



DEPARTMENT OF INFORMATION TECHNOLOGY AND COMMUNICATION

DIPLOMA IN INFORMATION TECHNOLOGY (DIGITAL TECHNOLOGY)

BBTC ONLINE TUITION SYSTEM

GROUP MEMBERS:

NEESHANEIR A/P K GANGADHARAN 10DDT20F2031

SHARMINDRAN A/L PATHMANATHAN 10DDT20F2038

KISSHEN A/L SUPPIAH VANDAIAR 10DDT20F2050

SUPERVISOR:

PUAN NOOR AZLEEN BT MOHD NOOR

SESSION: 1 2021/2022

DECLARATION

We hereby declare that the technical report entitled "BBTC Online Tuition System" is based on original work under supervision and guidance of Puan Noor Azleen and Puan Izlin except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other diploma or award at Polytechnic or other institutions.

1. Signature

Name : NEESHANEIR A/P K GANGADHARAN

Registration No: 10DDT20F2031

Date : 22/12/2022

2. Signature

Name : SHARMINDRAN A/L PATHMANATHAN

Registration No: 10DDT20F2038

Date : 22/12/2022

3. Signature

Name : KISSHEN A/L SUPPIAH VANDAIAR

Registration No: 10DDT20F2050

Date : 22/12/2022

APPROVAL FOR SUBMISSION

Project Title : BBTC Online Tuition System

Session : 1 2021/2022

Submitted by:

1.NEESHANEIR A/P K GANGADHARAN 10DDT20F2031

2.SHARMINDRAN A/L PATHMANATHAN 10DDT20F2038

3. KISSHEN A/L SUPPIAH VANDAIAR 10DDT20F2050

"This technical report has been read, checked and approved in terms of scope and quality for the award of Diploma in Information Technology (Digital Technology)."

Checked by

Supervisor's Signature:

Panel's Signature :

Supervisor's Name : PUAN NOOR AZLEEN BT MOHD NOOR

Panel's Name : PUAN IZLIN ZURIANI BINTI ISHAK

Date : 22/12/2022

APPRECIATION

Here, we would like to take our opportunity to thank Puan Azleen as our supervisor for this project. Thanks for guiding, teaching and sharing your knowledge to establish this project till the end.

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Thank you again to everyone who participated in giving us opinions and information. We really appreciate your help.

ABSTRACT

The tuition center registration system is a project implemented for the purpose of facilitating the admins and users to enter the details. The quality of education is improved through the use of online tuition. For instance, details of computerised students are frequently easier to understand. This lessens the possibility of mistakes and misunderstandings, which could have a detrimental effect on the calibre of students' education. As a result, our tuition system is also practical and effective. This is due to the fact that tutors and teachers are no longer need to waste time sorting through clumsy paper records. With just a few keystrokes on a keyboard, tutors can instantly retrieve a student's information and performance.

Sistem pendaftaran pusat tuisyen merupakan projek yang dilaksanakan bagi tujuan memudahkan pentadbir dan pengguna memasukkan butiran. Kualiti pendidikan dipertingkatkan melalui penggunaan tuisyen dalam talian. Sebagai contoh, butiran pelajar berkomputer selalunya lebih mudah difahami. Ini mengurangkan kemungkinan kesilapan dan salah faham, yang boleh memberi kesan buruk kepada kaliber pendidikan pelajar. Hasilnya, sistem tuisyen kami juga praktikal dan berkesan. Ini berikutan hakikat bahawa tutor dan guru tidak perlu lagi membuang masa menyusun rekod kertas yang kekok. Dengan hanya beberapa ketukan kekunci pada papan kekunci, tutor boleh mendapatkan maklumat dan prestasi pelajar serta-merta.

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1.0 PROJECT PLAN

1.1 Introduction

Nowadays, tuition has become indispensable for the new generation. There are many tuition centre in our country. Hence, tuition has also become common among students nowadays. Many of them are attending tuition classes after school. Some of them must attend tuition classes every day even during public holidays. It isneeded to achieve the optimum academic performance. Tuition is an effective extra coaching for all students.

Attendance defines as the act or fact of attending something or someone. Not only in schools, even in tuition centers attendance is important. This helps the tuition teachers or parents to keep track on their students'/children's activity after school sessions. Most of the time the attendance will be taken by markingthe name of the person from the student list or make an empty paper to go around as the students fill up their own name in it.

1.2 Problem Statement

There are a few problems faced in the tuition class. Hence, we looked forward in creating a system which can help them. The problems are as following:

- student details, registration form, homework schedule and class notes were unorganized. Certain disasters can cause serious impact on student details(hardcopy). And keeping student's file in hardcopy form can even cause editing problems
- keep tracking on students' attendance are becoming a big issue
- sometimes students forget to bring their monthly payment for the class, or they delay the payment

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1.3 Objective

Our goal is to implement a user-friendly GUI in the BBTC Online Tuition System with simple features available for users. We decided to build online tuition involving following factors :

- To easily read computerized student's details .
- To provide cashless payment method for the system
- To take students' attendance much more easily with the system

1.4 Project Scope

This project is developed to help the tuition teachers, staff, and students.

1.4.1 User Requirement

- Easy to manage student's notes and videos
- Improves academic performance
- Students can get to know the timetable before entering the tuition by surfing this system.
- Parents can do the tuition payment just by this system via online banking
- Convenient to manage student details and data
- Tuition staff can key in student attendance easily
- Students' payment will be well organized and stored

1.4.2 System Requirement

 The system is being develop by such languages which is html, CSS, js, and PHP. Application used is Xammp and Visual Studio Code. The database used is MySQL which is localhost.

1.5 Literature Review

Nowadays, 52% of parents in Malaysia facing difficulties providing academic guidance to their children (Romle A & Dalbir S 2011, pp. 1-6). This is because syllabus has changed frequently from time to time. This results in generation gap that today syllabus unlike the syllabus learnt from their parents' generation (Romle A & Dalbir S 2011, pp. 1-6). Therefore, most of the parents will try to sendtheir children to take extra lessons after school hours or during holiday's period. Today's extra tutoring or private tutor is mostly obtained by referral among friends and family or direct contact via phone with tutors. Based on survey done by Amirul Azuani Romle and Dalbir Singh, they found that 23% parents cannot find suitable tutors for their children in Malaysia by using traditional ways obtain tutor via the referral among friends and family (Romle A & Dalbir S 2011, pp. 1-6). This is due to family members or friend facing similar issue on limitation of knowledge that only able obtain related information via flyer, advertisement locally. Therefore, parents are beneficial if they can acquire suitable tutors that able to teach their children in the nearby residential area.

REVIEW OF TUITION MALL WEBSITE



Tuition Mall is the best commercial website in term of the functionalities and completeness in Malaysia home tuition (2014). It not only equipped with the basicfunctions such as matching parents and tutors but is also provides online tuition games and online tuition programs for the students. However, add-on functionalities in Tuition Mall website are not available for normal members. For example, parent posting tuition job offer, which is a kind of open tender quotation for a tutor to apply, then tuition center directory or admin will help parent listing the tender post to make public in the website. Lastly, Tuition Mall website is regrettable that this website cannot support in the handheld device mode. That mean that Tuition Mall website browsing using ordinary mobile smartphone devices will display all content very tiny font. To improve the website, it is suggested Tuition Mall add-on smartphone screen mode that able tobrowse easier in the smartphone devices as today mostly every user own a smartphone, this makes users more convenient access the Tuition Mall website

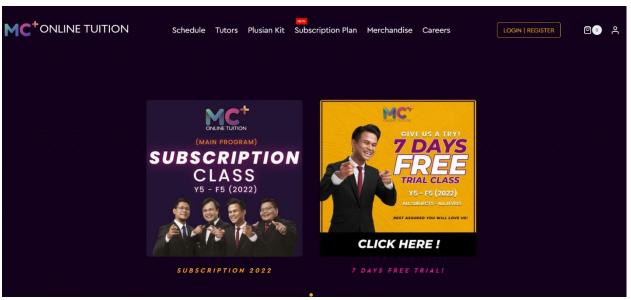
REVIEW TUTOR2U WEBSITE



For Tutor2u website at Tutor2u's Malaysia largest tutor community (2009), it is the leading tutoring agency current existing in Malaysia that matching parents and tutor services for free to allow parents and children attend private tuition at own house via Home Tuitions home tuition Malaysia (2011). The strength of Tutor2U is to enable parents to perform quick matching to tutors listed in the website without going through the process of registration. Besides, it provides theweb application that allow parents and tutors to enquiry directly to administratorand get their quick response. However, this website only limited to core functionalities only. Therefore, it is recommended to add some functionalities likeother website can enhance user's experience. For example, search tutor according to profile and direct contact the tutors' capability and etc. Besides, due to Tutor2U web application no constraint on anonymous users accessing the web application functionalities, the website may incur joke bidder or harass users to the tutors. This created bad impression for the register users such as parents and tutors and ultimately provide bad experience to the users.

As a conclusion, although few websites perform it intended core functionalities, which is helping students to find respective tutors and correct classes to enroll. However, every websites have few sub-functionalities and problems which are differentiated with each other. For example, some website is automatic providedall the functionalities required, some websites are semi-automated that requiredadministrator monitor to perform. In additional, my tuition center offers for the tutor and institute to join the website. There for, every web application is emphasized on different focus such as add-on nonfunctional features and good graphic design, provided with good friendliness user interface able to work on multiple devices .

REVIEW MCPLUS WEBSITE



This website is a well organized and very attractive one. Hence, it has a balanced schedule and professional tutors. By the way, MCPLUS tuition also offers subscription plan based on user's affordability. The downside of this tuition website is that is does not offer online attendance. This online attendance system is crucial since it can track students' attendance according to their attended classes.

1.6 Methodology

The methodology that is used to make this online tuition system is agile methodology. The project scope and requirements are laid down at the beginning of the development process. This methodology is chosen because all the activities that are about to establish is under a sequence of steps. There are 6 phases which are requirements, design, development, testing, deployment and review. This agile model is easy to manageand allows the user to make changes in any phase.



[Agile Model]

Requirements

In requirements phase, we prepared our proposal. Meeting up with supervisor and client.

Design

In design phase, we use all the information that we collect from the requirement phase to design our prototype. We designed our prototype using figma.

Development

In development phase, we built web application using VS code.

Testing

We tested our web application and observed any error or bugs that need to be solved.

Deployment

In deployment phase, we solved the errors or bugs that have been found in our web application.

Review

In review phase, we prepared our documentation.

1.7 Gannt Chart

Figure 1.7.1

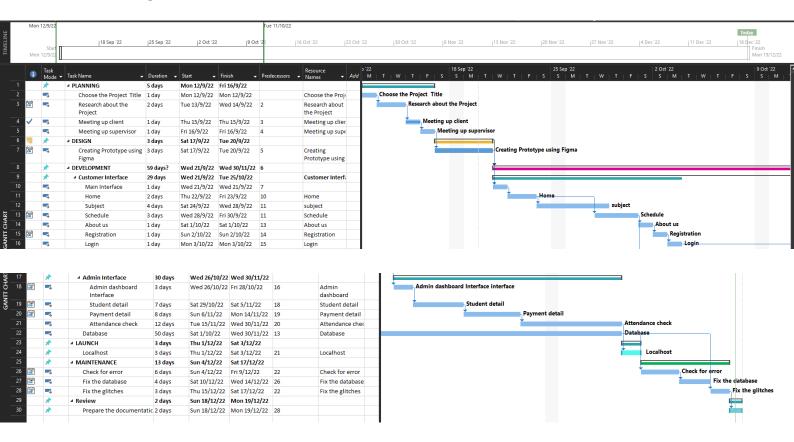


Figure 1.7.1 : Gannt Chart

2.0 REQUIREMENT SPECIFICATION

2.1 Functional Requirement

i. Display the subjects page to students.

All the subjects are displayed in the subject interface of our BBTC Online Tuition System

ii. Payment

For the payment method, users can pay the tuition fees of the tuition using online payment, debit card or cash

iii. Admin

For admin, they can check payment detail, attendance and student details

2.2 Non-Functional Requirement

Table 2.2.1 Products of Non-Functional Requirement

Requirement	Product
Performance	Website will load less than 1 sec
	from one webpage to another
	webpage smoothly
Availability	The website will always be
	accessible 24/7 by students to
	register the subjects
Maintainability	If there are any class canceled,
	admin can update the info in the
	availability
Security	Admin and user's data are safe as
	password encryption and url
	navigation are encrypted
Capacity	54 subjects from year 4 4 to form
	5
Usability	Website's interface is user
	friendly and easy to use by
	students

2.3 Hardware and Software Requirement

To develop the successfully web application we used some of the hardware and software.

Table 2.3.1 shows the hardware required for web application development.

Table 2.3.1: Hardware Requirement

Hardware	Description
Laptop	We used our laptop to do the BBTC Online Tuition System.

Table 2.3.2 shows the software required for web application development.

Table 2.3.2: Software Requirement

Software	Description
VS Code	We used PHP to create our web application.
Xampp	We used for store all the database information for your BBTC Online Tuition System.

2.4 System Configuration

Visual Studio Code



Figure 2.4.1 Visual Studio Code logo

Figure 2.4.2 Visual studio code coding preview

Step 1: Download the Visual Studio Code installer for Windows.

Microsoft provides an installer on the Visual Studio website for installing the latest versions of their IDE. Navigate to the Visual Studio web page and select the version you want to download.

Step 2: Upgrade and Launch the Installer

After downloading the installer, navigate to the download location on your computer and open the executable. It will launch the download menu. The menu shows the currently installed versions of Visual Studio and the versions available for download.

Step 3: Select the Visual Studio version you want to install

Click on the Install button on the section for your choice Visual Studio 2022 edition and wait for the installer to load the installation menu

Step 4: Add Components to the Base Installation

The full installation can will take up unnecessary space on your computer storage. To prevent this, the installer allows you to choose which features you want to add to the core editor.

Step 5: Install the Selected Component

After selecting your desired components, click on the Install button in the menu's bottom-right corner. Visual studio code ready to use.

XAMPP



Figure 2.4.3 Xampp logo

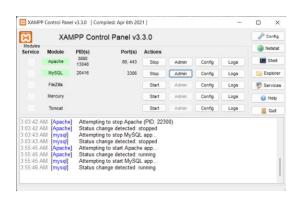


Figure 2.4.4 Xammp control panel

Step 1: Download XAMPP Installer or Setup

Download the XAMPP installer for Windows from the official Apache Friends website. Click on 'Download (64 bit)'. The selected installer will be downloaded to system.

Step 2: Run installer to install XAMPP Server

Once the XAMPP is downloaded, right-click on the installer to open the installation Wizard. Click on the 'Next' to proceed with the installation process. Further, click on the 'Next'. Then, choose the folder to install XAMPP. If you want to continue with the default directory, click on 'Next'. Now, the setup is ready to install XAMPP on Windows Server. Click on 'Next'. Once the installation of the XAMPP server is completed, click on the 'Finish' to quit the installation wizard.

Step 3: Launch XAMPP on Windows Server

When you finish the XAMPP installation, it will ask you "do you want to start the control panel now?" Here, if you will mark the box as a check, the XAMPP server control panel will immediately launch on your system after completing the XAMPP installation. When the XAMPP server will run on your system, you will observe that services are not running by default. However, click on the 'Start' button to start the required services such as Apache and MySQL. XAMPP is successfully installed on your system. You can start and use it on the Windows server now.

2.5 Security Requirements / Exceptional Handling

In our BBTC Online Tuition System, user must have to login in order to use the BBTC Online Tuition System web application. Users required an authorized username and password to login. If user enter wrong username or password, it will display an alert "Wrong Username or Password.

For administration also required an authorized username and password to admin login. If admin enter wrong username or password, it will display an alert "Wrong Username or Password".

Hence, in database server, we also enabled password encryption for user and admin. So, when admin and user sign up in BBTC Tuition System. Even in the database the admin and user passwords are unreadable by random numbers, symbol and alphabets.

3.0 FINAL DESIGN

3.1 Logical Design

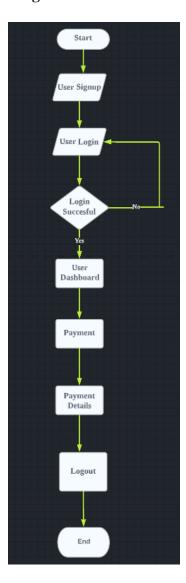


Figure 3.1.1 : Flowchart

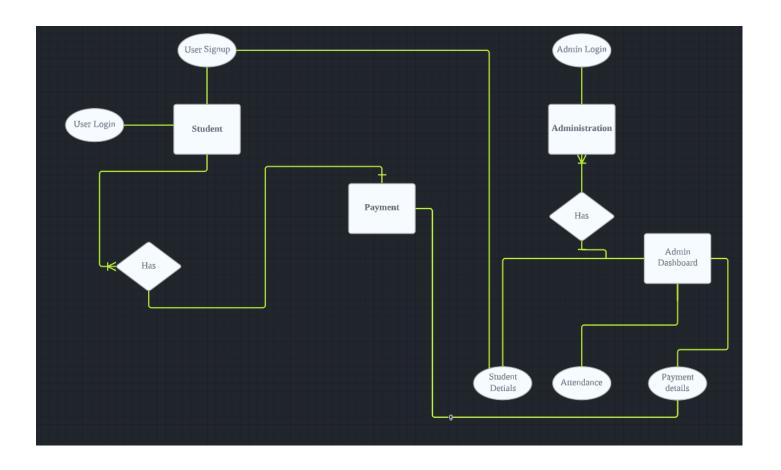


Figure 3.1.2 : ER Diagram

3.2 Physical Design

Login interface

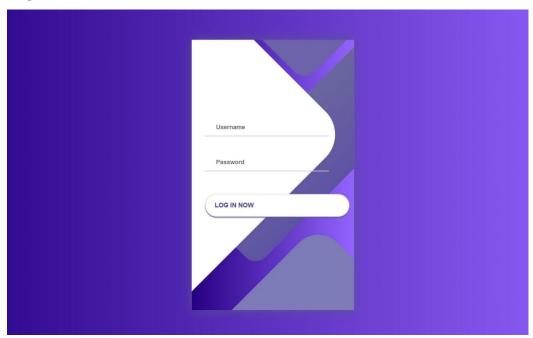


Figure 3.2.1

Registration Form

	Registration Form
No	ome:
Da	ate Of Birth: dd/mm/yyyy
Ge	ender: O Male O Female
IC	Number:
Но	puse Address:
En	nail Address:
Ph	none Number:
Gu	urdian Name:
Gu	urdian Phone Number:
Le	evel: Choose Level
	Figure 3.2.2
	Subje
	Subject 7: Choose subject
	Subject 8: Choose subject
	Subject 9: Choose subject
	Subject 10: Choose subject
	Username: *
	Password: *
	Re-Enter Password: * I accept the terms and conditions
	Submit

Figure 3.2.3

Payment Details

Payment Details

Year 4, 5 & 6

Reference Number	Name	Date	Payment Method	Subject 1	Subject 2	Subject 3	Subject 4	Total
123456	Neesha	2022-12-15	p2		BI	Sc		40

Form 1, 2 & 3

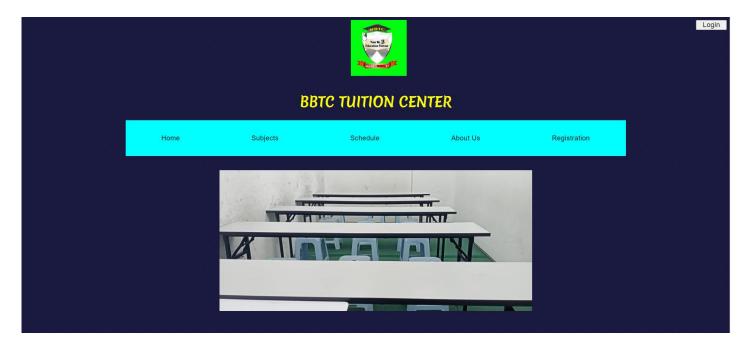
R	eference Number	Name	Date	Payment Method	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Tota
1	31345	Sharmin	2022-12-16	p4				Mathlf		Geolf	50

Form 4 & 5

Reference Number	Name	Date	Payment Method	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8	Subject 9	Subject 10	Subject 11	Subject 12
456789	Kisshen	2022-12-15	p1				Mathhf		AM	Bio		Phy			
		2022-12-20	Choose Method						AM		Chemi				

Figure 3.2.4

Figure below shows our BBTC Online Tuition system interface for BBTC Tuition. There are 6 button in this interface which is home, subjects, schedule, about us, registration and login. When we point mouse cursor to each button, it will hover the text. When we click on the home button, it will navigate to promotion site and some description.



Main Interface

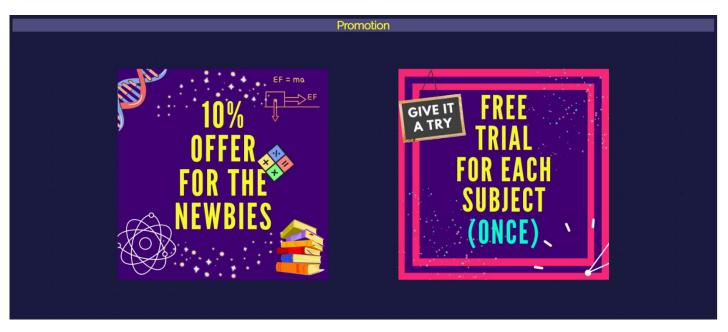


Figure 3.2.5

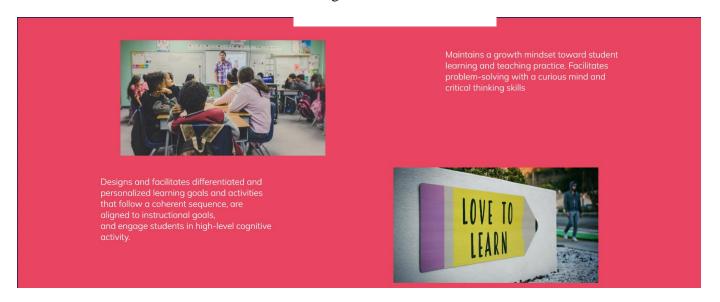


Figure 3.2.6

Below shows the Subjects interface. In this subject interface it shows subjects from year 4 to from 5. User can read and check for their preferred subjects in this interface.



Figure 3.2.7

Below shows the schedule interface. In this schedule interface user can check for subject availability starting from year 4 to form 5. All the subjects are scheduled with day and

time.



Figure 3.2.8



Figure 3.2.9



Figure 3.3.1

Figure below shows the location interface for our tuition centre in Bukit Mertajam, Pulau Pinang. We have attached embed map for the location, when user click on the location it will navigate to google map

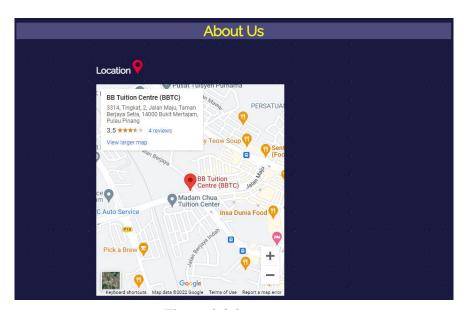


Figure 3.3.2

Figure below shows, the tuition's opening hours. User's can check for the tuition's opening and closed days

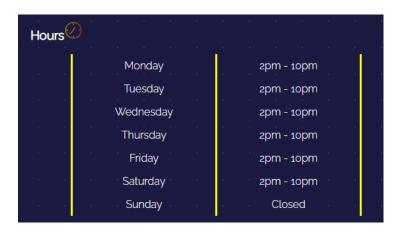


Figure 3.3.3

4.0 TEST DESCRIPTION AND RESULTS

4.1 Unit Testing Plan

Table 4.1.1 Unit Testing Plan (student's interface)

		U		F PLAN (UTP) INTERFACE)		
No.	Test Case Name	Test Procedure	Pre- condition	Expected Result	Tester	Result (Pass/Failure)
1.	User Registration	Students are required to enter name, date of birth, gender, IC number, house address, email address, phone number, guardian name, guardian phone number, level, choose random subjects, username, password, re-enter password	Customer make sure both password and re-enter password are same	Successfully register	Neesha	Pass

2.	User Login	Students are required to fill the username and password field	Customer need to sign up before login	Successfully login	Sharmindran	Pass
3.	Home	Promotion offer and some description	Student's can view the promotion and description	Displays latest promotion and description	Kisshen	Pass
4.	Subjects	Subjects from year 4 to form 5	Student's can check for subject offered	Displays subjects and teachers name	Neesha	Pass
5.	Schedule	Subject's day and date	Student's can check for subject schedule	Displays subject schedule with day and date	Kisshen	Pass
6.	About us	Tuition location and opening hours	Student's can look for location and opening hours	Displays embed map and opening hours	Sharmindran	Pass

Table 4.1.2 Unit Testing Plan (Administration's interface)

	UNIT TESTING PLAN (UTP) (ADMINISTRATION'S INTERFACE)										
No.	Test Case Name	Test Procedure	Pre-condition	Expected Result	Tester	Result (Pass/Fail ure)					
1.	Admin Login	Admin is required to enter username and password.	Admin have to input their password and username	It will login to admin dashboard	Neesha	Pass					
2.	Logout	Admin is required to logout	Admin logs out after finishing check the details	It will logout	Kisshen	Pass					

4.2 Integration Testing Plan

Table 4.2.1 Integration Testing Plan

	INTEGRATION TESTING PLAN (ITP) (STUDENT INTERFACE)								
No.	Test Case Name	Test Procedure	Pre- condition	Expected Result	Tester	Result (Pass/Failure)			
1.	User Signup	Students are required to sign up	Students need to sign up in order to login to website	Students username and password from user signup are used for user login	NEESHA	Pass			

INTEGRATION TESTING
PLAN (ITP)
(ADMINISTRATION'S
INTERFACE)

No.	Test Case Name	Test Procedure	Pre- condition	Expected Result	Tester	Result (Pass/Failure)
1.	Admin Signup	Admin is required to sign up to add new admin	Admin need to sign up in order to login to admin dashboard	Admin sign up the data used for admin login	SHARMINDRAN	Pass

5.0 MAJOR FINDINGS AND DISCUSSIONS

5.1 Advantages of the project

BBTC Online Tuition System has its own advantages for both user and admin. Those advantages are

i. User contentment

Students can use the web application to seek for schedules and subjects. So, users will see the information on the website. They can readily and efficiently look up the schedules.

ii. Save time and user-friendly

Tuition staff can key in student attendance easily and students can get to know the timetable before entering the tuition by surfing the system

iii. User's data are secured

The database will contain all of the student information. Students should not worry because the database will be protected with regards to personal information like passwords. They do not need to preserve every attendance record for administrative purposes. They can instead save all the information in a database, which is safer than paper documents.

5.2 Disadvantages of the project

Nevertheless, there are numerous benefits. On the other hand, the project does have a few drawbacks. These disadvantage aspects are

- i. Old database need to be clearedAdmin need to clear back all the old database in order to register future students.
- ii. Don't have the gallery interface in about pageThe about page is not fully equipped with gallery interface in our website

6.0 RECOMMENDATION AND CONCLUSION

As a result, we think that this project will contribute to time savings, minimise the amount of paperwork, and replace stationery supplies with electronic equipment. The system had a significant role in enhancing the effectiveness of the BBTC online tuition system. Consequently, a system with anticipated outcomes has been created.

In terms of experience gained through the duration of this project study, we have been able to broader our knowledge about the management of tuition organization using manual and automated procedures.

Additionally, we were able to increase our expertise in creating educational software. In our efforts to automate the "BBTC online tuition system tuition's management system, we think this project will benefit the institution effectively.

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