American International University - Bangladesh

Software Documentation and Tools

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Educational Crisis During COVID-19 in Bangladesh

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1 Introduction

Educational institutions across the world are experiencing unparalleled challenges with the start of the COVID-19 issue and the accompanying social distancing measures used to flatten the curve [1]. Because of the COVID-19 pandemic, educational institutions in Bangladesh have also stopped. Millions of children across the world are no longer in school and are living in fear, with many of them facing increasing threats of violence, neglect, and abuse from stressed-out family members and online abuser [2]. It is an even bigger issue in Bangladesh, where the educational system is already fragile [1]. Bangladesh is one of the countries most affected by a complete shutdown, with over 40 million children enrolled in school. Board examinations like the Higher Secondary Certificate (HSC) and university application tests have been stopped [3]. Students in secondary school have been promoted depending on their previous performance. As students prepare to apply for university admission, educational authorities must make decisions regarding the logistical and public health measures that will allow universities to hold admissions test. Countries all around the world are currently suffering the pandemic due to a lack of strong lockdown precautions. Since May 31, 2020, Bangladesh has been through a period of more loosened measures. Now, the major limitation that will be maintained as previously is the closure of educational establishments [3], with intentions to extend the closure. The study's goal is to investigate about the crisis that Bangladesh education system is facing and try to give some possible solution by identifying the reasons.

2 Literature Review

The first case of COVID-19 was identified in Wuhan, China, in December 2019, and the outbreak of COVID-19 cases in China has been classified a Public Health Emergency of International Concern [3]. The virus is usually transmitted by respiratory droplets, but infection can also occur through indirect contact, such as when someone is exposed to the environment or things that an infected person has meet. After rapidly spreading from China to the rest of the world, COVID-19 was classified a pandemic on March 11, 2020. The disease's extremely infectious nature has prompted the implementation of social distancing measures in many aspects of life, including education. The first incidence of COVID-19 was identified on March 8th in Bangladesh, and by March 23rd, the number of cases had risen to 33 [3]. Under the situation, the Government of Bangladesh ordered a countrywide widespread lockdown beginning on March 26, 2020, for a period of 10 days of government and non-government offices, industries, public transportation, marketplaces, and so on. Educational institutions were closed even before the lockdown, from March 17, 2020. Students left the hostels and returned to their families [3]. Aristovnik et al. [3] found that students who are alone in their homes and rely on distance online learning have anxieties and uncertainties about their future professional prospects, as well as feelings of boredom, anxiety, and dissatisfaction. Ziauddeen et al. [3] examined the benefits and drawbacks of reopening schools in the United Kingdom and concluded that some students face significant disadvantages, such as food shortages, and that reopening schools would benefit many children and their families while posing risks to families with vulnerable adults. According to Viner et al. [3], the effects of school closing are larger in low- and middle-income nations due to a lack of school meals and medical assistance, as well as an increase in school dropouts, child marriages, and child labor. According to a research of Dhaka Tribune, 19% of primary school students and 25% of secondary school students are at danger of education loss since educational institutions in the nation have been closed since March of last year because to the Covid-19 outbreak [4]. Only around 2% of people watched classes on a government-owned television channel. At the same time, 51% of primary school students and 61 percent of secondary school students resorted to coaching or private tuition, which has been the dominating coping strategy [4]. According to the Campaign for Popular Education's (CAMPE) Education Watch Report 2020-21, 58 percent of students surveyed [5] did not have access to remote learning programs due to a lack of technologically equipped electronic devices or smart phones. According to Sizan Ahmed Jim, a master's student at Dhaka University [5], many of his colleagues who do not have access to WiFi at home, use cellular data to attend online classes or go to neighboring cafés or stores that give Internet access. Undoubtedly, the crisis has far-reaching consequences for the physical and psychological well-being of children.

3 Problem Statement

Since the coronavirus pandemic began, the country's educational institutions have been closed for more than a year [6], 17 months to be exact. When the epidemic hit [5], both public and private educational institutions moved their academic activities online. With the current lockdown, students will have to wait several months before they can return to their campuses and resume their usual academic lives [6]. Though many public and private educational institutions are conducting online classes, there are many issues that hampers the system. Most of these institutions, as well as the professors who would be teaching these sessions, were in unfamiliar surroundings. Besides, there are not enough resources available to both teachers and students. Many students cannot afford their own computer/laptop/smart phone and many of them don't have personal Wi-Fi or internet connection at their home. Apart from, there are still many teachers who don't have enough knowledge about new technologies. A fourth-year undergraduate student at Rajshahi University named Sanjeeda Prottasha [5], have shared her opinion about online classes. She has shared that many of her classmates are not attending online classes because their respective departments are not cooperating with them. Several departments, for example, have postponed online sessions due to an unwillingness to continue lectures without issuing examinations. On the other hand, despite students demanding for online classes to be implemented, departmental administrators are ignoring them. While many private universities offer recorded lectures and pre-planned tasks to help students [5], public universities are lagging behind. Final examinations have been postponed, causing session jams for most public university students. Both SSC and HSC exam have been postponed due to the difficulty in arranging exams for COVID-19. This has created significant challenges to students' educational development at important times in their careers. For example, in 2020, the higher secondary certificate examinations (HSC) were not conducted [3], and it was decided that students would apply for university entrance based on their secondary school (Secondary School Certificate) and eighth grade (Junior School Certificate) results. According to a World Vision research, 44% of junior-level students were concerned that they would be unable to return to classes once school activities began. According to another study performed by the Stromme Foundation Bangladesh, young girls are more likely to become victims of child marriage [4]. According to a World Vision 2021 survey, 55% of children were unhappy with their home life, and 40 percent of youngsters suffered from hunger during this time since their parents' income had reduced. Apart from school dropouts and child marriages, children have mostly suffered from mental health issues since they have never been confined inside their homes for such a long period of time throughout their lives. They are also deprived of the opportunity to play with their friends and classmates. Both kids and instructors are facing in mental health issues, as well as back pain, obesity, and headaches, with other illnesses. Dr Mahjabeen Haque, Director [5], Student Counselling and Guidance Office, Dhaka University said in her opinion that "Spending long hours in front of screens causes permanent neural changes in young kids, which leads to an addiction to electronic devices, and stifles their capability to judge between right and wrong".

A report from a renowned news portal, Dhaka Tribune provides the following data where it is showing that how badly COVID-19 is affecting the education system in Bangladesh.
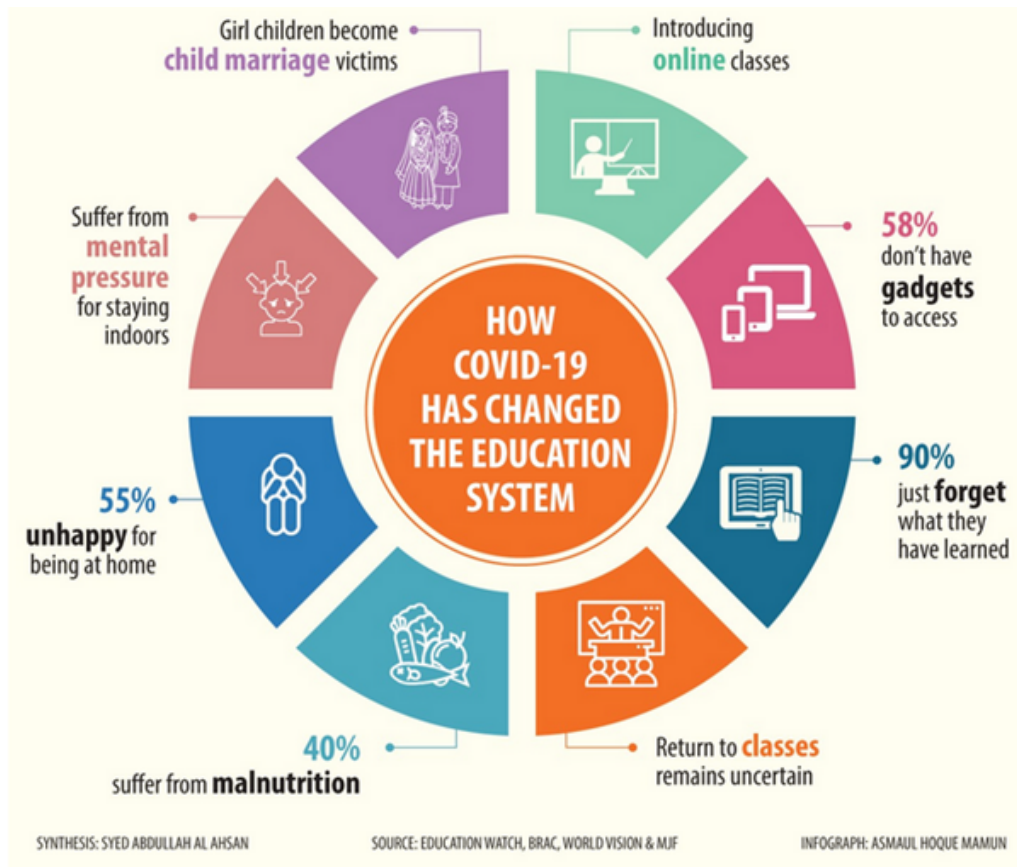
Figure 1: Impact of COVID-19 in Bangladesh

4 Methodology

Figure 2: Methodology

At first the problem had been discussed and analyzed. Afterwards, based on the discussion and analyzed findings, a set of questionnaire had been prepared for the survey. The survey had been conducted using Google Forms and most of the participants were students in the survey. After completing the survey, the results had been collected and analyzed.
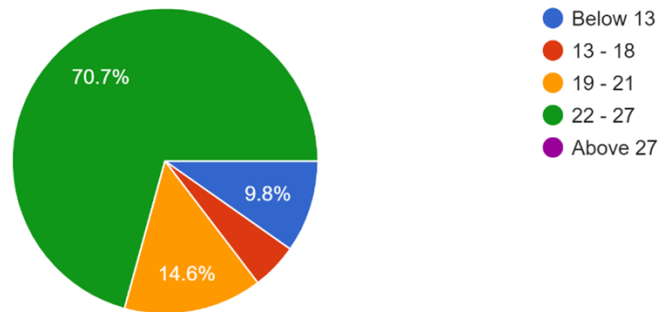
5   Survey Questions

The following questions had been prepared for the survey:

1. Your Age
2. Your Gender
3. Educational Institute Type
4. Were you going to school, college or university before the Corona situation?
5. Are you continuing your studies at home?
6. If you are continuing your studies at home, which is the medium of your study?
7. Is your school / college following up on your studies?
8. How are you spending most of your time?
9. Do you think your education is hampered because of COVID-19?
10. Do you want the educational institutes to open?
11. Do you think the alternative education processes (i.e., online classes) during COVID-19 are effective?
12. If you are doing online classes, do you understand the topics properly?
13. Do you think that public university students are lagging behind (i.e., session jam)?
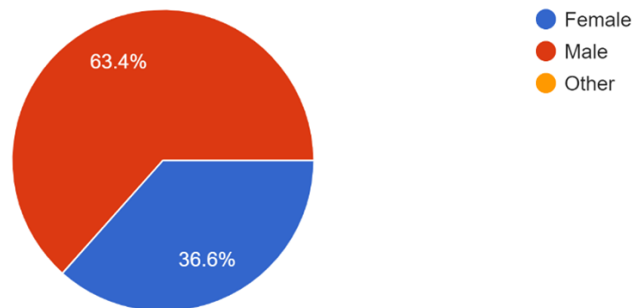14. If yes, according to you what are the reasons behind it?

6   Survey Result Analysis

After completing the survey, the results had been collected and analyzed. The total number of participants in the survey was 41. Where 9.8% participants were below 13 years old, 4.9% were between 13 and 18 years, 14.6% were between 19 and 21 years, and 70.7% were above 27 years old. 6.34% were participants were male and 36.6% were female. 7.3% of participants are from primary school, 2.4% were from high school, 9.8% were from college and 78% were from university. 73.2% participants were going to educational institutes before the pandemic where 26.8% were not. 73.2% participants are continuing studies at home during the pandemic while the remaining 26.8% are not. 96.6% participants are following online classes as alternative approach during the pandemic. 75.6% participants said that their educational institutes are following up with their studies. 82.9% participants think that their studies are hampered because of the pandemic while 51.2% participants think that online education is effective. 65.9% participants reported that they do not understand the topics properly in online classes. 73.2% participants think that public university students are lagging behind because of not adapting online classes in early phase which may result in session jam. Following are the analyzed summary result for each question:
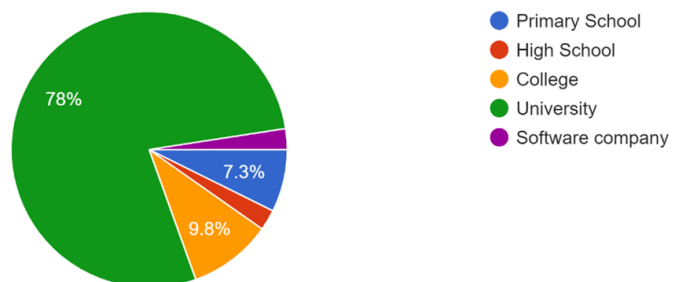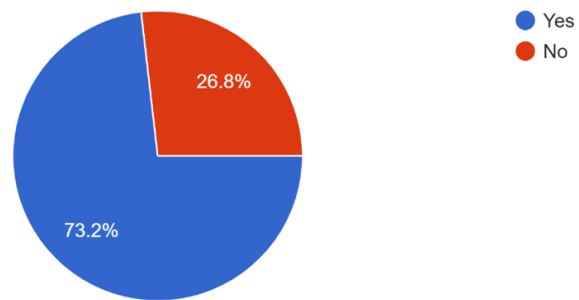
Your Age
41 responses

Legend:
- Below 13
- 13 - 18
- 19 - 21
- 22 - 27
- Above 27

70.7%
9.8%
14.6%

Your Gender
41 responses

Legend:
- Female
- Male
- Other

63.4%
36.6%

Educational Institute Type
41 responses

Legend:
- Primary School
- High School
- College
- University
- Software company

78%
7.3%
9.8%

Were you going to school, college or university before the Corona situation?
41 responses

- Yes
- No

26.8%

73.2%

Are you continuing your studies at home?
41 responses

- Yes
- No

26.8%

73.2%
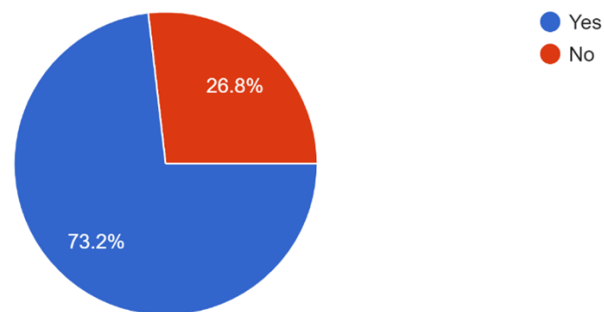
If you are continuing your studies at home, which is the medium of your study?
29 responses

- Online Classes
- National TV
- Private Tuition

96.6%
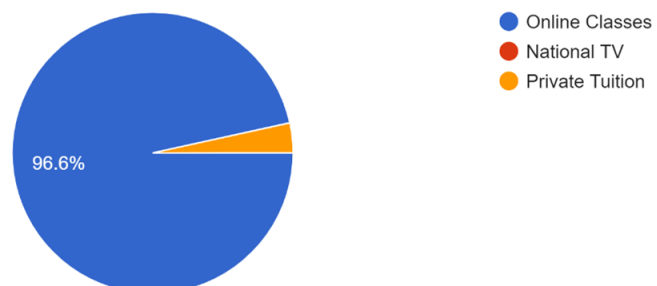
Is your school / college following up on your studies?
41 responses

- Yes
- No

24.4%

75.6%
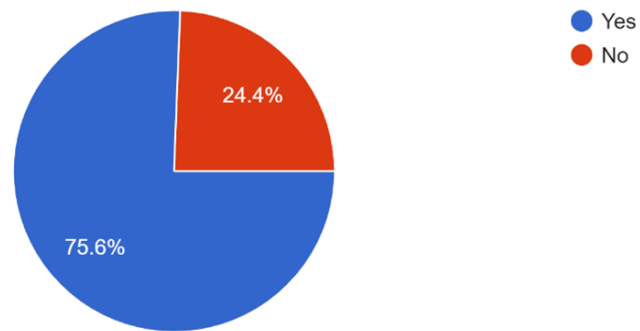
How are you spending most of your time?
41 responses

Category	Value
Helping parents in household w…	12 (29.3%)
Watching TV	13 (31.7%)
Looking after elderlies, children…	4 (9.8%)
Studying	16 (39%)
Using mobile phone	36 (87.8%)
Outdoor sports	2 (4.9%)
Working outside for earning	5 (12.2%)
Other	10 (24.4%)
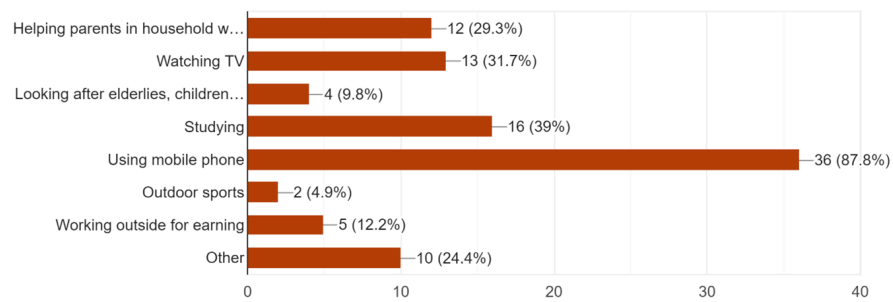
Do you think your education is hampered because of COVID-19?
41 responses

- Yes
- No
- Maybe

12.2%

82.9%
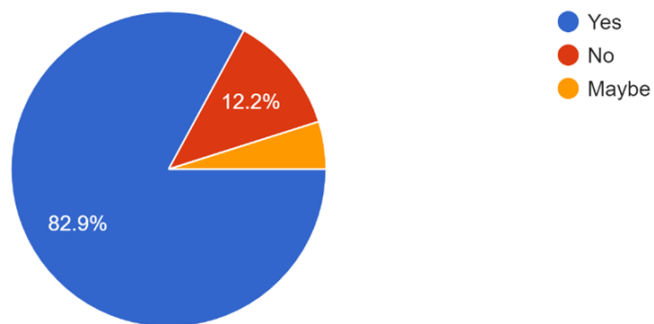
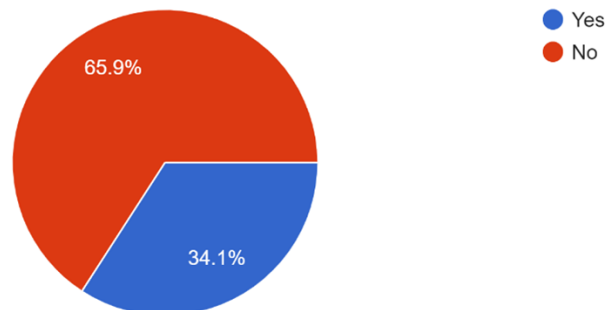## Do you want the educational institutes to open?

41 responses
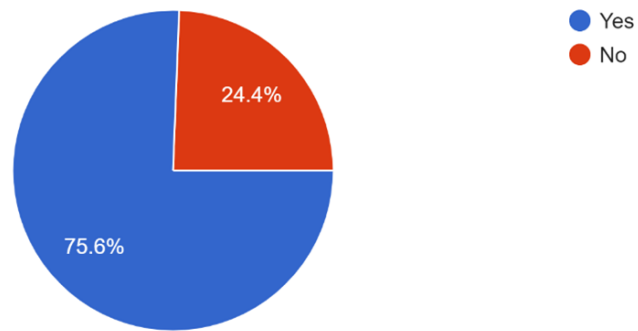
- Yes
- No

24.4%

75.6%

Do you think the alternative education processes (i.e., online classes) during COVID-19 are effective?
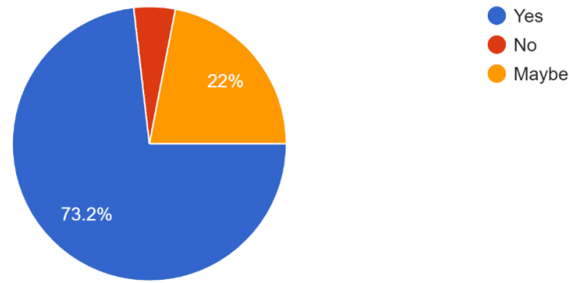
41 responses

- Yes
- No

48.8%

51.2%
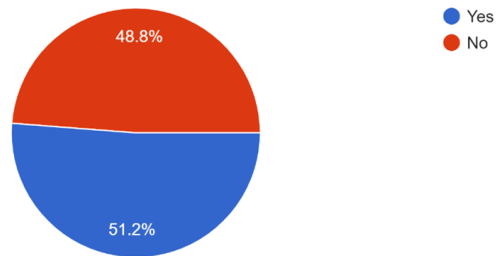
If you are doing online classes, do you understand the topics properly?

41 responses

- Yes
- No

65.9%

34.1%

Do you think that public university students are lagging behind(i.e., session jam)?

41 responses

- Yes
- No
- Maybe

73.2%

22%

If yes, according to you what are the reasons behind it?

37 responses

Respective departments not cooperating with them.	13 (35.1%)
Not enough resources available to everyone.	22 (59.5%)
Teachers and department staff members are not willing to coo…	11 (29.7%)
Many of the students have no WiFi facilities at home.	18 (48.6%)
Following government rules and regulations. And waiting for the…	1 (2.7%)
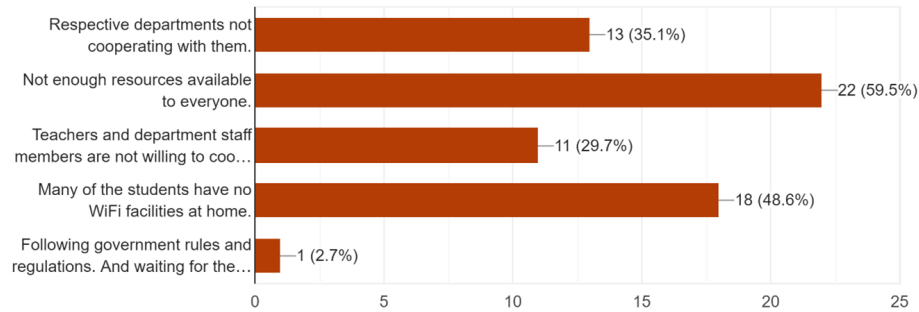
7   Limitations

There were some limitations while conducting the survey. Among the other limitations, one of them is as we are university students, most of our friends and colleagues are in the same level of education like us and they have filled up the survey according to that. We got only a few numbers of SSC and HSC students responds and the number is not very large. On the other hand, the number of primary and high school respondents are close to zero. If we could get a good number of responses from the school going students, the survey result would have been better.

8   Tools Used

To accomplish our project on Educational Crisis during COVID – 19 in Bangladesh, we have used some tools. The tools are named as following:
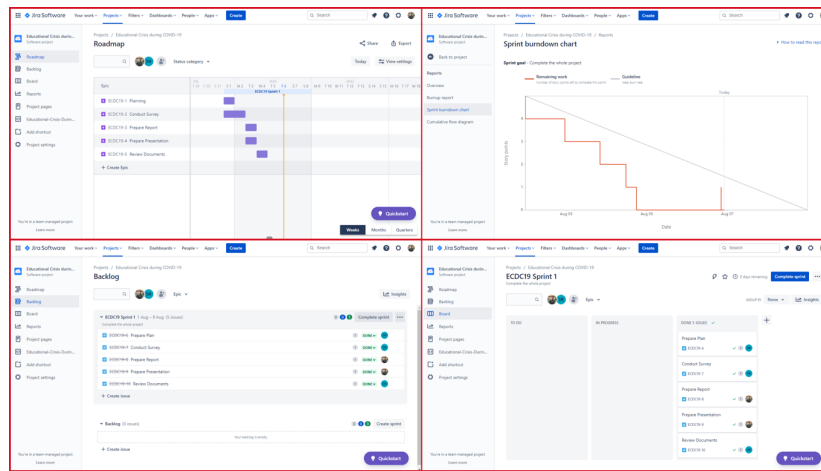

Figure 3: Tools Used

8.1   Jira

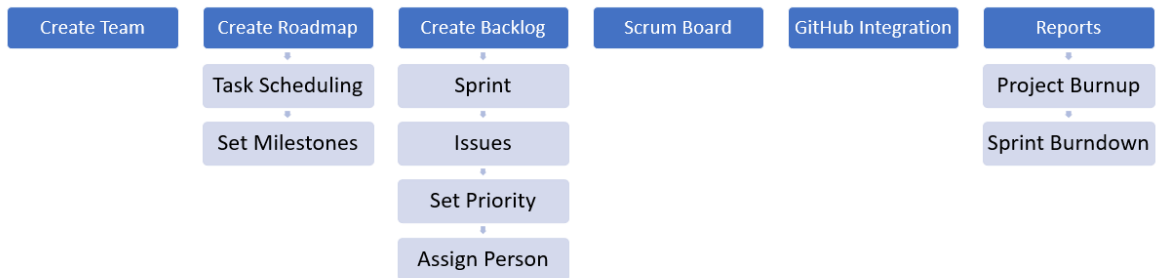
Figure 4: Project Management Using Jira

Figure 5: Workflow in Jira

For managing the project, we have used a widely used project management tool Jira. First, we created a team and assigned our groupmates to the team. Afterwards, we created roadmap so that we can schedule the tasks and set our milestones. We chose the Scrum template for managing the project where a one week long sprint was created in the backlog. Several issues were created in a sprint and priorities of the issues had been set. To divide the work equally among the group mates,

responsible person was assigned in the issues. We used the scrum board to keep the track of tasks. GitHub repository was integrated with Jira in the code section for ease of access to our project. The project burnup report and sprint burndown report were monitored to measure the overall progress of our project.
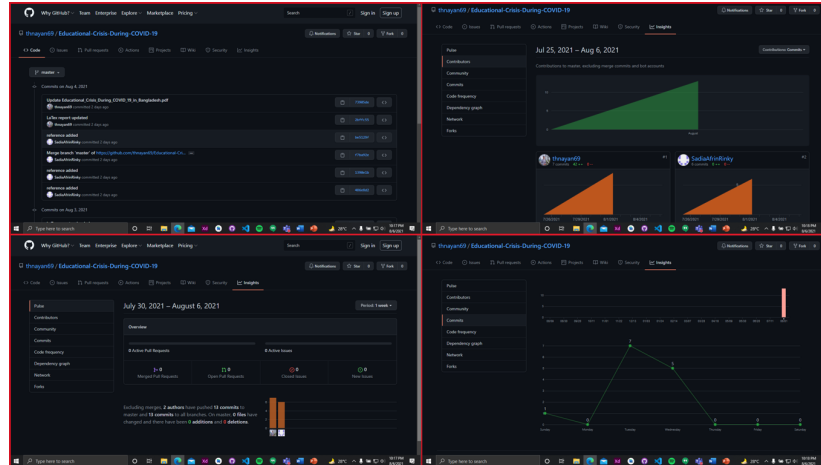
8.2 GitHub

Figure 6: Document Version Control Using GitHub

For document version control purpose, we used a popular version control tool GitHub. To do that, at first, we created a Git repository and published it on the GitHub. Afterwards, the repository was shared among the groupmates and the groupmates cloned that repository to their local computer. We managed to work on the same project simultaneously by pulling, making changes and committing and pushing the documents to GitHub. In such way, we were able to manage the version of documents easily in GitHub. Here's the link of the GitHub repository: https://github.com/thnayan69/Educational-Crisis-During-COVID-19
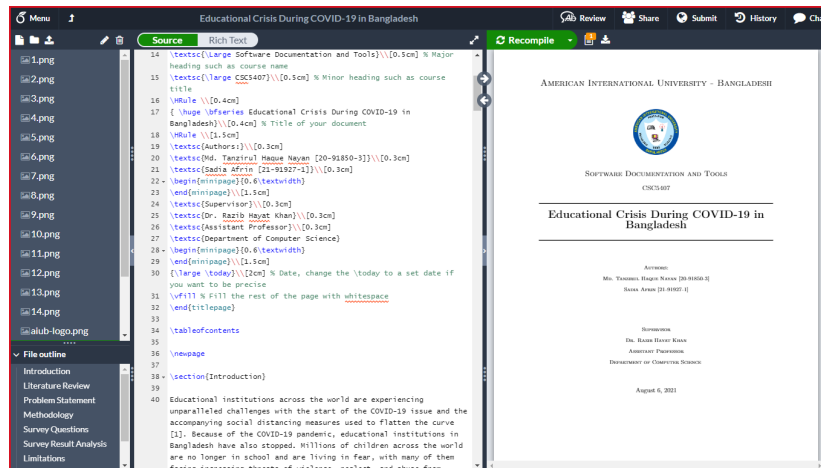
8.3 Overleaf

Figure 7: Report Using Overleaf

We used Overleaf to prepare our report. Overleaf is a collaborative cloud-based LaTeX editor, which is used for writing, editing, and publishing scientific documents. So, here we edited and wrote the report by sharing process.
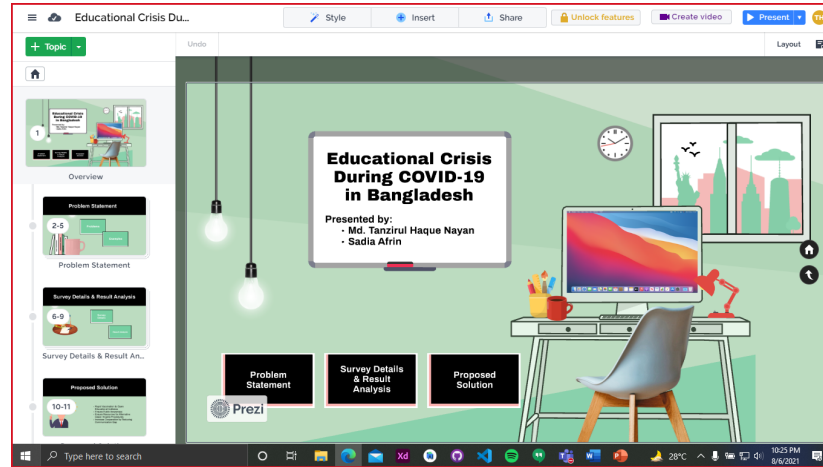
8.4 Prezi

Figure 8: Presentation Using Prezi

Lastly, we had to make a presentation on our topic. For that purpose, we used Prezi Software. Prezi is a web-based tool that allows users to create a presentation using a map layout. They can zoom in and out of different items and show relationships from an interesting point of view. By using this software, we easily made an online presentation and shared among the groupmates.

9 Conclusion

The closure of educational institutions has the potential to cause significant losses in the future prospects of students as well as in the economic output of countries. The educational institutes in Bangladesh had been closed since March 2020. While the educational institutes had been closed, many institutes continued with online classes and exam but most of the educational institutes failed to cope up with the online class adaptation. If this continues, the future of the students might get uncertain along with our country's future.Bangladesh's government introduced remote learning through television, mobile phones, radio, and the Internet to assist students cope with the adverse effects of school closures. Unfortunately, these tools are not available to all students [7]. UNICEF is cooperating with the Bangladeshi government to provide efficient remote learning programs that use TV, radio, mobile phones, and the Internet to reach as many children as possible. UNICEF has also helped in the creation of guidelines to assist instructors who are teaching in distant locations [8].

10 References

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