

1. Overview

The global pandemic was one of the issues in humanity that created both long-term and short-term consequences around the world. University and school are some of the segmentations that have confronted significant change and severe effects. It could state that it changed the way of studying among students. For example, the United Kingdom and Pakistan have conventional learning models for face-to-face studying. However, COVID-19 caused a crucial shift in learning methods, in which there is more digital access and technology has become a critical role in education. The system changed into online and hybrid learning in Pakistan. Also, the United Kingdom shows a positive sign of a high rate of online attendance. Hence, the checking of attendance remains significant for the educational system. Since it could see insight into the engagement of students, learning outcomes and the efficacy of educational implementation.

2. Project rationales

As can be seen, the educational system and practice have been forced to adapt to the new normal due to COVID-19. Therefore, it leads to challenges in terms of attendance checking for monitoring and checking on students. Additionally, the traditional way to check might inefficiently include manual checking, face-to-face asking or sign-in sheets. These methods are the old ways, which could be inaccurate due to human error. It results in the difficulty of recording attendance and there is also a lack of real-time checking on student performance.

In the case of the current situation, people perceive that COVID-19 has changed the way of studying and teaching, and the project aims to bring awareness to the significance of attendance for attending class. Thus, the website would like to increase awareness of the effect of COVID-19 through attendance checking among United Kingdom and Pakistan students. The reason is that it is essential for students to understand the importance of attendance in the new educational landscape. The website would bring awareness to assist teachers and students in recognizing and enhancing their academic performance, which also makes students prioritize in-class engagement.

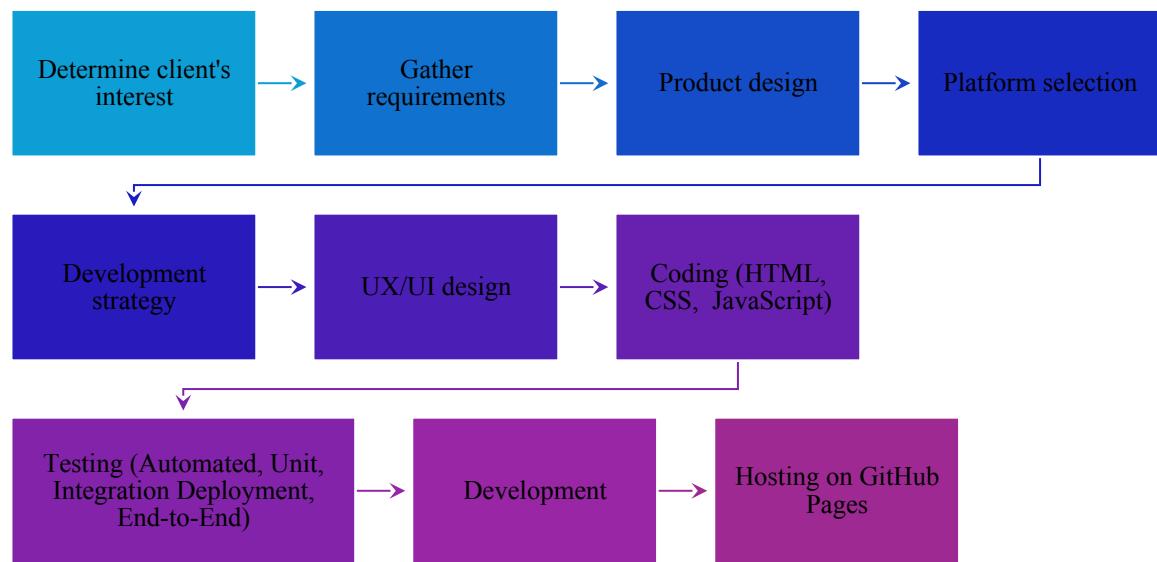
More importantly, one of the theoretical considerations is Human-Computer Interaction (HCI), which relates to the UX/UI design. It could explain that the theory ensures that the user interface and experience are optimized for attendance checking. It would confirm the satisfaction and good experience when it comes to actual implementation.

3. The website

3.1 Work-in-process

Considering the process, it appears that the project needs to determine which product the client is interested in. After that, the team will gather the requirements, including the product design, the platform to be installed, which platform is appropriate for the product, its purpose, and what Tech Stack will be used to develop it. Depending on the product's size and the client's aptitude, some things may have poor performance but can be developed rapidly while others may have good performance but are challenging to develop. The team will take all of this information into account when deciding on the development strategy for the product.

After summarizing the content mentioned above, the team will proceed to examine UX/UI design. We need to create a user experience (UX) design that outlines how users will be presented with and interact with our product. UI design is heavily influenced by the style and context of the era, which determines the beauty of the product.

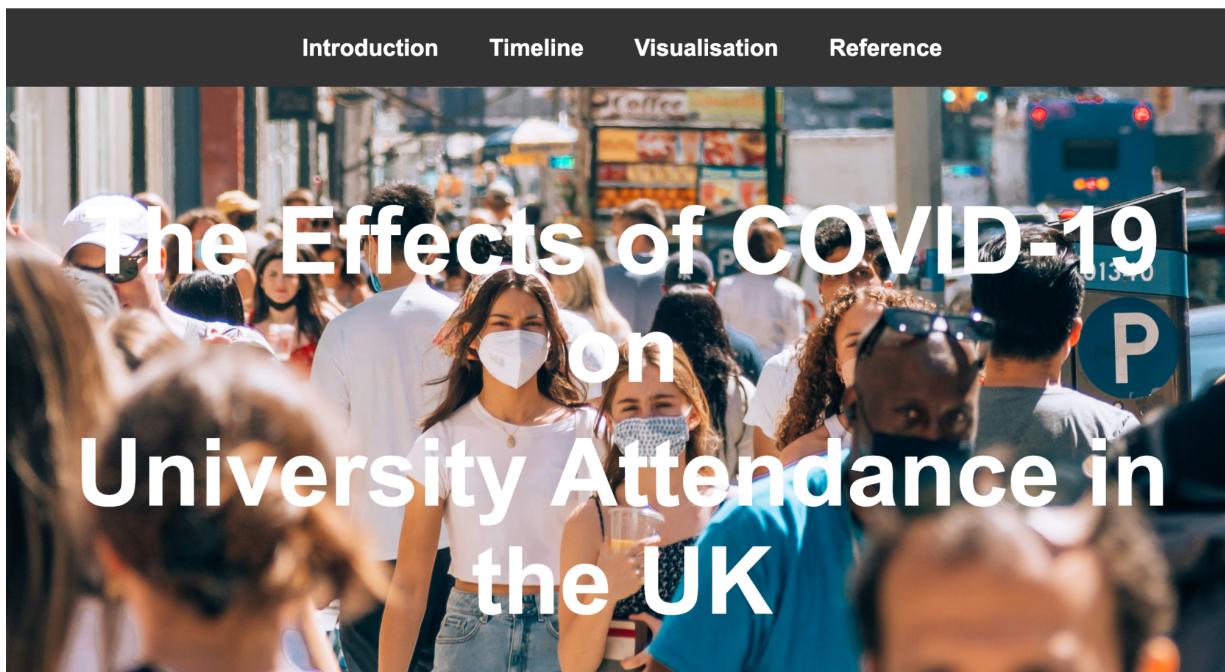


Furthermore, the main coding language used for building websites is HTML. It defines the overall structure, location, and properties of a website. CSS is responsible for managing the presentation or appearance of a website or web application, including the layout, colours, fonts, and other visual aspects. JavaScript (JS) is responsible for controlling website functionality, from handling button clicks to creating interactive charts and maps. The test is an essential tool, but often neglected techniques include Automated Testing, Unit Tests, Integration Tests, and End-to-End Tests. "Deploy" refers to the process of making our product available for use.

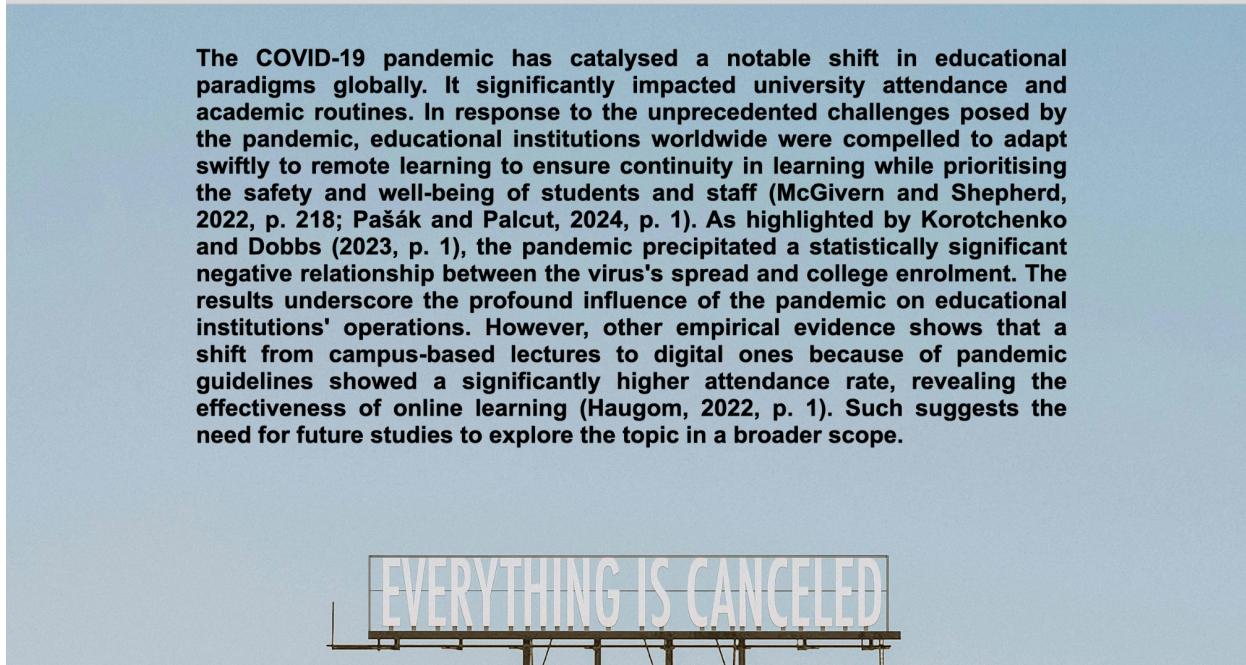
All in all, the website will be hosted on GitHub Pages, utilizing GitHub services. When following GitHub pages' commands, we are prompted to deploy the website on GitHub service.

3.2 Website Introduction

For the website, the early stage of website has a main purpose to present the information. It aims to transfer information to the audience to build awareness on COVID-29 associated with attendance from university, as can be seen from figure I. The interface shows the information “Covid-19 effects on university attendance” to catch attention on readers under the theory of Human-Computer Interaction (HCI). There will be the button for interacting including Timeline, Map, Comparison, and Visualization, under JavaScript (JS).



Moreover, the page will transfer to the information that makes audience to understand what was going on in terms of COVID-19. The website conveys the effect on COVID-19 pandemic. There are the keys elements of information on attendance, which it provides comparison and insight between 2020 data to 2024 data. There is also the transition and challenges that mention on the page. Results in, it could indicate the relevant data, under the reliable resources to provide credibility and more detailed for users as they desire. Therefore, the process of constructing the data set could be seen in drawing from a big picture of information until move to the detail of information. It would be flowed as the storytelling from the website (Figure II).



Since the CSS will offer the presentation experience on the website. Therefore, it would assist the website to become more attractive for reading. Owing to the figure III below, CSS will operate to make audience understand the context of information and related picture that show on the website. The information will move to the depth detail, which is the relation between education and COVID-19. It is the main purpose of the early stage of website development.

Education and COVID 19



The United Kingdom, like many other nations, witnessed a rapid transition from traditional, classroom-based learning to remote, online instruction as part of efforts to adhere to government-imposed lockdown measures and social distancing protocols. According to Dack et al. (2023, p. 106), the government recognised universities and higher education settings as environments that could permeate sustained transmission. Therefore, digital platforms emerged as indispensable tools for delivering educational content and facilitating virtual lectures, seminars, and assessments. However, the transition had notable challenges. They include a lack of access to technology and internet connectivity among students, with those from marginalised backgrounds disproportionately affected (Gómez-García et al., 2022, p. 2). The pandemic-induced shift towards online learning also underscored the critical role of digital literacy and infrastructure in ensuring equitable access to education. In response to these challenges, educational institutions and policymakers endeavoured to bridge the digital divide by implementing measures to provide devices and internet access to disadvantaged students. Therefore, focusing on the effects of COVID-19 before, during, and after the outbreak on university attendance is imperative

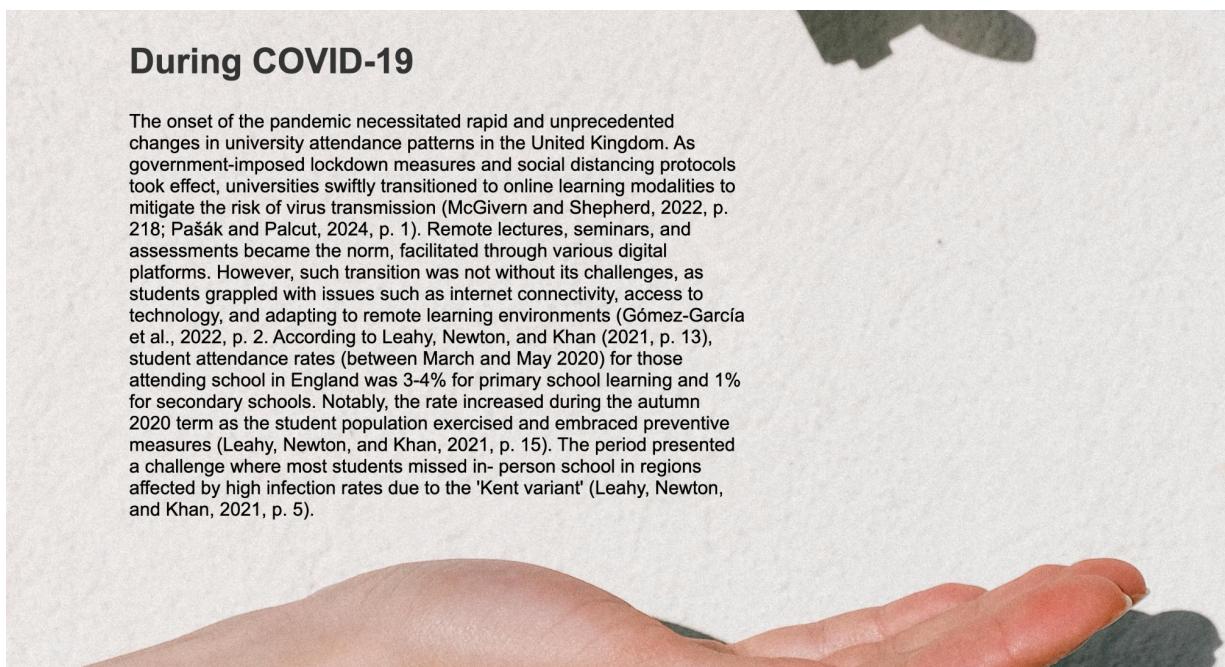
Following this, there is not only the code to focus on but the way to make the flow of data for making readers understand is also significant. By explanation, the fourth page will represent the updated information by focusing on the change in remote and hybrid studying. It means the website creates engagement by addressing current concerns and offering practical insights for stakeholders in the education sector.

Before COVID-19 (pre-2020):

Learning activities continued as normal. The standard academic calendar included in-person lectures, seminars, and examinations. According to a survey conducted by the OECD (2020, p. 5), 92% of UK students had a computer they could use for school-related work, a proportion that is relatively higher than the OECD average of 89%. However, those who reported having a quiet place to study among all students and students from the bottom quartile were notably fewer (89% and 81%, respectively) than the OECD average (91% and 85%, respectively) (OECD, 2020, p. 5). In addition, students had more time to study before the pandemic. A UK-based study reported a drop in the average time students studied from 6 hours per day before COVID-19 to 2-4.5 hours during the first lockdown (Leahy, Newton, and Khan, 2021, p. 6).



Subsequently, the website would continue to discuss the information on post Covid-19 situation in the view of education. The bullet point would effectively present the crucial information concisely. It would address the importance of change and the practical implications of learning in-person and hybrid learning with the mix of the digital age. Moving on to the next, it can be seen that the website will communicate the timeline of events and changes in attendance checking. It provides the historical context and outlines what happened in order to make the audience feel engaged with the website, which would flow from the pre-, during and post-COVID-19. Therefore, the audience would fully understand and have awareness of COVID-19 toward the change in attendance in the United Kingdom and Pakistan information, which is shown in the figures below.



The onset of the pandemic necessitated rapid and unprecedented changes in university attendance patterns in the United Kingdom. As government-imposed lockdown measures and social distancing protocols took effect, universities swiftly transitioned to online learning modalities to mitigate the risk of virus transmission (McGivern and Shepherd, 2022, p. 218; Pašák and Palcut, 2024, p. 1). Remote lectures, seminars, and assessments became the norm, facilitated through various digital platforms. However, such transition was not without its challenges, as students grappled with issues such as internet connectivity, access to technology, and adapting to remote learning environments (Gómez-García et al., 2022, p. 2). According to Leahy, Newton, and Khan (2021, p. 13), student attendance rates (between March and May 2020) for those attending school in England was 3-4% for primary school learning and 1% for secondary schools. Notably, the rate increased during the autumn 2020 term as the student population exercised and embraced preventive measures (Leahy, Newton, and Khan, 2021, p. 15). The period presented a challenge where most students missed in-person school in regions affected by high infection rates due to the 'Kent variant' (Leahy, Newton, and Khan, 2021, p. 5).



As vaccination efforts gained momentum and the situation gradually stabilised, universities in the UK embarked on a phased approach towards the resumption of physical teaching and campus activities. A study based on the American context found that the growth of the number of total vaccinations accompanied an opposite decline in the school closure levels, suggesting that more students were attending schools following reopening schedules (Hu, 2022, p. 3079). Furthermore, learning institutions introduced hybrid learning models to offer a blend of in-person and online education to cater to diverse student needs. University management continued to prioritise health and safety measures on campus. They implemented vaccine passports and regular testing requirements to facilitate safe campus activities and access to in-person learning (Junge, Samaranayake, and Zalesak, 2022, p. 1).

Before COVID-19 (pre-2020):

Schools in Pakistan also experienced distinct patterns. Prior to the COVID-19 pandemic, university attendance followed a conventional academic calendar characterised by in-person lectures, laboratory sessions, and examinations conducted on campus. A study highlights that low- and middle-income countries struggled with a learning crisis before the pandemic, where their students performed poorly by international standards and exhibited higher learning inequality (Bethhäuser, Bach-Mortensen, and Engzell, 2023, p. 380). Pakistan features in the two categories. Baron and Bend (2023, para. 5) acknowledge that school learner attendance rates had been relatively low before the pandemic. Precisely, 27% of boys and 37% of girls aged between 5 and 16 years were out of school, with those in the rural areas having higher rates (Baron and Bend, 2023, para. 5).

During COVID-19

The emergence of the COVID-19 pandemic prompted significant disruptions to university attendance patterns in Pakistan. In response to lockdown measures and social distancing protocols, universities transitioned to online learning platforms to ensure continuity in education (Mumtaz, Saqlain, and Mumtaz, 2021, p. 286). Remote lectures, video seminars, and virtual labs became commonplace. However, a study involving 1280 Pakistani students found that 62.6% of them could not distinguish space for taking online classes and 65.3% a disruptive and unsuitable environment at home for online education. (Qamar and Bawany, 2021, p. 510).

After COVID-19

Furthermore, during the post-pandemic era, universities in Pakistan began to resume in-person classes alongside online options, with the gradual easing of restrictions and improved vaccination efforts. The impact is attributable to a relatively higher willingness (72.5%) of taking COVID-19 vaccine among Pakistani university students (Hossain et al., 2022, p. 1)

3.3 Limitation

The possible challenge is the complexity of data since the purpose of the website is to convey information. It, therefore, should have an effective way to visualize data without overwhelming the audience with overloaded information. Also, there would be different types of audiences, who have different backgrounds, knowledge, experience and bias. It means that the website could make sure to show messages to prevent biased interpretation and it could be optimised to view on various devices. Significantly, the technical constraint is the last limitation since it might involve the compatibility or the capabilities of the website, which is a challenge to make sure that there is a smooth flow of the website.

3.4 Future implementation

As the current situation, there are several advanced technologies and innovative systems that could make attendance streamlined and accurate. It would lead to time saving and easy to track the data. It means that it could be a potential implementation for any classroom, online class and remote class since traditional attendance checking is ineffective. As a consequence, it indicates that there is a need for an attendance management system such as a website that could provide accurate tracking of student attendance, offer real-time insights, and streamline administrative tasks.

Therefore, the further improvement on the website is to enhance the attendance management and monitoring system in order to effectively correct data and improve engagement among students and teachers in the university. As well as the website is able to integrate into the current technology. Hence, the project came up with the idea of a website, which is a tool for tackling attendance checking, which could lead to a better outcome of the educational system and a friendly studying environment for university students, particularly the targeted students in United Kingdom and Pakistani students.

4. Conclusion

In conclusion, the initiative of website seeks to increase public awareness of the value of attendance in the educational system. The initiative aims to draw attention to the impact of the

pandemic on university attendance checks in Pakistani and UK institutions using an easily navigable computer interface and substantial information display. Also, the creation of website requires the use of HTML, CSS, and JavaScript, which are all part of the development process. The website's structure is defined by HTML, its appearance and aesthetics are improved by CSS, and its functionality and interaction are added by JavaScript under theoretical considerations such as Human-Computer Interaction (HCI).

Link:

<https://github.com/Suveenawan/MA2806The-Effects-of-COVID-19-on-University-Attendance-in-the-UK-2410533>

<https://suveenawan.github.io/>