GSOC Student Application & Proposal

OpenELIS Global GSOC Program 2024

Student Name	**Aditya Deshlahre**
OpenELIS Talk profile link (e.g. you can find this [here](#))	https://talk.openelis-global.org/u/**aditya**/summary
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Country	**INDIA**
Preferred method of contact & details (e.g. phone, email, IRC, etc.)	**MailTo** : wymaditya@gmail.com Twitter/X, LinkedIn
Project Idea	**Rewrite Admin Page components from JSP to React**
Project Description	**Most of the current Admin page Functionalities are still on the old JSP UI. This project aims at re-writing key admin components from JSP to React including User management, Organization Management, and Provider Management**
Potential Mentor	**Casey liams-Hauser**

This application contains:

Required Sections

About Me

1. Tell us a little about yourself. Who are you? What are you studying?
    *   I am Aditya Deshlahre, a Full Stack Developer and Sophomore Student at Delhi University. Currently pursuing Mathematics and Computer Science as Professional studies and loves to contribute to Opensource and fixing problems also building interesting stuff. Contributing to open source gives a sense of getting involved in the communities and gaining real-world experience in a production-ready code environment which helps to enhance the code writing capability.

2. Why are you the right person for this project?

    *   In 2023 I got introduced to open-source organizations code bases are open to look at. To get involved in there I look at their code, find the possible issue and their fixes, and contribute to them. Most of my contributions out of OpenELIS org are based on NextJs, React, TypeScrip and Javascript and BUG fixes. So I am quite confident to tackle the issues and major conversion from JSP code to React Framework.

3. Describe in detail your software development experience by various technologies. Include all technologies you have used for development projects.

    *   I exclusively work with projects written in either JavaScript or TypeScript, both of which are part of the JavaScript family. TypeScript, renowned for its robust type safety, is my preferred JavaScript extension. To manage code in a single repository, I turn to TurboRepo. When it comes to backend route handling, I stick with NodeExpressJs. Docker is my preferred choice for containerization. I'm proficient in both SQL and NoSQL databases. Additionally, I use tRPC to ensure type safety in connecting the backend and front end. For responsiveness, I integrate Tailwind CSS. Although I'm adaptable to switching stacks, documentation is key for me.

❖ A brief overview of technology stacks that I can understand and use effectively.

➢ ReactJs
➢ NextJs
➢ Docker
➢ MonoRepos
➢ Typescript
➢ MySql

➤ Prisma & MongoDB [ORMs]
➤ tRPC
➤ TailwindCSS
➤ Python [Not Proficient]
➤ Java [Data Structure and Algorithms]
➤ PostMan [Route Testing]

4. List any previous experience working with open-source projects other than OpenELIS.Global (This experience is not a requirement.)

- **Hacktober Fest 2023** : This was the first official open-source event that helped me get my first experience of open source to my LinkedIn Profile.
- **FormTribe Hackathon 2023** : An open-source program where contributors can win multiple swags and bounty for writing code and finding and fixing bugs.
    - Became the **Guidance Guru** [3rd runnerup]

5. Provide links to any projects created by you, or other source code examples.

- ZeetCode
    - T3-stack based application
    - **T**RPC-**T**ypescript-**T**ailwindCss-**N**extJS
    - MOTE based project
- Fasoshop
    - UI practicing Project
    - ReactJs wrapper NextJs-based built project
    - Postman test suite learned
- Course Selling Website
    - MERN stack-based project
    - user/admin authentication
- E-Mart [eCommerce UI]
    - Practicing React via manipulating UI
    - Learned concepts of ReactJs [Routing, Components, Hooks]
- Queue Base Code Checking
    - This project is a Minimum Viable Product of Leetcode.
    - Queue-based code submission in Judge0 Docker container which evaluates the code and spits out the code output/error/results
    - It uses the Reply Request Pattern to manage multiple code submissions from different source
- Code-Executor
    - This project aims to run multiple language codes in a containerized environment [ubuntu-docker-container]

Open Source Contribution [OutSide GSOC & OpenELIS Organisation]

- ● These are a few open-source contributions that I have performed in general to contribute to the open-source. Which helped me to gain confidence and get better at applying knowledge to real-world codebase.

Issue	PR Link	Organization
https://github.com/formbricks/formbricks/issues/1355	https://github.com/formbricks/formbricks/pull/1362	FormBricks
https://github.com/formbricks/formbricks/issues/983	https://github.com/formbricks/formbricks/pull/1111	FormBricks
https://github.com/un/inbox/issues/9	https://github.com/un/inbox/pull/15	Un/Inbox
https://github.com/documenso/documenso/issues/523	https://github.com/documenso/documenso/pull/516	Documenso
https://github.com/documenso/documenso/issues/546	https://github.com/documenso/documenso/pull/548	Documenso
https://github.com/documenso/documenso/issues/555	https://github.com/documenso/documenso/pull/558	Documenso
https://github.com/formbricks/formbricks/issues/1015	https://github.com/formbricks/formbricks/pull/1020	FormBricks
https://github.com/formbricks/formbricks/issues/969	https://github.com/formbricks/formbricks/pull/1010	FormBricks
https://github.com/un/inbox/issues/22	https://github.com/un/inbox/pull/26	Un/Inbox
https://github.com/formbricks/formbricks/issues/892	https://github.com/formbricks/formbricks/pull/893	FormBricks
	TOTAL	**10**

GSOC Background

6. Do you have any other commitments during the program? (Include any and all holidays, vacations, travel, exams, classes, research projects, other work, job offers, etc.)

- I have a **semester's exam** where the date range is **[21 May TO 07 June]** and I have a **preparatory leave** of date range **[12 May TO 20 May]** before exams going to commencement. In that range, I might have lower performance but I would try to give my best.

7. Have you participated in Google Summer of Code before? If yes, please mention the year, respected Organization, and your final result (Pass/Fail). *(Note: This will not affect your current application, it just helps the reviewers to have this background.)*

   - No, I haven't participated in Google Summer of Code before this is my first time, and am very excited about it

8. Are you planning to be a Mentor for a Google Summer of Code project this year (2024) in any other organizations? If yes, which Organization(s)? *(Note: You can't be a student and mentor in the same year.)*

   - No, I don't have any plans for being a mentor this year for any Google Summer of Code project 2024, but I am sure I will become a mentor in the upcoming years.

9. Are you planning to apply to multiple Organizations this year? If yes, which Organization is your first preference if you get selected for both Organizations? *(Note: This does not need to be OpenELIS; please mention your preferred selection to help the reviewers.)*

   - No, I am not applying to multiple organizations. Since that, this organization has been my first preference.

OpenELIS Experience

10. Describe your interactions with our community so far. Include dates of developer forums you have attended, and include any IRC nicknames used when visiting our channel previously.

    - Community communication is one of the keys that helps to solve problems or issues regarding anything around the codebase. Discussing your progress week by week gives us the confidence to give more towards open-source & Community. Overall it's always been a pulse point for me to be connected and will always be with the community.

IRC/MEET/ZOOM names	Aditya (A.K.A wym aditya)

GoogleMeet	Dev Discussion/ Community Calls
	- Jan 25 [missied] (first call) - Feb 08 [Joinned] (Introduction) - Feb 15 [Issues Disscusion] - Feb 22 [PR progress showoff] (the call was led by Rahul) - Feb 29 [PR progress showoff] - March 08 [Call didn't happen]
ZoomCall	Dev Discussion/ Community Calls
	- March 14 [PR progress showoff /community interaction] (first Zoom call) - March 21 [Discussion] (this call was led by me)

11. **Code Contributions:** Please include all relevant issue numbers, pull requests, commit links, etc in the table below.
    *Note: You must have made **at least two coding contributions to OpenELIS Global before submitting** your application. If you don't include this information, your proposal will **not** be reviewed.. It's not necessary for your pull requests to be merged; we just need to see that you've made some effort to learn the basics about OpenELIS development.*

Issue	PR Link	Status (e.g. In Progress, Pending Review, Merged)
https://github.com/I-TECH-UW/OpenELIS-Global-2/issues/698	https://github.com/I-TECH-UW/OpenELIS-Global-2/pull/704	Merged
https://github.com/I-TECH-UW/OpenELIS-Global-2/issues/705	https://github.com/I-TECH-UW/OpenELIS-Global-2/pull/714	Merged

https://github.com/I-TECH-UW/OpenELIS-Global-2/issues/753	https://github.com/I-TECH-UW/OpenELIS-Global-2/pull/786	In Progress
	TOTAL	**03**

Project Proposal

Describe in detail how you would plan to approach the project. What is your primary goal, and objectives? For each one, what activities will you do in order to meet those objectives?

❖ **Project Title**
  ➢ Rewrite Admin Page components from JSP to React

❖ **Project Context**
  ➢ OpenELIS Organisation Admin Page has a wide variety of technical & result output pages, Management pages, functional pages, tests and units pages, Nav Menu pages, and other Menu page configurations. All the pages are currently written in JSP (Jakarta Server Pages) which are embedded in different Java controllers.
  ➢ All the pages have specific controllers where those point to their API endpoints which modify the working of the pages or configuration of outputs or the functional pages.
  ➢ There are many pages that should be converted to the new React UI by completing all the functions/operations of the Java controller which should work the same as the JSP page on implementation.

❖ **Project Goal**
  ➢ The aim of my involvement in this year's GSoC program is to recreate the remaining pages in ReactJs so that it should be compatible with all devices and have continuous involvement in the health and clinical industry. Also fulfills all web interfaces and functions which makes it easy to use all over the industry and makes it a standalone test management solution.
  ➢ There are a number of pages where API endpoints should be converted to RestEndPoint and output rendered out newer ReactUI pages and fixing existing bugs and renderings pages.
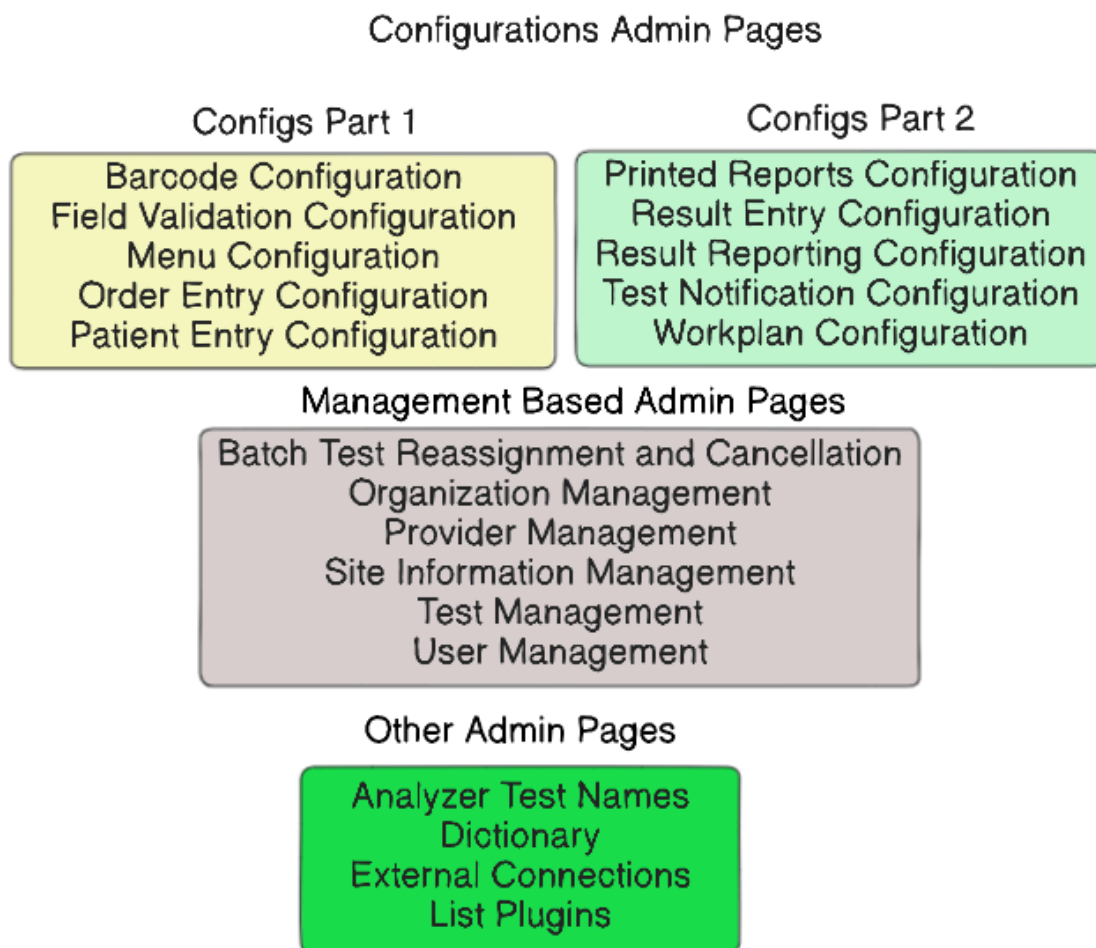
❖ **Approach**
  ➢ Most of the routes need to be converted to the Rest endpoint and rendered out in react UI using JSON Objects which should be split out from those Rest endpoints [
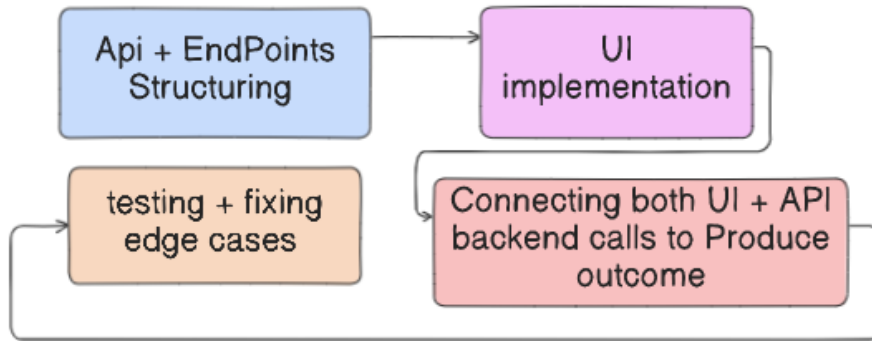
underhood Java Controllers]. This part which is am very excited about this because of learning Routes creation & handling the input and spitting out expected results to the USER in Java spring boot with JVP web configuration.

➢ Once compatible routes and handling APIs and Endpoints are successfully created then I will move to recreating the old JSP UI and Components to React UI and render out the JSON objects to the front end.

➢ I will keep the progress in check with the timeline proposed and will be in touch with the dev team. If I get stuck on a problem for a long time then I will ask the mentor for guidance and will learn and try to solve the problem.
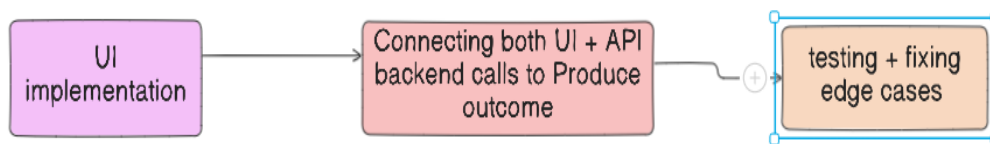
❖ Here are the destructured format/flow Legacy Admin Panel pages in which I will be working

Configurations Admin Pages

Configs Part 1
Barcode Configuration
Field Validation Configuration
Menu Configuration
Order Entry Configuration
Patient Entry Configuration

Configs Part 2
Printed Reports Configuration
Result Entry Configuration
Result Reporting Configuration
Test Notification Configuration
Workplan Configuration

Management Based Admin Pages
Batch Test Reassignment and Cancellation
Organization Management
Provider Management
Site Information Management
Test Management
User Management

Other Admin Pages
Analyzer Test Names
Dictionary
External Connections
List Plugins

● Maintaining the code and UI weightage of both the parts to complete within the timeline.

❖ Code Flow for building the whole JSP page with Java controller to react UI + RestEndpoint: -

❖ Code Flow for recreating old JSP UI to React UI:-

Timeline

Show us what goals you hope to achieve, by when. *(Note: You can combine this with the Project Proposal section above if you prefer.)*

Duration	Milestone
18 March - 01 May	**Application Review period** ● JSP Components cases analysis ● Learning Spring Boot + Maven development [webframwork] ● Routes and API handling within the code base ● API EndPoint understanding and it's all edge cases ● Understanding workflow thoroughly ● Work on existing open issues and try to implement fixes ● Try to grasp more components of the Carbon Design System and its working on the overall code base ● Re-Writing Old JSP Components to New React UI

01 May - 26 May	**Community Bonding Period** ● Discussing the Approach to the mentor to understand designs and working on further JSP components ● Refactoring all the Tiers of layouts to maintain symmetry in the codebase for easy updation of components ● Deciding the functional of JSP components and important bits ● Implement UI of Legacy code to React
27 May - 26 August	**Coding Period Begins**
27 May - 02 June	● Design Discussions ● Legacy Admin routes structuring ● Components and Reusables Buttons
03 June - 09 June	● Configuration [config type component] UI Implementation ● API routes and EndPoint management/calling from React UI
10 June - 16 June	● Fixing components and Configs API connections ● Extending + Connecting React frontend to backend route calls
17 June - 23 June	● Implement [several Configuration type components] to React UI ● Managing API and routes calls while maintaining usability to Spring + Maven Backend
24 June - 30 June	● Debugging & Discussion on code previously implemented week ● Testing EDGE cases [ReCreated Pages + Backend Routes]
01 July - 07 July	● Menu Related admin page UI implementation to React ● Discussion of Further page implementation [User, Test
08 July - 12 July	**Midterm Evaluation** ● Documenting my Journey on Blogs [Previous works IN Blog Format]
12 July - 21 July	● Menu-based Api + EndPoint backend call management ● Routes handling of MENU configs

22 July - 28 July	- Management-related pages Implementation to React Ui - Routes handling [Make page operational]
29 July - 04 August	- Other UseFull pages rewriting in React - Api + EndPoint fixes
05 August - 11 August	- Test [configs] Admin pages rewriting in React - Connection all configs parms to backend
12 August - 18 August	- Debugging & Discussion on code previously implemented week - Testing EDGE cases [All Pages Implemented + FrontEnd Testing]
19 August - 26 August	- Final Testing [frontend + backend routes and all API + EndPoint] - Video Creation [workFlow of Admin Pages] - Blogging Code Journey

End of Proposal