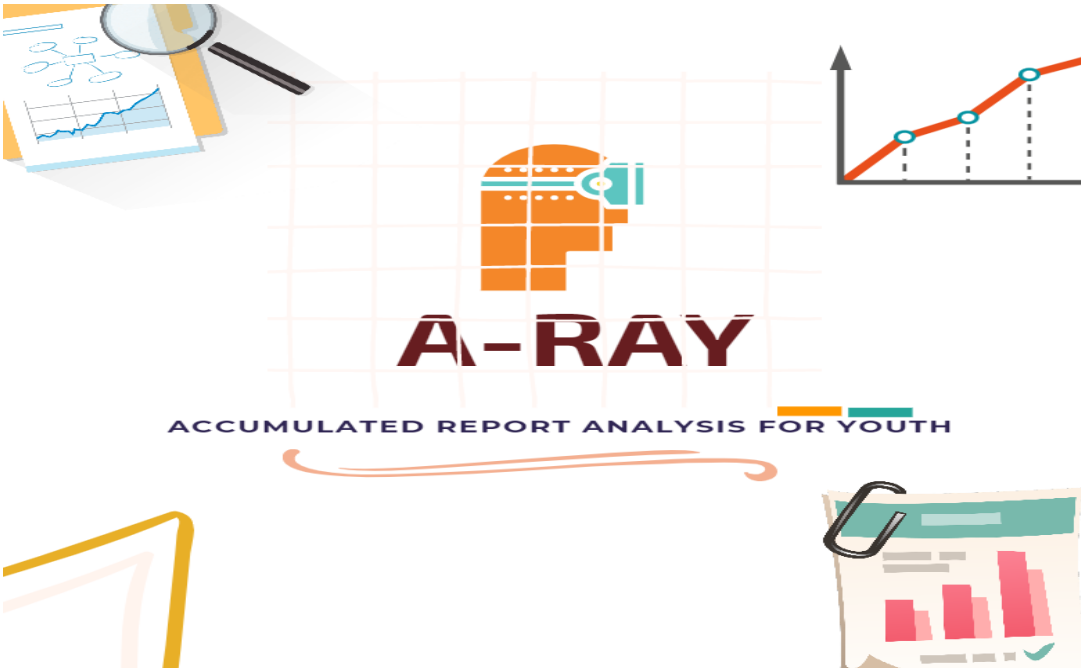

PROJECT TITLE:

A-RAY (Accumulated Reports Analysis for Youth)

Team member's detail			
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Intended Course Learning Outcomes

At the end of this course, students will be able to:

- Describe networks, protocols and basic software for the Internet of Things (IoT).
- Explain how automated decision and control can be done with IoT technologies.
- Discuss devices including sensors, low power processors, hubs/gateways and cloud computing platforms.
- Discuss the relationship between data science and natural language and audio-visual content processing.
- Study research projects drawn from scientific journals, online media, and novels.
- Summarize the fundamental techniques for visual feature extraction, content classification and high-dimensional indexing.
- Describe the techniques that can be applied to solve problems in web-scale image search engines, face recognition, copy detection, mobile product search, and security surveillance.
- Examine data collection, processing and analysis.
- Participate productively in a team-based problem-solving project.

Problem statement

Problem:

The Covid-19 pandemic and the resulting prolonged lockdown have made working and studying from home the new normal. Though the concept of online learning existed prior to the pandemic, the phenomenon has only recently emerged.

In these trying times, things have certainly reached a whole new level of intensity. We are preparing an analysis that will demonstrate the impact of the online system on the lives of students. We will analyse such problems and attempt to depict the hazardous effects of them as well as the progress made as a result of them.The solution is to analyse the hazards and generate a report by collecting data from students and presenting it graphically.The analysis will be based on students' mental health and

fatigue routines, as well as other issues such as financial issues, network connectivity, and a massive workload.

Background summary:

Prior to Corona, classes were held in a physical setting, requiring student interaction and attention. There were no tiering schedules, and there was also physical interaction from students. However, after Covid'19, when everything went online, all of the activities began to take place online.

Students were forced to sit in front of a screen, which resulted in a variety of health problems such as headaches, eye strain, and back pain. The need for devices to attend classes, as well as Wi-Fi charges, increased the costs.

In our project,

- We will analyse such problems and attempt to depict the hazardous effects of them as well as the progress made as a result of them.
- The solution is to analyse the hazards and generate a report by collecting data from students and presenting it graphically.
- The analysis will be based on students' mental health and fatigue routines, as well as other issues such as financial issues, network connectivity, and a massive workload.

Problem Identification:

When everything went online, institutes and universities decided to hold online classes to finish the academic year. Because there was less time in the academic session when online classes began, students' workload increased by a factor of two.

Stakeholders for projects that encountered problems during the pandemic are listed below:

- **Students:**

  1. Increased screen time caused children to experience a variety of health issues such as headaches, back pain, eye strain, and so on.

  2. Due to a lack of resources, students are lagging behind in terms of practical knowledge.

3. Students experience technical difficulties when connecting to classes, resulting in missed classes and poor attendance.

4. Because of online learning, students are having difficulty understanding concepts due to network issues or a lack of proper instruction.

5. Due to back-to-back classes, students do not eat properly, and their workload has put them under tremendous stress, resulting in mental issues.

6. Students are unable to concentrate due to a variety of factors such as background noise or a poor network.

7. Because of online classes, students are forced to sit in one spot, resulting in no physical activities.

8. Students are having difficulty because there is a greater emphasis on conceptual learning rather than practical learning.

- **Teachers:**

1. Due to poor connectivity, a lack of appropriate teaching gadgets, or a lack of technical knowledge, teachers face a variety of technical issues while teaching.

2. Teachers must attend workshops to become acquainted with technology.

3. Teachers are unable to teach concepts because they lack books.

4. A major issue that teachers face these days is a lack of student engagement in class.

- **Parents:**

1. A heavy workload on students has tied them up, resulting in a lack of quality time with family.

2. Increased costs in the online system have wreaked havoc on the family budget.

3. Parents are having difficulty affording electronic educational necessities.

4. Parents had to put their routines on hold in order to give their children space to learn.

5. Parents are concerned about their children's health as a result of online learning.

- **Educational institute:**

1. The institute is experiencing technical issues such as a lack of electronic gadgets, network issues, and a lack of other necessary resources.

2.Electronic supply is also a major issue.

3. It is difficult to make resources available on such a large scale.

4. Staff wage disputes have wreaked havoc on the institute.

5. Institutes are in debt as a result of fee issues.

- **Board members:**

  1. Employees must be trained in technical knowledge.

  2. It is difficult for them to keep up with the rapid pace of technological advancement.

  3. They are confronted with opposing viewpoints regarding the establishment of an educational institute.

  4. They must create and manage academic curricula.

  5. They are having difficulty conducting online classes.

- **Clerk:**

  1. They are unable to resolve technical issues.

  2. They are dealing with salary issues.

  3. They are under pressure as a result of the decline in employment.

  4. Because of the economic downturn, employees are being laid off.

  5.Increased unemployment as a result of technological advancement.

- **Tuition classes:**

  1. They have an impact on the admission rate.

  2. Tuition fees are causing a schism by the parents.

  3. It is not worthwhile to attend the classes.

  4. They encounter technical difficulties while teaching.

- **Bus Drivers:**

  1. Facing the dangers of unemployment.

  2. Job loss as a result of online classes

  3. As a result of the loss of their jobs, their income sources have dried up.

  4. They are having difficulties finding work.

- **Market suppliers:**

  1. They are losing money due to a decrease in product supply.

2. They are experiencing low income due to the growth of e-commerce websites.

3. They are having difficulty managing and recovering the supply chain.

- **Wi-fi dealer:**

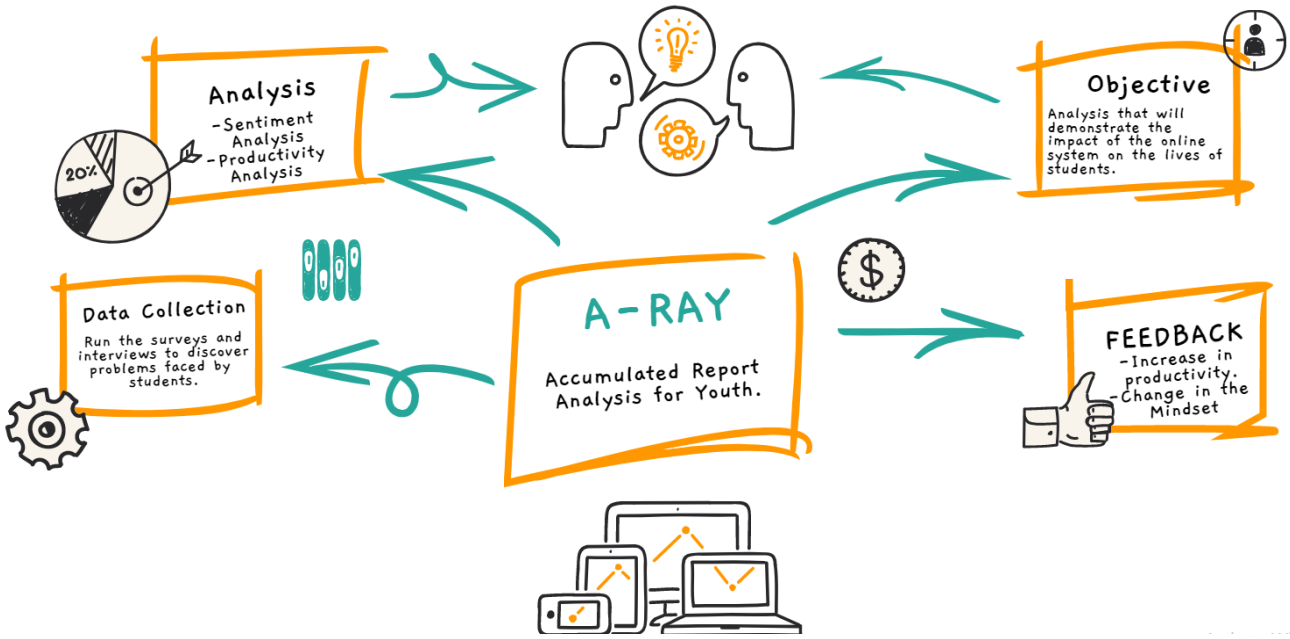
  1. The unexpected growth of global internet traffic in a short period of time is causing no connectivity issues for them.

  2. The dealers are unable to meet the demands because their model was not designed for network expansion.

All of these factors had an impact on the country's educational system, which was effectively closing the doors to better career opportunities for students. Online classes were not worth it in order to obtain the complete knowledge they deserved and required to succeed in interviews and achieve their goals.

Proposed Solution

To address the above mentioned issue, we decided to compile a report on the issues encountered by each stakeholder in the online educational system and analyse the data to create a graph. This analysis will aid in the resolution of this problem and the depiction of the progress report as a result of the online system. The data used will be real-time information gathered from students.



Hardware and Software Requirements

Hardware requirements

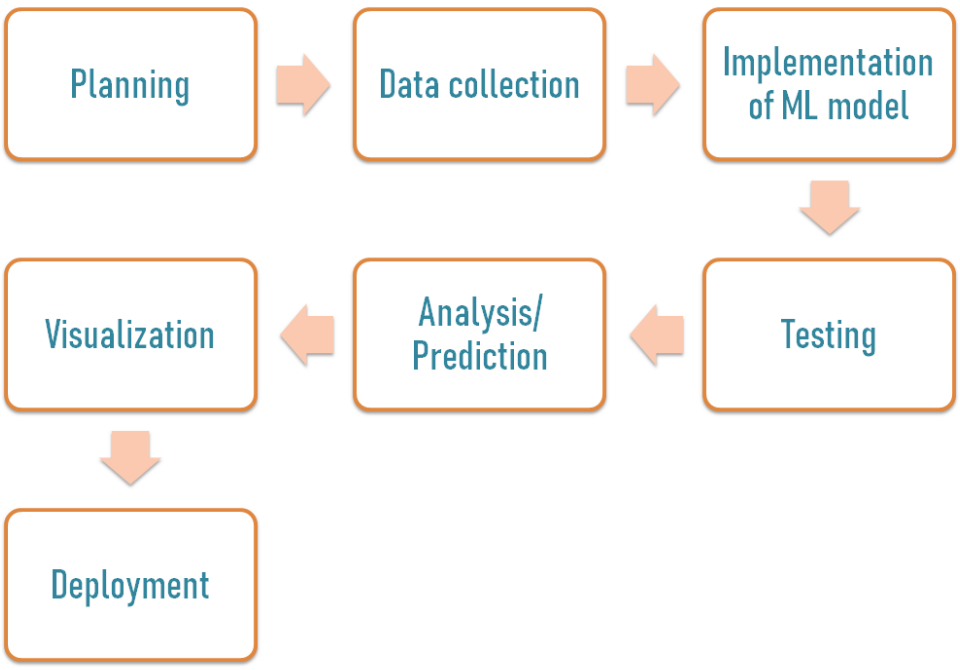
HP laptop featuring an Intel(R) Core(TM) i5-10210U processor, a 64-bit operating system, and 4 GB of RAM.

Software requirements

For analysis and graph representation,

- Languages:- Python.
- Data Collection Tool:- Google form
- Kernel:- Linux.
- Python IDE:- Anaconda , Jupyter Notebook
- Data Analysis Tool:- PowerBi

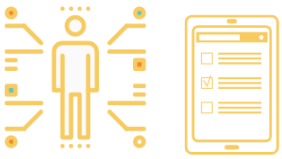
Block diagram and description



A-RAY is an online-based survey analysis that compiles a report on the issues encountered by students in the online educational system and analyses the data to create a graph . The data required for the analysis needs to be collected from students . So , we first create a survey form in order to collect information on various issues such as internet connectivity , students' daily routine , understanding of concepts , etc . After the data is gathered , it will be cleaned to form a dataset .This dataset will be used to train the Machine Learning model for real-time analysis . We will then analyse the dataset based on some parameters. The parameters for analysis would be sentiment analysis and productivity analysis . This analysis will demonstrate the impact of online systems on the lives of students . We'll next roll out/deploy our project, which aims to provide a platform for students to enhance their well-being while also assisting them in overcoming the effects of the magnitude of this unprecedented worldwide challenge in the field of education.

SURVEY 1

The survey was carried out in the English language. Participants' response to the invitation was considered to imply consent.



OBJECTIVE 2

After the data is gathered , it will be cleaned to form a dataset .This dataset will be used to train the Machine Learning model for real-time analysis .

ANALYSIS 3

We will then analyse the dataset based on some parameters. The parameters for analysis would be sentiment analysis and productivity analysis .

FEEDBACK 4

This analysis will demonstrate the impact of online systems on the lives of students . We'll next roll out/deploy our projectn.

Limitations

To begin with, the A-RAY is an online-based survey analysis, which means that those who do not have access to the Internet may be unable to participate in the study. However, given the intended audience of university students and their online learning during the COVID-19 epidemic, we feel this limitation had only a modest impact on our findings.

Secondly, the participant pool comprised a self-selected sample of students enrolled only in one university. More research with bigger and more representative samples is needed to confirm the conclusions of this study.

Finally, because the study relies on participants' self-reports, the results may be influenced by the danger of social desirability bias.

Future Scope

1. Future research could, hence, include a broader range of sources of data.
2. Furthermore, future studies could also consider the meaningfulness to adopt newly developed COVID-19-related instruments to test concurrent validity.
3. Consequently, future studies could be designed with the aim to also conduct test-retest analysis.
4. Consequently, further applications of this project in other countries are needed to allow gaining further information about sources of stress influencing students' wellbeing according to different countries worldwide.
5. Developing tailored interventions fostering students' wellbeing and supporting efforts to understand the impact of this unique global crisis.

Conclusion

The survey was carried out in the English language. Participants' response to the invitation was considered to imply consent. The survey was conducted among college-going undergraduate and postgraduate students from the various regions of Maharashtra, in India.

Since online classes were not commonly practiced in India as mainstream teaching methods, it was important to introduce such a method suddenly during an emergency to avoid the loss of education, but it also brought a number of challenges for students to adapt to this learning mode.

The purpose of this study was to determine the extent of several elements that were supposed to make it difficult for students to stay on track with their academics during COVID-19 lockdown. The poll went on to explore a variety of issues that could make learning difficult during the lockdown, including the regularity of online classes, the ability to attend classes, online lecture comprehension, internet connection, home environment, excitement, and motivation. The research also raised concerns about a lack of physical activity, which has been shown to have a negative impact on mental learning.

Furthermore, one-on-one interaction between the learner and the teacher is not always successful in online classrooms, which could be one of the causes for a lack of comprehension of the lecture. It was shown that the majority of students lacked passion for their studies, and a few students lacked motivation to take additional steps for obtaining information by researching online education assets. As the college atmosphere has deteriorated, students are less likely to engage in subjective activities in their daily activities, resulting in a loss of subjective orientation.

The research came to a conclusion that students are having difficulty studying during the lockdown, which is leading to the development of mental stress as a result of the uncertainty surrounding their studies and completion of the syllabus, as well as their comprehension of subjects. This tension can cause panic, causing pupils to make unhealthy and rash actions in order to escape disappointment or failure. In addition, the study found that pupils' mental learning is being harmed by fewer physical activity.

References

COVID-19 Student Stress Questionnaire
https://www.frontiersin.org/articles/10.3389/fpsyg.2020.576758/full
Frontier In Psychology|Article

COVID-19 Lockdown: Challenges Faced by Indian Students
https://www.frontiersin.org/articles/10.3389/fpsyg.2020.576758/full
SpringerLink|Article

COVID-19 Data in the Classroom
https://chance.amstat.org/2020/09/covid-19-in-the-classroom/
CHANGE|Article

Impact of the COVID-19 pandemic on the social and educational aspects
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250026
PLOS ONE|Article

Evaluation and Prediction of Student's Academic Performance during Covid-19
https://towardsdatascience.com/evaluation-and-prediction-of-students-academic-performance-during-covid-19-40bb2b90141b
Towards DS|Blog