Logix – Plan

Abstract

The idea behind the project is to create a community of digital design students and enthusiasts. Taking inspiration from MIT-scratch, Desmos and GitHub. We don't have competitors who are trying the same. Right now, we are nearly on par with competition and after the completion of UX we will be at the same level if not better. The idea is to attract universities both in India and outside to use our product. Also, Logix generates high quality images including SVG, so some people might have commercial uses for this.

Feature plan

- Fork circuits – similar to GitHub
- Real time collaboration (not necessary)
- Version control
- Import circuits completely or partially from another user.
- Featured and recent circuits – like Desmos
- Starring, bookmarking circuits – like Scratch
- Embedding circuit in other websites (V important)

Phases

1. Front end – UX and feature development (Current)
2. Testing 1 – This is where the team members individually tests to bring to light any bugs which might have slipped through. We need to actually create circuits
3. Back end – Managing accounts, access levels, project data etc.
4. Testing 2 – This will be done on a larger scale involving our college profs and students. Here they will actually use it.
5. Launch phase – Involves documentation, sample circuits etc. – basically the web page. It also involves the business model. Branding and logo design is part of this too. Another thing is to design our SEO.

We should target to complete all this by end of 3rd sem.

Front End

In terms of the actual program, its nearly completed. Fine tuning here and there. However, lots of optimization needs to be done.

- Render the circuit only when required (partially done)
- Resolve circuit using pre-calculated results instead of resetting every time
- Use other graph algos to improve efficiency

Other tasks left

1. Plotting needs to be improved – smoother scroll, options, view plots of only selected flags, view inner circuit flags.
2. Sub circuit custom Layout – user can design his own sub circuit layout. This would be quite difficult to do and doesn't have any direct benefits.
3. Copy – paste CAD tools.
4. Debug tools – synced with the plotter.
5. Mini map.
6. Other GitHub issues

Back End

- Efficient store and retrieve of circuits
- Real time collaboration
- User account information
- Allowing version control / forking etc.

Right now, it's difficult to tell what work needs to be done here but once we get started it will become clear.

Documentation

Both inside the main software and outside, documentation should be well done. Each feature should be listed and explained. FAQs need to be written. This will help attract new users. Our documentation should also include a bit of information of digital design, so new users can learn from Logix itself.

Sample Circuits

Similar to simulation.io and Desmos, we will have to enlist some sample circuits so that users can know what Logix is capable of.

SEO

Since the idea is to develop a community it is very essential that are website has a proper SEO. Essentially if someone googles for asynchronous counter or something like SAP, we should hope for our product to turn up.

Business Model

Since server costs will be high to implement all our features, we will need to monetize our product. This does not mean we will not have free options. I am hoping innovation center will help us in this matter.

Desktop Version

We can have offline tools created using electron which syncs with the servers. This is optional.

Future features

- Implement timing specification.
- Generate circuit directly from FSM design.

Important Note

Someone asked me if we are to make profits how would we split it. I think I will decide the splits based on how much each person does and the quality of work. We might need to give a percentage to the college too. I will try to be as fair as possible and my decision on this will be final. I request your cooperation in this matter.

Rules

- No one merges or accepts any PRs in the main repo. Any changes that needs to be done has to be done in their private forks. Creating branches has to be done sparingly to avoid confusion.
- Each member takes responsibility in keeping the code safe.
- Forks need to be private.
- Have fun working with Logix ☺