Document parameters of p5.Color constructor

Future Work

The proposed tasks for this project are only a starting point, and there is still much work to be done to improve the typography functionality in p5.js. Some potential future tasks that could build on the work done in this project include:

- Adding support for additional font formats, such as variable fonts, to give users more options for typography in their projects.
- Enhancing the performance of the text rendering engine to make it faster and more efficient.
- Adding support for advanced typography features, such as ligatures, swashes, and small caps.
- Developing tools for working with text in p5.js projects, such as a font picker or a text editor.
- Improving the accessibility of p5.js typography functions to make them more inclusive for users with disabilities.
- Adding support for improving the documentation of p5.js typography functions.

Do you understand this is a serious commitment, equivalent to a full-time paid summer internship or summer job?

> Yes, I understand. I will commit my full time to this project and can spend at least 40 hours per week. I have a great passion for coding. I am willing to pay for my efforts in making the library more convenient to use.

Do you have any known time conflicts during the official coding period?

> No, I don't have any time conflicts with the official coding time.

Why this project important to me

As I have been using the p5.js library for quite some time. and I have made various projects based on this library. So, I am more curious to contribute to this project. By contributing to the project, I can help make the library more efficient and user-friendly for a wider range of users, which can be incredibly rewarding. This project will definitely contribute to my study because, as I already use this library. but also help me improve skills in coding, writing documentation and getting involved in the open source community.

In addition to potential impact, contributing to a project can also provide an opportunity to learn and hone valuable technical skills. It can also be an opportunity to collaborate with other talented developers, learn new techniques and contribute to the open source community.

GSoC participation

This is my first time to apply for Google Summer of Code.