



**ITC 3081 – ICT Project**

**Department of Information and Communication Technology**

**Faculty of Technology**

**University of Sri Jayewardenepura**



**UniSource**

University driven Open-Source Community

**Research Report**

Group 01

## **Introduction**

In today's job market, internships are crucial for students to gain experience and prepare for their careers. However many students find it hard to get internships that match their skills, which can affect their performance and their university's reputation. Employers prefer hiring graduates with project experience, making it even more important for students to have opportunities to work on real-world projects.

Unfortunately, a large amount of university students do not have the opportunity to work on open-source projects, which are beneficial for expanding their knowledge and showing their skills. These projects improve students' employability by giving them practical experience and networking opportunities with business people. Students' education is lacking due to a lack of open-source project possibilities, which makes them less ready for the job market and makes it more difficult for them to sell itself to potential employers. This research aims to address these challenges by exploring student participation in open-source projects, identifying the barriers they face, and proposing solutions to improve their access to these valuable experiences.

So we were interested to research this scenario.

## **Our targeted issue**

- Make system to address the issues of the internship program and monitoring solutions.

## **Our target**

- Make a chance to get hands on experience on real world projects for undergraduates. Sharpening not only their academic skills but also the technical skills related to their respective major.

## **Target audience**

1. Undergraduate students on faculty of technology, university of Sri Jayewardenepura
2. Organizations, Freelancers, Non-profitable companies, Startups

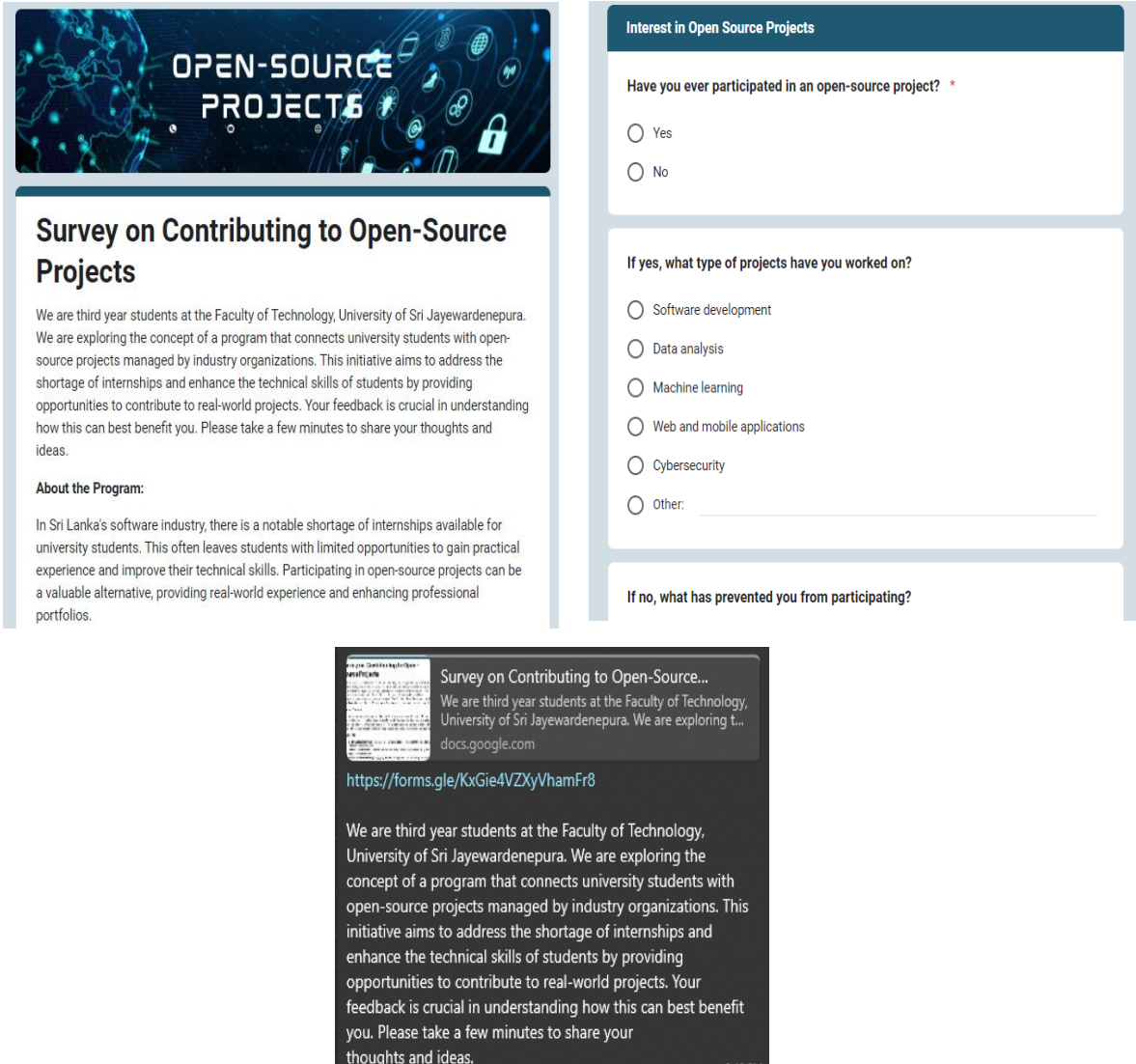
## **Methodology**

We mainly follow two steps to collect the details.

- Survey of university student Ideas and Needs
- Research on Organizations Offering Open Source Projects to university students.

## Survey about university students Needs and Ideas

- As a part of our research methodology, we conducted a survey to understand the needs and ideas of university students regarding open-source projects. The purpose of the survey is to get an idea how likely undergraduates are to participate for open-source projects if any of them are available.
- We created a Google Form and distributed it to students from various universities in Sri Lanka. The survey focused on gathering details about the students and their perspectives on the proposed web platform.
- We collected basic demographic details such as name, university, and their ideas about open-source project contribution. And also students were asked to share their ideas for their skills, what features they would find useful, and any challenges they currently face in finding internships. These allowed students to provide detailed suggestions and feedback.



The figure displays a Google Form titled "Survey on Contributing to Open-Source Projects". The form is divided into two main sections. The left section contains the survey title, a brief introduction about the program, and a link to the survey. The right section contains the survey questions.

**Survey on Contributing to Open-Source Projects**

We are third year students at the Faculty of Technology, University of Sri Jayewardenepura. We are exploring the concept of a program that connects university students with open-source projects managed by industry organizations. This initiative aims to address the shortage of internships and enhance the technical skills of students by providing opportunities to contribute to real-world projects. Your feedback is crucial in understanding how this can best benefit you. Please take a few minutes to share your thoughts and ideas.

**About the Program:**

In Sri Lanka's software industry, there is a notable shortage of internships available for university students. This often leaves students with limited opportunities to gain practical experience and improve their technical skills. Participating in open-source projects can be a valuable alternative, providing real-world experience and enhancing professional portfolios.

**Interest in Open Source Projects**

Have you ever participated in an open-source project? \*

☐ Yes

☐ No

If yes, what type of projects have you worked on?

☐ Software development

☐ Data analysis

☐ Machine learning

☐ Web and mobile applications

☐ Cybersecurity

☐ Other: \_\_\_\_\_

If no, what has prevented you from participating?

**Survey on Contributing to Open-Source...**

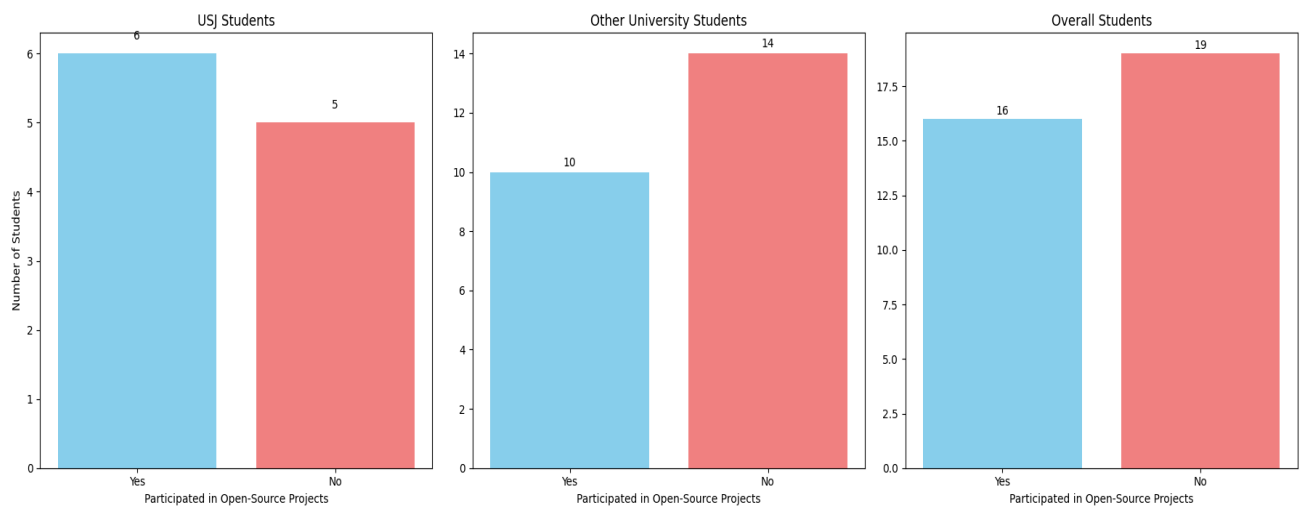
We are third year students at the Faculty of Technology, University of Sri Jayewardenepura. We are exploring t... docs.google.com

<https://forms.gle/KxGie4VZXyVhamFr8>

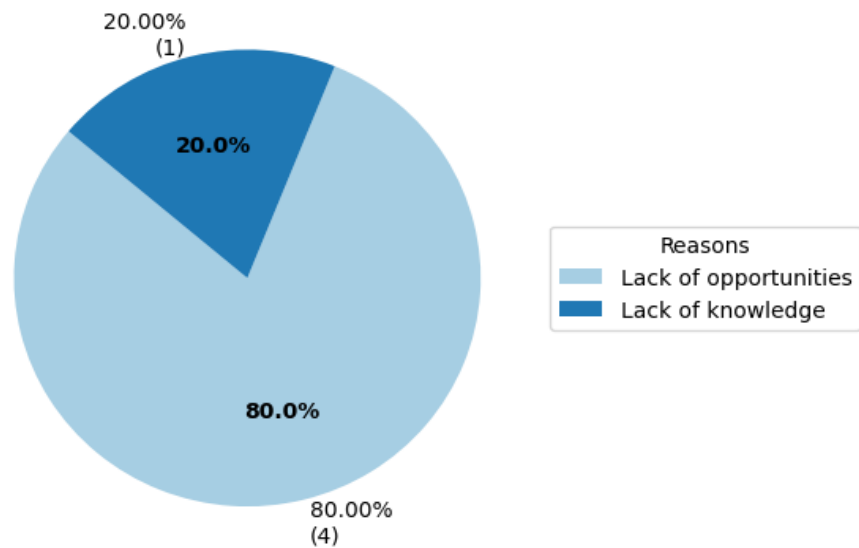
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Figure : Survey Details

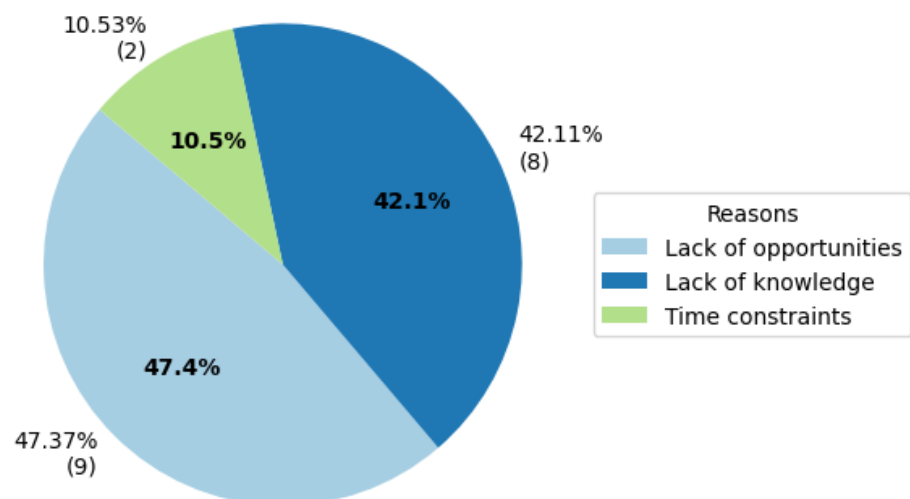
## key -points findings of the survey.

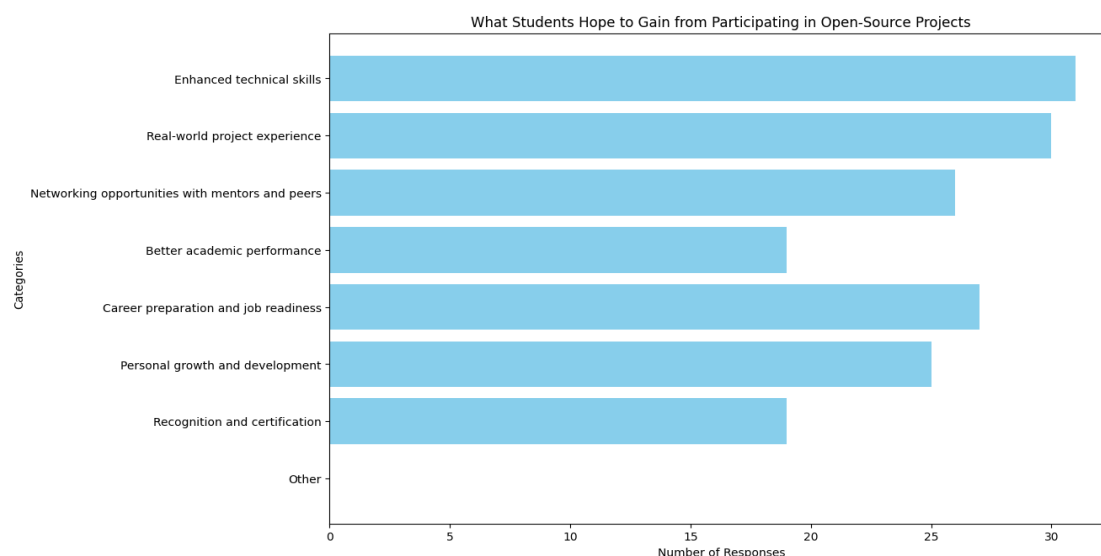
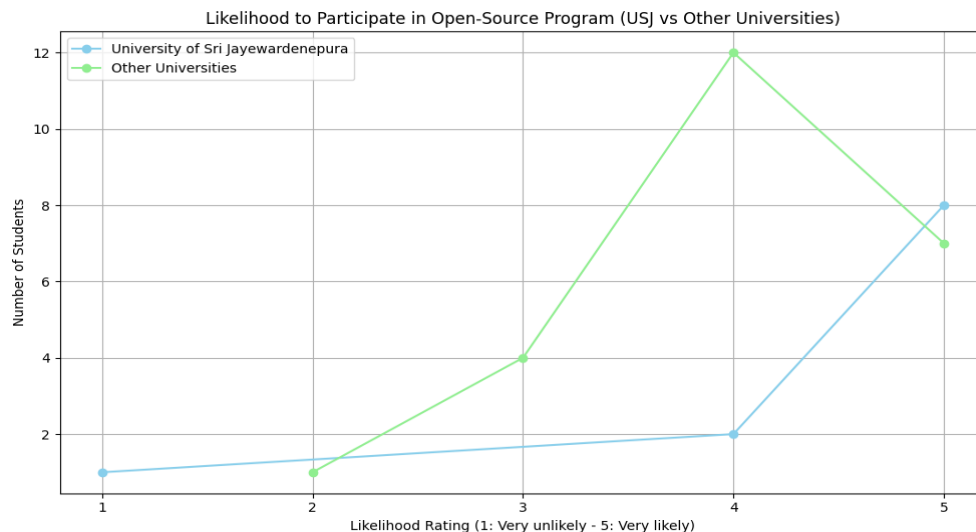


### Reasons USJ Students Did Not Participate in Open-Source Projects



### Reasons All Students Did Not Participate in Open-Source Projects





Based on the survey data, we can see how participation in open-source projects varies among different student groups, mainly USJ Students and Other University Students. For most categories more students answered "No" when asked if they participated. The survey also looked at why students didn't join open-source projects highlighting two main reasons: "Lack of opportunities" and "Lack of knowledge." The data shows that the main reason for not participating was a lack of opportunities, giving us important insight into the barriers students face. Additionally, many students mentioned a lack of knowledge as a significant barrier, with some also pointing to time constraints. When comparing students from the University of Sri Jayewardenepura to those from other universities, the results show that students from other universities are generally more likely to participate, especially at higher likelihood ratings. This suggests that students from other universities are more inclined to join open-source projects. Students state their goals are to advance their technical skills, gain practical experience working on real-world projects, and connect with industry professionals. By implementing a system to address these issues could offer a strong solution to the current problem of a lack of project experience, enhancing internship prospects for our students. We believe our project is the best solution for this situation.

#### Survey Results:

[https://docs.google.com/spreadsheets/d/1Q715isyE0epQdruBycTgOMElDdWQb08\\_jnART90V20o/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1Q715isyE0epQdruBycTgOMElDdWQb08_jnART90V20o/edit?usp=sharing)

## Research on Organizations Offering Open Source Projects to University Students.

To ensure the success of our project, we conducted a research to identify organizations that works on open-source projects in Sri Lanka.

Our research process involved several steps,

- **Online Research**-We searched Google and other online sources to find organizations involved in open-source projects.
- **Industry Contacts**-We got help from industry friends for insights and recommendations.
- **Compilation of Data**-Based on our research, we made a list of organizations that offer open-source projects for university students. These organizations are known for mentoring and supporting student contributions to open-source projects.
- **Organizations we found on our research**

- ✓ **FOSS Kelaniya** – (Started in 2023, partners - Cloud Native Srilanka, Free and open source community Srilanka)

FOSS Kelaniya

<https://fossuok.org/about/>



Foss Kelaniya google form

[https://docs.google.com/forms/d/e/1FAIpQLSd6pT7m9dg1SwOzm2YcqcT8u4cdtYWIn02KL\\_Z1V25be0DAVw/viewform](https://docs.google.com/forms/d/e/1FAIpQLSd6pT7m9dg1SwOzm2YcqcT8u4cdtYWIn02KL_Z1V25be0DAVw/viewform)

Foss Kelaniya rules and regulations

<https://docs.google.com/document/d/1CMNVZbIHdVedsH5LJVminKoECcHMA9mpZ6BbS8Eqdus/edit>

- ✓ **FOSS Jpura** – They are only doing events such as webinars, not as active as kelaniya foss



<https://www.usjfoss.org/>

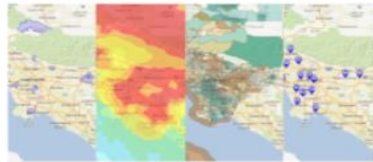
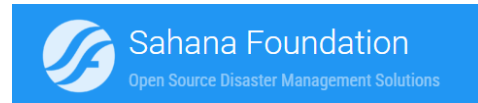
- ✓ **ICTA Srilanka**

They are non profitable organization who contributes to sl government projects. So we can give chance to our students (government university students) to take part in government projects.



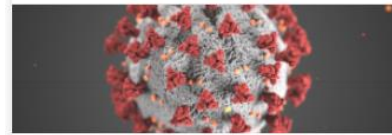
- ✓ **Sahana Open-source** – Started in 2004 in Sri Lanka and spread over 30 countries. They do open source projects related to disaster management.

<https://sahanafoundation.org/>



**Bhutan Evaluated Sahana Eden as a replacement and enhancement for their Disaster Information System**

Bhutan's Design and Action Plan of the Multi-hazard Risk Assessment Virtual Study Workshop SlidesDownload The Royal Government of Bhutan's Department ...



**Sahana EDEN Used for COVID-19 Responses**

Sahana EDEN is an open source disaster management application enabling effective coordination and resource management, particularly in a coordinated multi-agency ...

- ✓ **SLASSCOM (Sri Lanka Association for Software and Services Companies)**- itself might not directly host open-source projects, but they can be a valuable resource in our search for suitable projects for our university's Project.



- ✓ **GSOC** - an international program that supports students and new contributors in the world of opensource software development. Bringing new people into open-source projects



Contributor

Aaditya Singh

Mentor

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Organization

FOSSology

OVERHAULING SCHEDULER DESIGN

To address the challenges identified with the FOSSology scheduler, particularly the limitations stemming from its programming language (C) and its...

[View project details](#)

## Suggested companies and communities we can partner with,

- WSO2
- Cloud Native Sri Lanka
- Google Developer Group (GDG) Sri Lanka
- Open-Source Sri Lanka
- ICTA Sri Lanka
- DP Education
- (Project OSS) – GitHub
- Lanka Software Foundation (LSF)
- FOSS Sri Lanka Community
- (VEGA) – For ET students



By this project, We want to give our undergraduates a chance to gain hands-on experience in real-world projects, improving both their academic and technical skills. To address this issue, we propose UniSource, a platform designed to help students gain real-world project experience. This will make them better prepared for future jobs.

### Our solution,



### UniSource

*University driven Open-Source Community*

**UniSource** is a strategic concept designed to implement inside the universities. Its goal is to bridge the gap between academia and the software industry by enabling students to contribute in open-source projects managed or owned by industrial organizations, startups, freelancers and open-source project communities.