Google Summer of Code'24 Project Proposal

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Course: Bachelors in Mathematics and Computing

University: Indian Institute of Technology, Patna (IIT Patna)

Country: India

GSoC Full Time: Yes

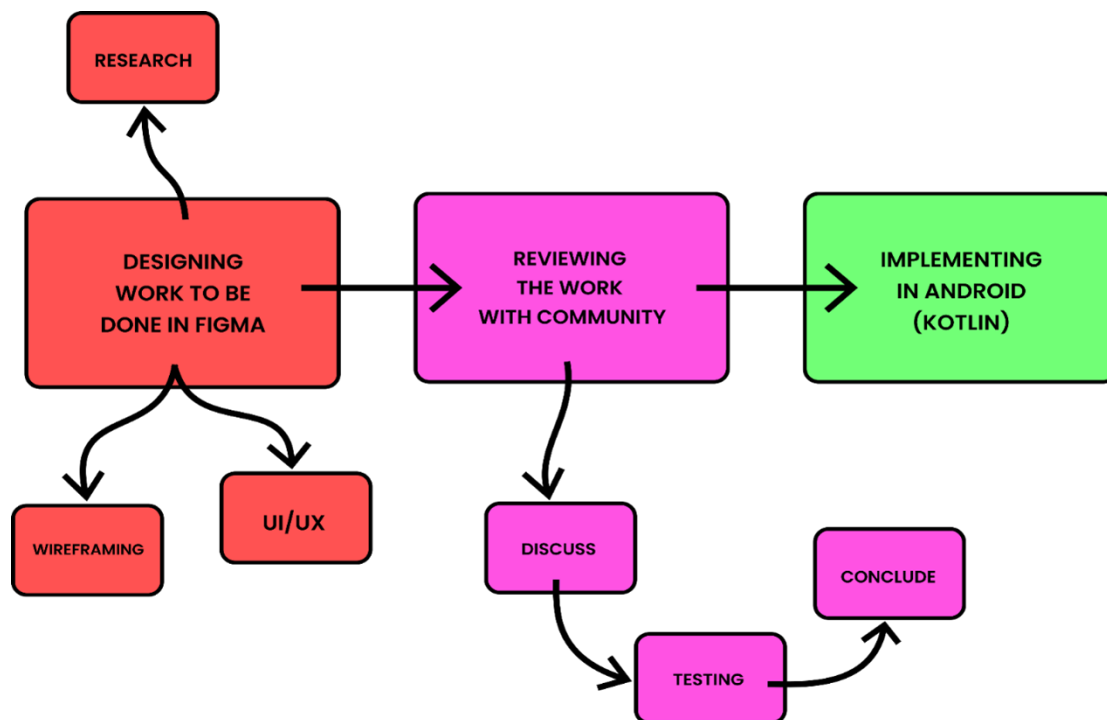Links: [Github](#)   [LinkedIn](#)   [Website](#)   [Skype](#)

Synopsis

Wikimedia Commons is an Android app that enables users to upload and view pictures from their Android phone/tablet on the Commons server. Aim of this project is to improve upload queue management, and modernize the app.

Mentors - @Nicolas_Raoul @RitikaPahwa4444

Have you contacted the mentors already ?

Yes.

Deliverables and Implementation Strategy

- Implement new design for upload queue management
  - Here is the proposed design https://github.com/commons-app/apps-android-commons/issues/5583#issuecomment-1977122906. I hope to make more changes as per the suggestions and feedback.
  - For the proof of work with User Experience Design I have attached issue raised and pull requests created by me for UI Design.
- Implement Real Queue and Write Test Cases for newly Added Functionality
- Fix queued upload gets stuck and restarting the app does not make it start
- Prevent retries for genuinely failed uploads
- Fix the app erroneously showing successfully uploaded images as "Failed"

- Since app shows "Failed" due to cutting off internet a right time. This should be fixed by verifying the information of current uploads with server on network change and changing the UI as per the data received.
- Prevent Duplicates
- Nearby: Load pins as the user moves the screen, cache pins, remove "search this area" button
- Split Nearby into a fast query for coordinates + a details query for each pin.
  - Already Implemented https://github.com/commons-app/apps-android-commons/issues/4560#issuecomment-2025317506
- Feedback about a Wikidata item
- Write Documentation and Create Test Cases for all the functionality created.

Timeline

Period	Task
May 4 to May 26	**Community bonding period**
	• Wikimedia Hackathon'24 (May 4 to May 8)
	• Introduce myself to mentors and other contributors (May 9 to May 26)
	• Develop new UI for upload queue management in Figma
	• Take feedback from others (Contributors + Mentors) regarding new UI
	• Implement new design
May 27 to May 29	Write test cases for the newly implemented design
May 30 to June 12	• Nearby: Load pins as the user moves the screen, cache pins, remove "search this area" button
	• Fix failing test cases caused due to replacement
June 13 to June 26	• Implement real queue in which uploads should be performed one by one
	• Write test cases for new added functionality
June 27 to June 30	Fix queued upload gets stuck and restarting the app does not make it start Issue #5603
July 1 to July 7	• Prevent retries for genuinely failed uploads Issue #5284
	• Prevent duplicates Issue #5608
July 8 to July 12	**Mid Term Evaluations**
July 13 to July 19	Fix the app erroneously showing successfully uploaded images as "Failed" Issue #5280

July 20 to July 31	Enqueue failed uploads, rather than uploading them simultaneously with the ongoing upload Issue #5283
August 1 to August 3	Feedback about a Wikidata item Issue #2425
August 4 to August 15	Split Nearby into a fast query for coordinates + a details query for each pin Issue #4560
August 16 to August 28	• Write documentation and update appropriate guides for implemented functionalities
	• Complete if there is any backlog
August 26 to September 2	Mentors submit final GSoC contributor evaluations
September 3	**Initial results of Google Summer of Code 2024 announced**

Participation

- Communicate with the mentors through Github or Zulip and incorporate all the suggestions.
- I will be online on my working hours 9 am to 9 pm (GMT+5:30)
- Write blog on medium on completion of every task.
- I am also available to be contacted through my email.

About Me

I am Kanahia, a student of Mathematics and Computing at the Indian Institute of Technology, Patna (IIT Patna), I am a coding enthusiast. It has been 2 years since I started working with Android, I am comfortable with Firebase, Git, UI Development, Retrofit, and Canvas. I have also worked with NodeJS, Express, and MongoDB. I gained my experience by working with the Android team of my college that creates apps for Inter-IIT competitions and created apps for fests that take place in the college.

How did you hear about this program?

I got to know about this program from my seniors.

We advise all candidates eligible for Google Summer of Code and Outreachy to apply for both programs. Are you planning to apply to both programs and, if so, with what organization(s)?

I am only applying for Google Summer of Code.

My Personal Projects:
[Boolian](): The main idea of this app is help users to learn NFTs with the help of Images, Articles, and Videos. The course in the app is created to help users learn perfectly. The project is different as there are few resources to learn NFTs. In this project, I created custom UI components that are not available in Android itself. In this project I used Firebase Auth, Firebase and I created the UI for this app.

[Med.io](): The app specializes in utilizing a decentralized database to enhance transparency in the healthcare sector using cryptographic measures. Primary focus areas include ensuring interoperability, maintaining a decentralized secure database, implementing cryptographic measures, providing hassle-free service, and incorporating AI/ML models to enhance user feasibility.

More information is available [here]().

Achievements

- Led the team of finalists at Smart India Hackathon'23
- Got selected for a research project funded by Department of Science and Technology, Government of India
- Showcased research projects at India Mobile Congress, at Pragati Maidan, Delhi
- Secured a rank in the Top 1% of all students who appeared for the JEE ADVANCED exam.

Volunteer Experience

- **Sub-Coordinator**, NJack:
    - Took sessions of 200+ students regarding Git and Android Development.
    - Organised Codepeak - It is month-long program that helps students understand the paradigm of Open-Source contribution.
- **Sub-Coordinator**, E-Cell:
    - Helped in organizing the Hult Prize OnCampus program on the campus.
    - Organised fun events for the members of the E-Cell.

Relevant Skills

- Experience in Android development with Kotlin, Java
- Proficiency in using SQL and Room Database

- Git and GitHub

- Testing in Android: Instrumented as well as local tests

- Understanding of Retrofit, Jetpack Compose

- Experience with Wikimedia APIs and SPARKQL

Previous Contributions to Commons

I have been contributing to the Commons Android app since October 2023. You can find all my pull requests here.

Total: 19
Merged: 18
Open: 1

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Pull Requests

S. No.	PR No.	Description	Status
1.	#5475	Replace Mapbox with OSMDroid (Explore Activity)	Merged
2.	#5403	Replaced Mapbox with osmdroid (Nearby activity)	Merged
3.	#5443	Replaced mapbox to osmdroid (Upload Activity)	Merged
4.	#5645	Added functionality to export location of nearby missing pictures to GPX file and KML file	Merged
5.	#5415	Added voice input for caption and description	Merged
6.	#5658	Fixes Nearby export: Pins not all around me	Merged
7.	#5652	Changed Created by in Neaby export	Merged
8.	#5654	Improved UX for Nearby Export	Merged
9.	#5356	Fixed Grey empty screen at Upload wizard	Merged
10.	#5670	Fixes App crashes on clicking Save (EditActivity)	Merged
11.	#5464	Fixes on Edit button, there is + sign overlayed over letter E	Merged
12.	#5450	Fixes #5439 by capitalizing first letter of voice input	Merged
13.	#5481	Fixed javadoc issue	Merged
14.	#5635	Fixed reproducible crash when marking last pictures as "not for upload"	Merged
15.	#5555	Removed MAPBOX Access token	Merged
16.	#5631	Removed MapBox related imports	Merged
17.	#5553	Made Nearby show all pins that could be presented on the screen, rather than a circle	Merged

18.	#5616	Fixed Blue square appears at end of description of image uploaded	Merged
19.	#5575	Fixed Clicking on edit photo shows default rotation	Opened

New Issues Raised

S. No.	Issue No.	Issue Description	Status
1.	#5458	Replace Mapbox with OSMDroid in Explore Activity	Completed
2.	#5457	App crashes on pressing the "My Location" icon in the upload wizard	Completed
3.	#5566	Remove the Mapbox-related imports in Java/Kotlin/Gradle	Completed
4.	#5611	Remove Mapbox from CREDITS	Completed
5.	#5625	Change snackbar's error message in the User Page	Completed
6.	#5457	[Bug]: Attempt to read from null error in Explore -> Map fragment	Completed
7.	#5531	Circular Progress bar keeps on moving even though nomination for deletion is successful	Opened
8.	#5502	Clicking on edit photo shows default rotation (Upload Activity)	Opened

Availability

Are you eligible for Google Summer of Code?

Yes.

Do you have any other plans during the period of GSoC?

No, I do not have any other plans during the contribution period.

How many hours per week can you dedicate to this?

Since I will be having summer break till **20 July** I will be available for at least 40 hours a week through online platforms and am ready to extend whenever needed. I would be working full-time for GSoC.

Have you been accepted to GSoC before?

No. I am applying in GSoC for the first time.

After GSoC

I would like to keep contributing to Wikimedia after GSoC and will be available to resolve issues and manage pull requests. Even if I am not selected this year, I would like to help this project by resolving issues, suggesting new ideas, and participating in discussions. I usually help people with code. I would like to keep contributing to the Wikimedia organization and do whatever I can to help.