

RETROSHARE

Google Summer of Code 2021

Proposal **(RS WEB UI)**

PROJECT TITLE :

Implementation of remaining Retroshare Web interface.

BASIC INFORMATION :

Contact Information:

- Name: Avinash Kumar.
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- IRC/Gitter/Github : [Kumaravinash9](#)
- Retroshare Identity name : Avinash Kumar
- Phone number: +91 6204840373
- Country/ Region: Varanasi, India
- University : Indian Institute of Technology (BHU), Varanasi .

Skills:

- Strong command on Backend (FrameWork: NodeJs (express)).
- Strong Command of HTML, CSS, Bootstrap and JQuery. (Frontend)
- Proficient in Data Structures and Algorithms.
- Strong command on C++ & STL .
- Depth Knowledge on Flutter, Firebase.
- Basic in Java.

Version Control

- Strong concepts of Git. I use Github and Gitlab a lot.

ABOUT :

I am a third-year undergraduate student pursuing B.Tech from the Indian Institute of Technology, BHU.

I have been doing web Development & App Development since my first year. I have experience in working with large codebases as well as making something from scratch through previous internships and my own projects. Along with that, I have a strong hold on Data Structures and Algorithms.

I believe I am the right choice for this project and will work on this full time over the summer. I will give weekly updates about my progress and ensure I deliver according to the timeline set.

Some of my other relevant *achievements/ experience* are:

- Worked as a **Flutter developer intern** at Jashara Private Limited :

During this internship, my job was to understand the whole source code, find bugs, their solutions, Writing logic part, refactor codes, improving UI and helping the team to deploy the application successfully on the Playstore. Link: [Tax Whizzer](#).

- Worked as a **Backend Developer Intern** at Billbolo Private Limited (January 2021 to April 15, 2021) : (Tech: Node js, MongoDB) (Language: Javascript)

During this internship, my job was to create Apis for the merchant/customer android app in which I had created authentication APIs, payment-related APIs, merchant & user banks related APIs as well as store these information into MongoDB database and successfully deploying these APIs on the AWS EC2 instance.

- Successfully cleared Uber Hashtag First Round.
- Institute Rank under 30 on Geeks for Geeks. Link: [Link](#)
(Data Structure and Algorithm Platform)
- Have done a lot of projects on web development and app development that are available on my Github account.

PROJECT GOAL:

The project's main objective is to create a remaining web interface for the Retroshare using JSON API, mithril, HTML and CSS so that nodes will use all the available features of Retroshare through Web Interface.

Possible Mentors :

- [Csoler.](#)
- [G10h4ck.](#)

PRE-GSOC INVOLVEMENTS :

Contribution to Retroshare Web UI:

By thoroughly going through the code base for the **RetroShare Web UI**, I found some bugs, fixed some additional things that should be integrated into the repository on an as-needed basis. To make them and to overcome the issues I have presented various PRs and Issues:-

Some of my contributions are:

- [#25](#): Implemented Network -> sort friends Online / Offline.
- [#23](#): Added code for People -> Edit identity as well as a fixed bug which was coming while creating identity.

- [#27](#): Feature Request: Adding bootstrap 4 for the implementation of better UI . (**discussed on retroshare Dev forum and request has approved**)
- [#21](#): Made a login Page responsive.
- [#23](#): Made a PR that aligned the CheckBox and Friend Profile pic with its respective elements.
- [#23](#): Made People edit, Create identity popup responsive.
- [#18](#): Updated Readme.md for Windows setup.
- [#28](#): After deleting the identity, the Web page still shows the deleted identity.

Currently working on People -> contacts UI improvement and discussing some additional features with mentors and other community members through the Retroshare Dev Forum which we can add to Retroshare WEB UI.

In addition to these, I will keep on contributing to the repository before the official time for the project starts.

Pervious Open Source Experience :

[Aossie Scholar](#) (A chrome extension which calculates proper metrics of Scholars) (Tech: Javascript, Postgres, Django and Chrome API)

- 7 merge requests.
- 10 Issues created.

[Aossie Monumento](#) (a cross-platform app that provides new way learning opportunity of popular monuments using Augmented Reality, LandMark detection API and Wikipedia content) (Tech: Flutter, Native android, Web View and Firebase)

- 13 merged Request.
- 17 issues created.

PROJECT OVERVIEW:

RetroShare provides a decentralized, encrypted connection with maximum security between nodes where they can chat, share files, mail, etc. Retroshare uses GXS (Generic eXchange System) that provides Asynchronous distribution, authentication, privacy, security of generic data. Retroshare is available on all platforms like Android, Linux, macOS and windows.

The aim of the project is to implement the remaining all the features of Retroshare in the web interface. Some of the features have already been implemented. My job would be to test all the features, fix bugs and develop the rest of the interface. I'll try to finish as many features as I can during my Google Summer of Code

coding period and work on the rest after that as mentors and other members keep suggesting better ones.

TO DO LIST :

- Finding and Fixing bugs in the existing Codebase.
- Adding Bootstrap 4 framework for creating better UI.
- Improving Home Screen UI.
- Improving UI of People -> contact list.
- Implementing UI and logic code for the Private Chat, Distant Chat and Main ChatWeb Page.
- UI improvement for the Config web page, Files Web page and Channel Web Page.

BASIC TO DO LIST :

- Adding Left Sidebar For Navigation Purposes.
- Removing Retroshare Certificate option and adding logic for connecting new friends through retroshare id.
- Implementing UI and logic for connecting new friends through PopUp in Home Screen.

- Adding Chat Widget in network Screen for Direct Chat.
- Adding the turtle search feature in the files tab.
- Implementing feature to start a mail /chat directly in Network -> Friend.
- Improving UI for Contact list as well as add features to start a chat and mail via the button.
- Adding Github actions for checking code is formatted or not Using eslint .

APPROACH :

Retroshare automatically generates the boiler code to deal with JSON API from comments using Doxygen. All the routes are present in the libretroshare/src/retroshare folder in the Retroshare repository. After checking the libretroshare/src/retroshare folder, We will understand how many routes are available, their return type as well as their arguments. After knowing the information about the routes, I will do the API call using mithril and output their return type on the Web page accordingly using HTML, mithril and CSS.

TIMELINE :

Duration	Milestone
<p>April 13, 2021 - May 17, 2021.</p>	<p>Application Review Period</p>
<p>Note :</p> <p>April 23, 2021 - May 02, 2021.</p> <p>(Busy in Semester Examination)</p>	<ul style="list-style-type: none"> • Will do an in-depth analysis of Mithril's concept like functional components, MVC pattern, lifecycle methods and so on. • Will do an in-depth analysis of the codebase of the RS WebUI and Retroshare so as to get familiar with it and also find any more issues related to it. • Finding Bugs and creating issues. • Solve all the bugs and issues on the repository.

**May 17, 2021 -June 07,
2021.**

Community Bonding Period

**May 18, 2021 -May 24,
2021.**

- Interacting with the mentors, other developers and getting their views regarding UI change and also the things they want to be included in the UI.
- Adding bootstrap in the existing codebase.
- Deciding UI for Web Pages.

May 25,2021 -June 7,2021.	<ul style="list-style-type: none"> • Improving UI of People -> contact list. • Implementing UI and logic for connecting new friends through PopUp in Home Screen . • Removing Retroshare Certificate option and adding logic for connecting new friends through retroshare id .
June 07, 2021 -August 16, 2021.	Coding Period Start
June 07, 2021 -June 25, 2021.	<ul style="list-style-type: none"> • Implementing UI and logic code for the private Chat, Distant chat and main Chat Web Pages .
June 26,2021- July 12,2021	<ul style="list-style-type: none"> • UI improvement for the Config web page and Files Web page. • Adding Left Sidebar Widget For Navigation Purposes. • Improving UI for Contact list as well as add features to start a chat and mail vai button.

July 12, 2021 –July 16, 2021	Phase 1 evaluation
July 17,2021– July 27,2021	<ul style="list-style-type: none"> • UI improvement for Mail Web pages. • Implementing feature to send mail from web pages. • Adding the turtle search feature in the files tab. • Implementing feature to start a mail /chat directly in Network -> Friend.
July 28,2021– August 16,2021	<ul style="list-style-type: none"> • UI improvement for Channel's web pages . • Adding Chat Widget in network Screen for Direct Chat. • Adding a Pipeline test using eslint for checking code is formatted or not. • Completion of pending tasks if any.
August 16, 2021 –August 23, 2021	Submit Code and Final Evaluations

August 31, 2021	Result Announced
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Apart from all these I would be very much interested in implementing any ideas suggested to me by the mentors in addition to these features.

Where do I plan to publish my source code ?

I will be working on a separate branch on git and uploading code to the forked repository almost on a daily basis, and will be creating pull requests when a complete feature is done.

MOTIVATION:

My inspiration for GSoC this year is making myself more familiar with open source Organization. when I saw this project, I felt that it was something I could do. I believe this project can definitely help me expand my boundaries, as this is the first time I will be working on an open source project. This possibility is very exciting for me.

I chose this particular organization because it is very well-aligned with my interests and also correlated to what I have worked in the past. Other

than this, this project provides a good opportunity to apply my learning on a practical scale. This is my field of interest and therefore the natural inclination to this project.

AVAILABILITY :

The official GSoC period is from 17 May to 23 August. I can easily devote 25-35 hours a week till my college reopens and 20-25 hours per week after that I'm free on weekends . I intend to complete most of the work before my college reopens.

Other than this project, I have no commitments/ vacations planned for the summer. Also, I don't plan on doing any internships this summer. I shall keep my status posted to all the community members on a weekly basis and maintain transparency in the project.

AFTER GSOC :

Being a part of such a vast community is a great opportunity in itself and I would love to collaborate with others throughout my project timeline and even after that, as this is the true essence of Open Source culture. I'll be an active member in the community and keep contributing. My motivation would always be that I'd be able to contribute to something big and widely in use . This gives me a lot of satisfaction.

REFERENCES:

- <https://mithril.js.org/hyperscript.html>.
- <https://github.com/RetroShare/RetroShare>.

