



**An Undergraduate Internship on
the Training module for BRAC Skill Development
Program(SDP) Online Career Hub.**

By

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September 12, 2021

Dissertation submitted in partial fulfillment for the degree of Bachelor of
Science in Computer Science

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Attestation

I certify that this report is my own work, based on my personal work by me during my internship. And that I have acknowledged all material and sources used in this report.

I also certify that this report has not previously been submitted for assessment in any other unit and that I have not plagiarized the work of other students or persons. However, following the internationally accepted academic guideline of using others' written work and/or software (in the form of code) in my university project is properly cited if used in any part of this work.

Signature

Date

Yamin Hossain

Name

Acknowledgement

First of all, I would like to thank the All-Merciful Allah for giving me the strength to complete the report properly. Without His mercy it would not have been possible to report with the internship successfully. And by his grace I have come so far.

During the course of my internship, I was fortunate enough to receive tremendous assistance from a number of persons to whom I owe a debt of appreciation. Without their assistance and generous contributions, this report would not have been completed.

I express my gratitude to my internal supervisor Mr. Mohammad Noor Nabi (SIR) Senior Lecturer, Department of Computer Science and Engineering, Independent University, Bangladesh (IUB). I would not have been able to complete this report without his invaluable guidance and direction. His advice, support, and suggestions aided me in completing this report in a timely manner

Then I would like to express my sincere gratitude to BRAC for providing me the opportunity to complete my internship program at their Technology Division, as well as for allowing me to gather information and assisting me in every possible way in preparing my internship program report. My special thanks go to my external supervisor MR. Sarker Mahatab Masud, project manager, technology division. For his invaluable instructions, continuous guidance, support and motivation during my internship period and preparation of this report. It was a great pleasure to complete the internship under his supervision. My gratitude also extends to all other employees of BRAC who helped me learn so much in my own skill development process and made me fit right in the environment.

Yamin Hossain

September 12, 2021

Dhaka, Bangladesh

Letter of Transmittal

September 12, 2021

Mr Mohammad Noor Nabi (sir)

Senior Lecturer

Department of Computer Science and Engineering

Independent University, Bangladesh.

Subject: Internship Report submission Summer, 2021.

Dear Sir,

This is to inform you with due honor and respect that I am Yamin Hossain (ID: 1721053) from the Internship Course of Summer 2021 in section 1, I would like to submit my internship report on the Training module for BRAC Online Career Hub.

I would like to express my gratitude to you and thank you for allowing me to work on this topic under your proper supervision. This report has been prepared with the utmost attention and concentration. I have done my best to give material that is both valid and trustworthy, in order to make the findings as accurate as possible. Due to a variety of contains, there may be some mistakes, which I respectfully request for your kind consideration.

I would be highly grateful if you are kind enough to receive this report and provide your valuable judgment. Also, I will be happy to answer any kind of inquiry identified with this report, if vital.

Sincerely,

Yamin Hossain.

Evaluation Committee

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Supervisor

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Convener

Abstract

This report highlights the activity of the Technology Division department of BRAC and my contribution to their project. To address Bangladesh's high youth unemployment rate, SDP (Skill Development Program) proposes the creation of a web and mobile platform that will act as a platform for learners to gain employ-ability skills and online and eventually find work. The platform's ultimate purpose is to offer learners with the essential skills to obtain career possibilities and entrepreneurial support within the platform. This platform will include four distinct basic functions followed by sophisticated back end feathers of learner tracking. The core features are known as 1) Training hub 2) Learners' readiness to job 3) Job Engine and 4) Career Counseling. The additional feature will be learner tracking. In this report we will talk specifically on the training module. The platform will provide learners with the relevant information about all of the required and available skills training courses through this functionality. The platform will be unique by offering both offline and online courses. SDP or the integrated platforms will be in charge of the training courses. Integrated platforms are defined as any other skill providers except the SDP. The background, scope and other analytical points about this application will be discussed in detail in this report.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

The BRAC skills development program (SDP) began in 2015 with the goal of transforming our country's human capital into skilled workers. Its purpose is to empower youth through skill development and decent employment so that our nation can be led forward by a quality workforce. The program's outcomes are aligned to the SDG (sustainable development goal) 4.4 (ensuring skills for youth and adults for decent employment and entrepreneurship) and SDG 8 (promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all).

The COVID-19 pandemic's unexpected arrival has limited the breadth of physical training. The educational institutions have been shuttered since 17 march 2021, due to government embargoes. According to a recent assessment by the International Labor Organization (ILO), almost 25 million people worldwide are expected to lose their jobs as a result of the COVID-19 crisis. In Bangladesh, there has been a dramatic increase in the unemployment rate. Restrictions in new recruiting, job loss, and other factors are contributing to the dramatic rise in youth unemployment. In these circumstances, online platforms for skill training are essential. Employees will require additional competences such as strong communication skills to acquire positions in this new-normal job market as the job market shrinks.

1.2 Objectives

In this era of science and technological advancement, the COVID 19 outbreak has left an unprecedented impact on human life. It has adversely affected the economy and business activities.

The training module of BRAC Online Career Hub can rest down the hassles that individuals face while seeking a suitable job due to lack of proper skill against each particular

job, get training in the right manner on a market competent course and employers would also be able to collaborate at a hub where they would be able to choose their likely employees.

The project objectives are the things we want to accomplish by the end of the project. A project's goal is specific and measurable, and it must be completed on schedule, within budget, and most crucially. The following are the key goals of the BRAC Online Career Hub.

- Full analysis of the processes and identify existing issues or potential blockers.
- Full analysis of existing processes and potential risks for the time taken to complete the process.
- Full analysis of timings and volumes of current scope.
- To produce recommendations for both short- and long-term improvements to be discussed and agreed with relevant stakeholders.
- To serve learners by skills improvement scopes, Training opportunities at nearby locations and connecting to the job providers.
- To reduce the clutter that is seen in the online training and job market by making customized pathways for each learner to help them get gainful employment after their online training.

1.3 Scopes

This software is built up as a medium for learners to gain employability skills online and ultimately to get employment as the rising unemployment rate amongst the youth in Bangladesh. The platform's ultimate purpose is to offer learners with the essential skills to obtain career possibilities and entrepreneurial support within the platform. As a result, the platform will include elements such as career counseling, skill training, and the option to list jobs. Through a combination of psychometric and skills assessments, the platform will generate a personalized experience for each student, allowing them to reduce their options in terms of subject choices. Learners will also be able to assess how much demand there is for the field they are interested in. This platform will include four distinct basic functions, 1) Training hub is one of the most important characteristics. 2) Job preparedness of learners 4) Career Counseling and 3) Job Engine Learner tracking will be an added feature. The training hub module allows users to take the courses of their choice for free from reputed trainers. Users can join a live class directly from this model, and can also give their attendant a quiz. In the discussion section of each course they join they will be able to discuss their different queries and the participant will answer them accordingly. After successfully completing the course the user will get a certificate and they can share directly to their linked-in profile. As a trainer, users can create and edit courses. Trainer can upload the courses content in particular course content sections. Trainees also are able to create quizzes, evaluate participant's quiz performance, take attendance, generate certificates and conduct the live classes.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

The department of Computer Science and Engineering at Independent University in Bangladesh organized the courses and syllabus in a very efficient way, which aided me in completing my project. Undergraduate courses provided knowledge and skills that aided in the development of the “BRAC Online Career Hub” project. If the courses had not been completed before to work on this project, it would have been more challenging. Some of the directly related courses are,

2.1.1 CSE 203 Data Structure

This course covered how to handle and manipulate arrays, objects, classes, arrays of objects, nested arrays and so on. Because “BRAC Online Career Hub” contains numerous sophisticated data structures, the skills learned in this course are quite useful and it was a lot easier to deal with them as well.

2.1.2 CSE 309 Web Applications and Internet

This is the course where web application development was taught. In this course I have learned very important technologies that are highly demanded in the industry, for example HTML, CSS, JavaScript,jQuery. The “BRAC Online Career Hub” is a web application with similar web technologies, so the technologies covered in this course were extremely useful in the development of “BRAC Online Career Hub”.

2.1.3 CSE 307 System Analysis and Design

The tools and techniques used in the design and analysis of information systems are covered in this course. The main topics covered in this course are Systems and models, Project management, Tools for determining system requirements, data flow diagrams,

Systems analysis, use-case modeling, Unified Modeling Language, Front-end and back-end design, these knowledge enabled me to analyse the system and helped me to design the front-end by creating software requirement specifications (SRS) for the “BRAC Online Career Hub”.

2.2 Related Work

“BRAC Online Career Hub” will include features including career counseling, skill training and the opportunity to apply for jobs. Through a combination of psychometric and skills assessments, the platform will generate a personalized experience for each learner, allowing them to limit their focus. The learners will also be able to see job demand for the field that are available on the platform. This platform also takes job postings from the employers. Instead of a basic job description, companies will be required to identify the types of talents required for this specific job, which will aid the platform in determining market employment demand.

Here are some examples of software that matches my project.

- BdJobs
- LinkedInJobs
- Careerjet
- Bdgovtjob
- Bdjobs today
- Bdjobs Careers

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

Breaking work into smaller jobs is a typical productivity practice used to make the work more manageable and approachable.[1] For projects, the Work Breakdown Structure (WBS) is the tool that implements this technique and is one of the most significant project management papers. It integrates scope, cost, and schedule baselines on its own, ensuring that project plans are in sync. The WBS for the Training module or the “BRAC Online Career Hub” is divided into five main categories, such as Project Management, Requirement and Prototyping, Software Development, Testing, and Deployment. The Project Management is divided in five sub categories. The Requirement Document consists of ten sub categories which are Gathering Requirement, Analyze Requirement, Req. Elicitation and System Analysis, Activity Diagram on Req. Understanding and so on. Thus Software development is divided into four subcategories which has been shown in the WBS. Similarly the testing and development is further divided into three and four subcategories.

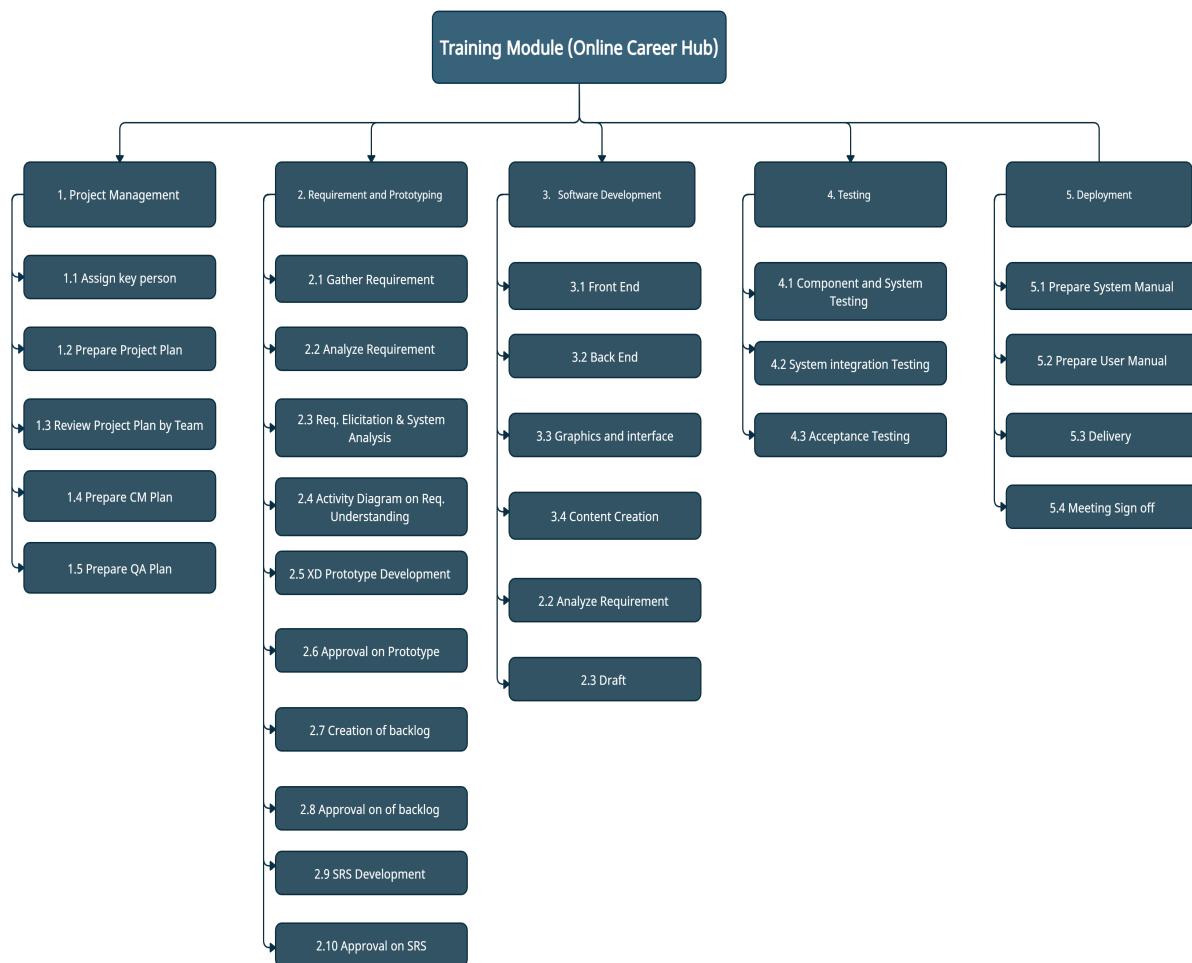


Figure 3.1: Work Breakdown Structure

Project team members were involved in developing the WBS to ensure consistency and buy-in. The WBS as we can see is consistent with the way in which work is actually going to be performed. Each WBS item are documented to ensure accurate understanding of the scope of work included and not included in that item. The WBS was made as a flexible tool to accommodate inevitable changes while properly maintaining control of the work content in the project.

3.2 Process/Activity wise Time Distribution

Process wise time distribution is defined by the expected time necessary to complete a project successfully. This aids the developers in creating a mental picture of how quickly they must work to achieve the deadlines. To finish any job, time management is essential. Percentage (percent) indicates the time required to accomplish the activities in the diagram.

Task Name	Duration	Percentage
BCH Training Module (Phase-1)	63 days	100%
Requirements and Prototyping	26 days	16.38%
Req. Elicitation & System Analysis	2 days	1.26%
Activity Diagram on Req. Understanding	3 days	1.89%
XD Prototype Development	8 days	5.04%
Approval of Prototype	2 days	1.26%
Creation of Backlog	4 days	2.52%
Approval on Backlog	2 days	1.26%
SRS Development	8 days	5.04%
Approval on SRS	1 day	0.63%
Development:	35 days	22.05%
Sprint-1	7 days	4.41%
Sprint-2	7 days	4.41%
Sprint-3	7 days	4.41%
Sprint-4	7 days	4.41%
Sprint-5	7 days	4.41%
Phase 1 Closing	2 days	1.26%
Overall observation and Bug Fixing	1 day	0.63%
Phase-3 User Manual / Tutorials	1 day	0.63%

Figure 3.2: Activity Wise Time Distribution

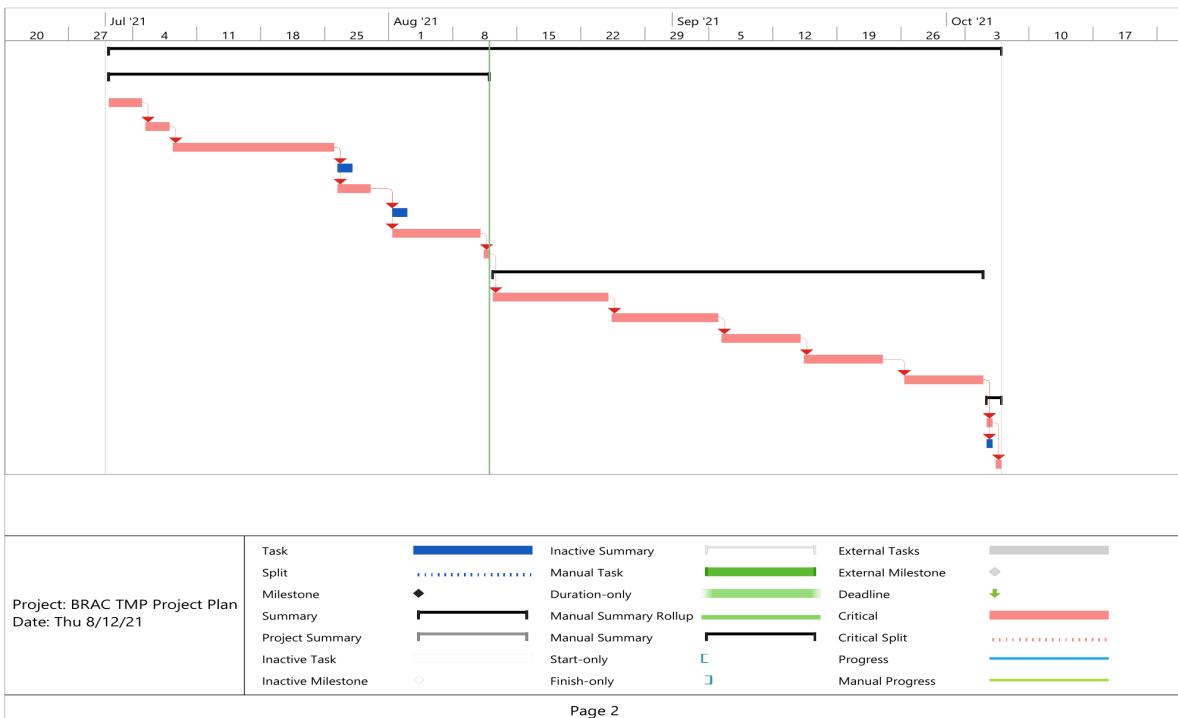


Figure 3.3: Critical Path Method

The critical path is the longest series of actions that must be performed to properly complete a project from start to end in project management. Critical activities are actions that are on the critical path because if they are delayed, the entire project will be delayed. You can establish the overall duration of a project by determining the crucial path, and you'll have a clear view of the project's real timeline. In this graph the red bars are showing the critical paths.

3.3 Gantt Chart

Training module is the Pase1 of the “BRAC Online Career Hub”. A total of 63 working days have been allotted for the training module. 26 working days have been allotted for the Requirement and Prototyping, 35 working days for development, and 2 working days for the phase 1 closing. Requirement and Prototyping is divided into 8 tasks. 2 days allocated for Elicitation and System Analysis, 3 days for Activity Diagram on Req. Understanding which is dependent on Elicitation and System Analysis. For the XD Prototype Development 8 working days have been allocated and this task is dependent on task 3 (Activity Diagram on Req. Understanding). 8 working days assigned for the SRS Development and it is dependent on task 7 (Creation of Backlog). After getting approval on SRS then we move to the Development process.

Development is divided into five sprints. 7 working days have been allotted for each sprint. Lastly for the overall observations and bug fixing , phase 1 user manual and tutorial and FAC Signoff from SDP and BRAC Technology 2 working days have been allocated.

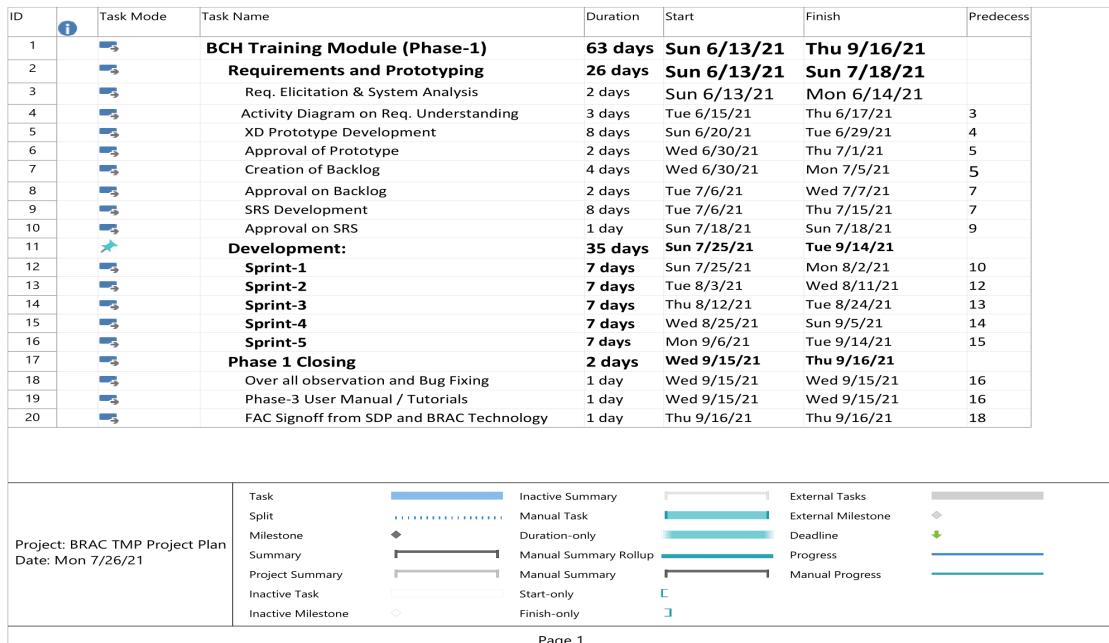


Figure 3.4: Gantt Chart of the Training module

3.4 Process/Activity wise Resource Allocation and Estimated Costing

The process of assigning and scheduling available resources in the most efficient and effective manner feasible is known as resource allocation.[2] Projects will always require resources, although these can be scarce at times. The project manager is therefore responsible for the appropriate time-frame and allocation of these resources within the timeline of the project. Therefore resource allocation is a project management and delegation of resources to ensure that it works as smoothly and effectively as possible. The resource allocation for the “BRAC Online Career Hub” is given below. 10% of the total has been allocated for project management. Another 12% is for Business Analysis. For the UI/UX designing 10% has been allocated. 60% has been earmarked for software development. And lastly 10% for Testing and Deployment.

Task	Resource Allocation
Project Management	10%
Business Analysis	10%
UI/UX Design	10%
Front End Development	30%
Back End Development	30%
Testing & Deployment	10%

Figure 3.5: Process wise Resource Allocation

3.5 Estimated Costing

The estimate of project costs is a process of estimating resource quantity, cost and price required for the project scope. Since cost estimates are about cost estimates rather than the actual cost. BRAC also has made appropriate cost estimates for the “BRAC Online Career Hub”. 10% of the total cost of this project has been earmarked for project management. Similarly 15% cost is allocated for Business Analysis. BRAC has placed a great deal of emphasis on the user interface for this project, resulting in a total cost of 10% has been allocated for prototyping. A total of 50% of the total cost has been set to develop this software. The remaining 10% of the cost has been earmarked for testing and deployment.

BRAC Online Career Hub

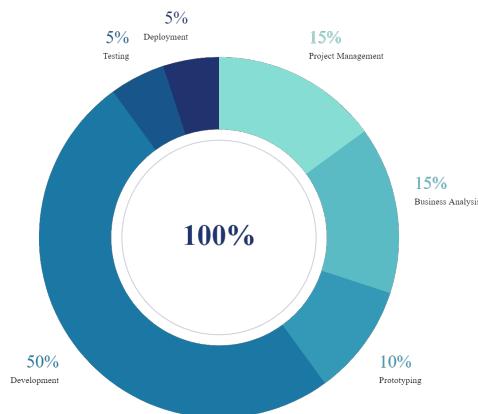


Figure 3.6: Cost Estimation of the Online Career Hub

Chapter 4

Methodology

The methodology of software development is a framework used for structuring, planning, and controlling the information system development process.[3] Therefore, software development methodologies are techniques that are used to show how the proposed system will be developed. The fundamental objective of these techniques is to ensure the smooth development of software in accordance with the project requirements.

There are various kinds of software development methodologies. Such as,

- 1) Agile**
- 2) Waterfall**
- 3) Extreme programming**
- 4) Iterative and incremental development**
- 5) Dynamic system development model**
- 6) Spiral development**
- 7) Rapid application development**

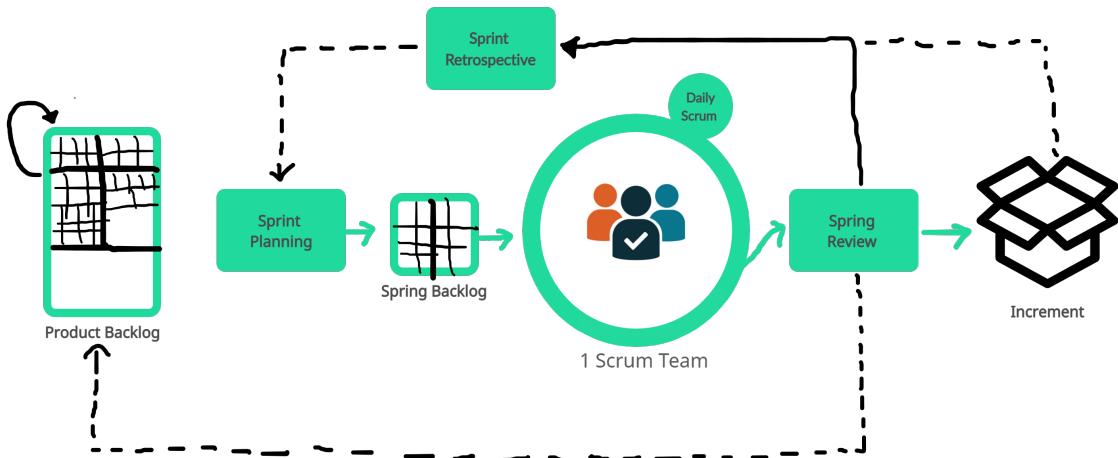


Figure 4.1: agile scrum methodology

We have chosen the Agile methodology for this project. More specifically, the Scrum framework of Agile methodologies is used as the software development life-cycle.

Agile software development is a group of methods for software development based on iterative development that develop needs and solutions through collaboration between cross-functional self-organizing teams.[4] A Scrum process is characterized by specific concepts and practices in the three categories of roles, artifacts and timescales, from other agile processes. Scrum is based on three main pillars of transparency, inception, adaptation. Five values of commitment, courage, focus, openness and respect also exist. This picture shows the function of the sprints. A planning session is held at the beginning of every sprint, where the team places stories from the product backlog into the backlog in Sprint. The scrum team then works on the backlog with daily scrums for the fixed length (meetings). The software should be released at the end of the sprint, and the team shall perform a sprint review and a retrospective sprint.

Benefits of agile scrum methodology

Some of the collective advantages of agile scrum methodology are:

- Flexibility and adaptability
- Employee satisfaction
- Creativity and innovation
- Lower costs
- Organizational synergy
- Quality improvement
- Customer satisfaction

Flexibility is the biggest advantage of the agile scrum methodology. Usually the scrum team receives feedback from stakeholders after every sprint with the sprint-based model. If problems or changes are produced, the scrum team can easily and rapidly adjust product objectives to provide more valuable iterations for future sprints. This means that stakeholders are happier because after each step of the way, they get exactly what they want.

Chapter 5

Body of the Project

5.1 Work Description

BRAC Skill Development Program wishes to propose the development of a web and mobile platform that would provide learners with the opportunity to gain skills in employability on the Internet and finally get jobs to deal with the growing unemployment rate among Bangladeshi young people. Throughout my Internship-Period I have worked on the training module of the “BRAC Online Career Hub”. As an intern my contribution on the “BRAC Online Career Hub” project is to analyze how well a client’s business needs fit in with the software, hardware and wider IT system. Examining the current existing system. Talking with the users and communication with other IT staff such as programmers and gathering requirements. And to reflect that in the new system. I have contributed to prototype development from the results obtained after the Software Requirement Gathering. After analyzing the system, gathering the requirement and on approval of the prototype, I have contributed to the software requirement specification. After the SRS was approved, as an intern, my responsibility was to contribute to the field of front end development. Also, since our software is developed using Agile scrum Methodology. So attending the daily scrum meeting, talking with the clients, taking MoM and contributing to adopt any changes to the system.

5.2 System Analysis

System analysis is conducted to identify the objectives of the system to study it and the system’s components.[5] This is a problem solving process which determines how effectively the system works. This includes a number of phases such as planning, analysis, design, implementation and maintenance. It is a process that interprets and gathers facts, discovers the problems and separates the system into its parts.

5.2.1 Six Element Analysis

PROCESS	HUMAN	NON-COMPUTING HARDWARE	COMPUTING HARDWARE	SOFTWARE	DATABASE	NETWORK & COMMUNICATION
Visit the website	All Users	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
SignUp / SignIn	All Users	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Profile Completion	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Enroll in a Course	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Start Training	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Join Live Class	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Attend Quiz	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Attend Survey	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
View Certificate	Participant	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Create Training	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Upload Course Content	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Create New Quiz	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Evaluate Participant's Quiz	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Taking Attendance	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Conduct Online Class	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Generate Certificate	Trainer	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Create Role And Permission	Admin	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Create User	Admin	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Upload Approval	Admin	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Approval for Course	Admin	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
Survey Initiation	Admin	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN
View Lab Requirements	Logistic	n/a	Pc, Laptop, Smartphone,Tab	All Browsers	MariaDB	WAN

Table 5.1: Six Element Analysis

5.2.2 Feasibility Analysis

A feasibility study is done to assess if the project, if completed, will serve the organization's goal for the amount of labor, effort, and time it takes to complete it. A feasibility study allows the developer to anticipate the project's future and value. For example, the influence on an organization, the capacity to satisfy user demands, and resource efficiency are all assessed in a feasibility study. Possibility studies are performed on ideas in order to evaluate whether they are feasible. Examples include determining if a proposal is legally, technically, and economically feasible. Whether a project is worth investing in, and if a project will be finished in some circumstances, it will be indicated by this. To optimize earnings, firms may discover and arrange all the elements needed to make a business effective.

A feasibility study helps uncover logistical difficulties, as well as almost all other business-related issues and their resolutions. In addition, feasibility studies can lead to the development of marketing tactics that convince investors or a bank that investing in the company is a smart investment.

A feasibility study is carried out to assess the technical, operational, and economic viability of a proposed system. We can obtain a good knowledge of the system's advantages and limitations after performing a feasibility study.

1) Technical Feasibility: Technical feasibility involves an evaluation of the proposed system's software, hardware, and other technical needs. This assesses the specifics of how we propose to provide a product or service to clients. Think about labor, supplies, transportation, where our company will be situated, and the technology that will be required to tie it all together.

The "BRAC Online Career Hub" was built utilizing Laravel and the Reactjs framework. Usage of typescript components from the current 17.0.2 version of Reactjs and HTML, CSS, and JS helped to construct a much more efficient and quicker website, due to the use of these technologies. Moreover, these technologies are highly popular in the current sector and are widely used by a growing population.

2) Operational Feasibility: A proposed system's operational viability is determined by how well it solves issues and meets system requirements specified during the scope definition and problem analysis phases. If the system is designed and deployed, it will depend on the availability of human resources. In order to make things as simple as possible, the "BRAC Online Career Hub" has been designed. Everyone is going to accept it without a second thought. It's a well-thought-out system. It will be accessible to people

of all ages. Reduces physical and technical challenges with the use of this technology. As a result, users do not need to have extensive technical expertise in order to use this system effectively. Everyone knows what to do and how to do it. We are hopeful that this system will be able to meet the needs of the users in the future.

3) Economic Feasibility: Costs and benefits are addressed in economic feasibility. In addition, it calculates cash flow and gives monetary values to costs and benefits. Economic feasibility takes into account both development and manufacturing costs. In the end, Our system "BRAC Online Career Hub" is only a product. If this method can reach the people, it will undoubtedly help them. On the one hand, it will cut down on the cost of wasting pens and papers. Benefits, on the other hand, will vary based on the intended application.

5.2.3 Problem Solution Analysis

Problems:

Every job has its own set of challenges. Our System may potentially cause certain problems, such as -

- 1. Eye strain:** Because damaging radiations are released by computer, laptop, and mobile screens, they may induce eye strain.
- 2. Page-Loading:** The standard HTML/CSS/Javascript took a long time to load and received a C grade rating when evaluated.
- 3. Internet:** As soon as the system is operational, it will require internet access.
- 4. Load shedding:** Users of PC and WiFi routers may experience issues with load shedding.

Solutions:

While there are challenges, there are also solutions. Now, I'm going to talk about the solutions to the difficulties listed above -

- 1. Eye strain solution:** This system should keep the device's brightness at a reasonable level.
- 2. Solution to the Page-Loading problem:** Since the website has been integrated with the React framework, it has become more stable and quicker.
- 3. Solution to the Internet problem:** Internet bandwidth is no longer so expensive that we can't afford it anymore. Not much data is consumed by our system.
- 4. Load shedding solution:** As this system may be run from a laptop or a mobile device that does not require a constant energy connection, people can utilize them extremely simply.

5.2.4 Effect and Constraints Analysis

All visitors to this site will be sent to the training module for the time being. Participants may search for courses based on their interests, enroll in courses of their choosing, and most importantly, continue their education.

Our system, as previously mentioned, has several limitations. These limitations will be solved in the near future.

5.3 System Design

5.3.1 Rich Picture

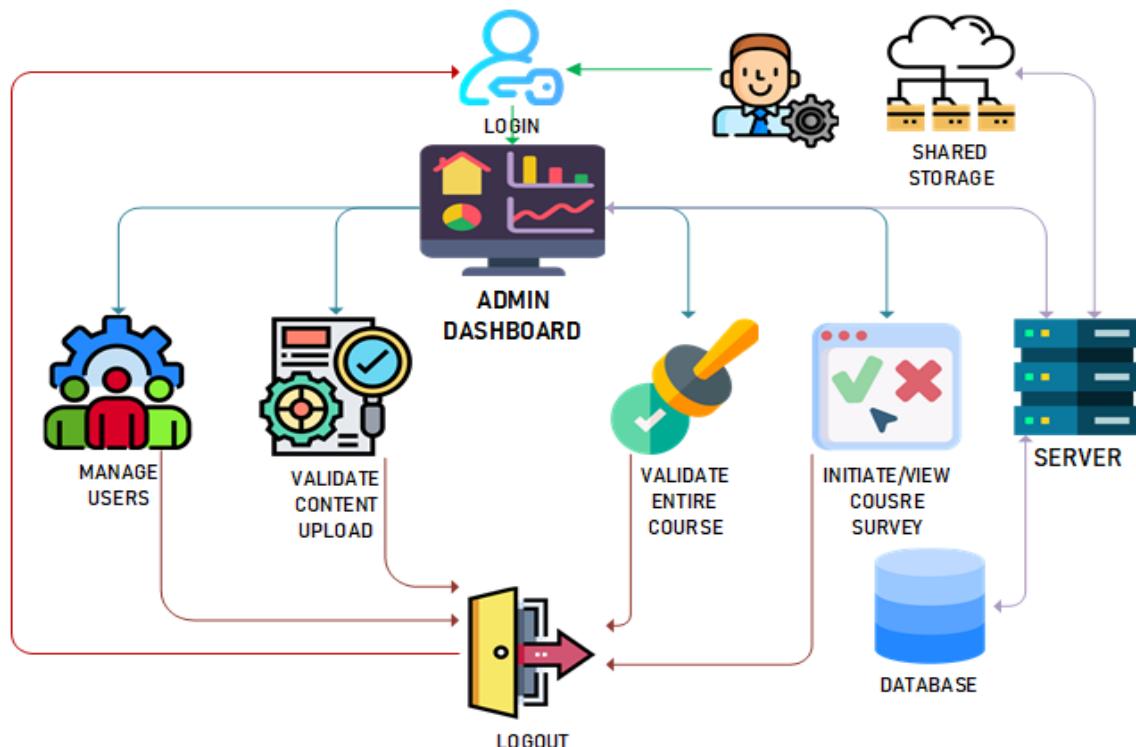


Figure 5.1: Admin Module Rich Picture

We can see the scenario of the Admin module of the Phase 1(Training Module). Admin can manage users, for example, Create Role and Permission, Edit Role and Permission, Create User. Admin also can Validate the course contents uploaded by the trainer and even validate any particular course. At the end of any training admin can initiate a survey regarding that particular training. As mentioned above, these actions are carried out using our Restful CRUD APIs, which we developed particularly for this Website to manage data on.

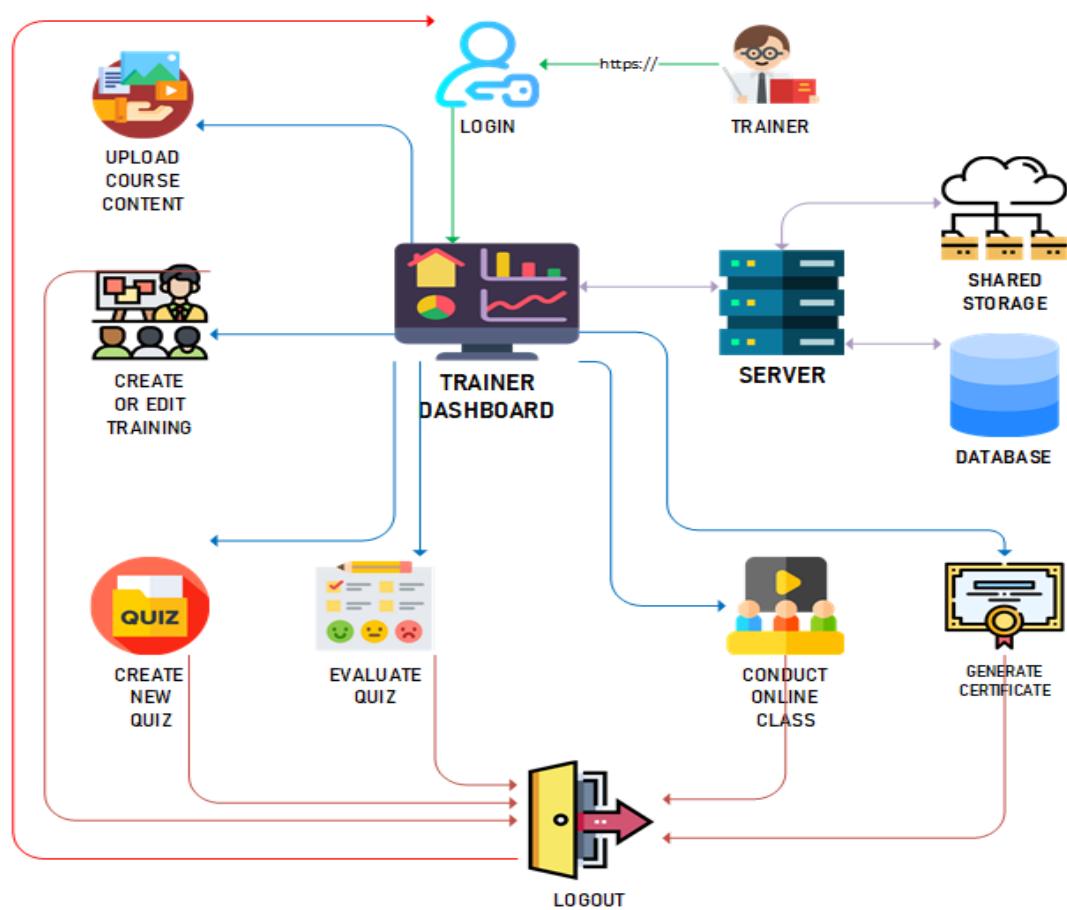


Figure 5.2: Trainer Module Rich Picture

Here, the Trainer journey of the Training Module. As a Trainer of the Online Career Hub can create or edit his/ her training. Trainer can upload reading material, tutorial video and content links on that course. Trainer can create and evaluate a quiz for a course. Trainer can conduct live classes and generate certificates through this system. Our React.js application will communicate with the server through the API.

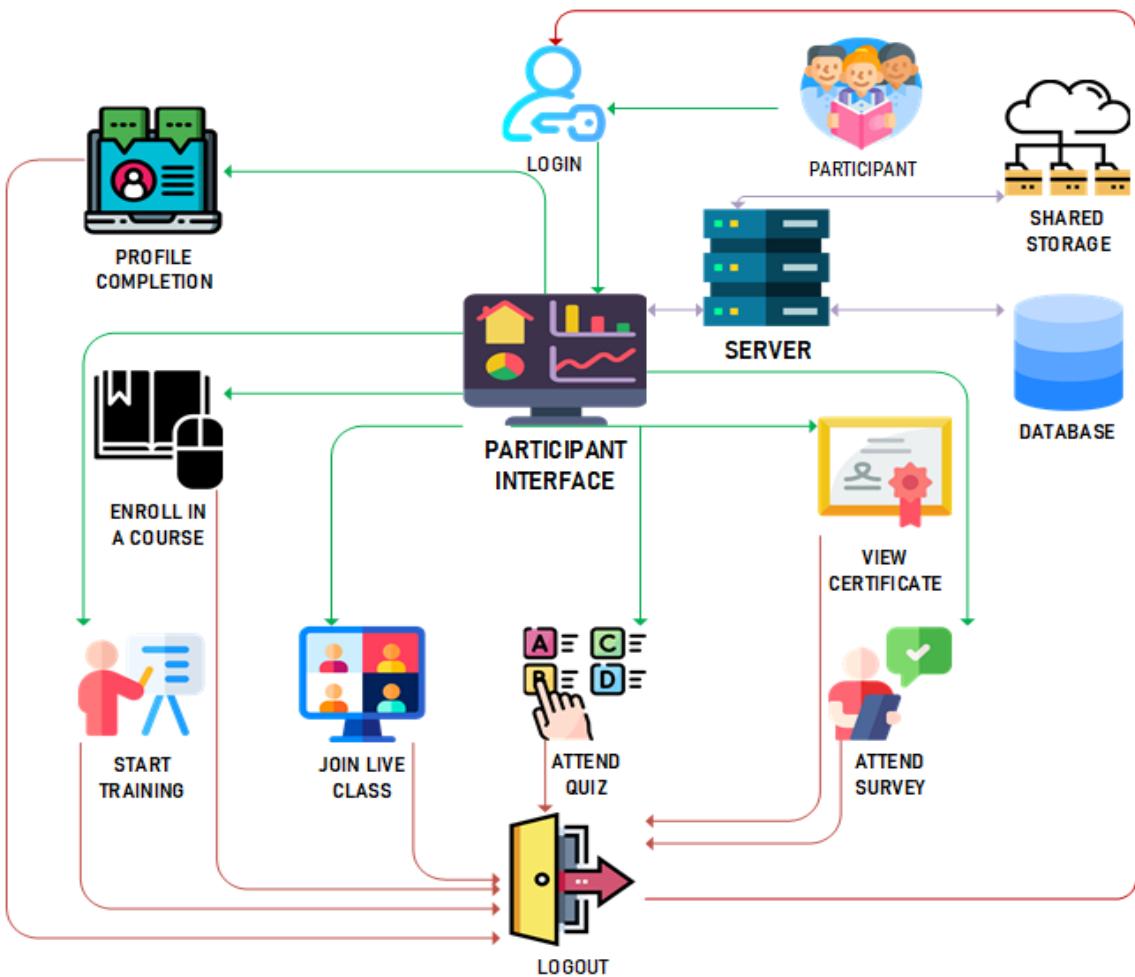


Figure 5.3: Participant Module Rich Picture

We can see the scenario of the Participant module of the Phase 1(Training Module). Things that can be done in this module are profile completion, enrolling in any interested course, start learning on enrolled course, joining the live classes, Attending quizzes related to any particular course, attending survey of that course and view certificate. These actions are handled by our Restful CRUD APIs, which were created particularly for this Website to manage data on the move.

5.3.2 UML Diagrams

System has different Interfaces for Participant, Trainer, Admin, Logistic. Website administration apps should only be available through certain management networks, according to guidelines. In order for any one action to be completed, all the prerequisites must be completed.

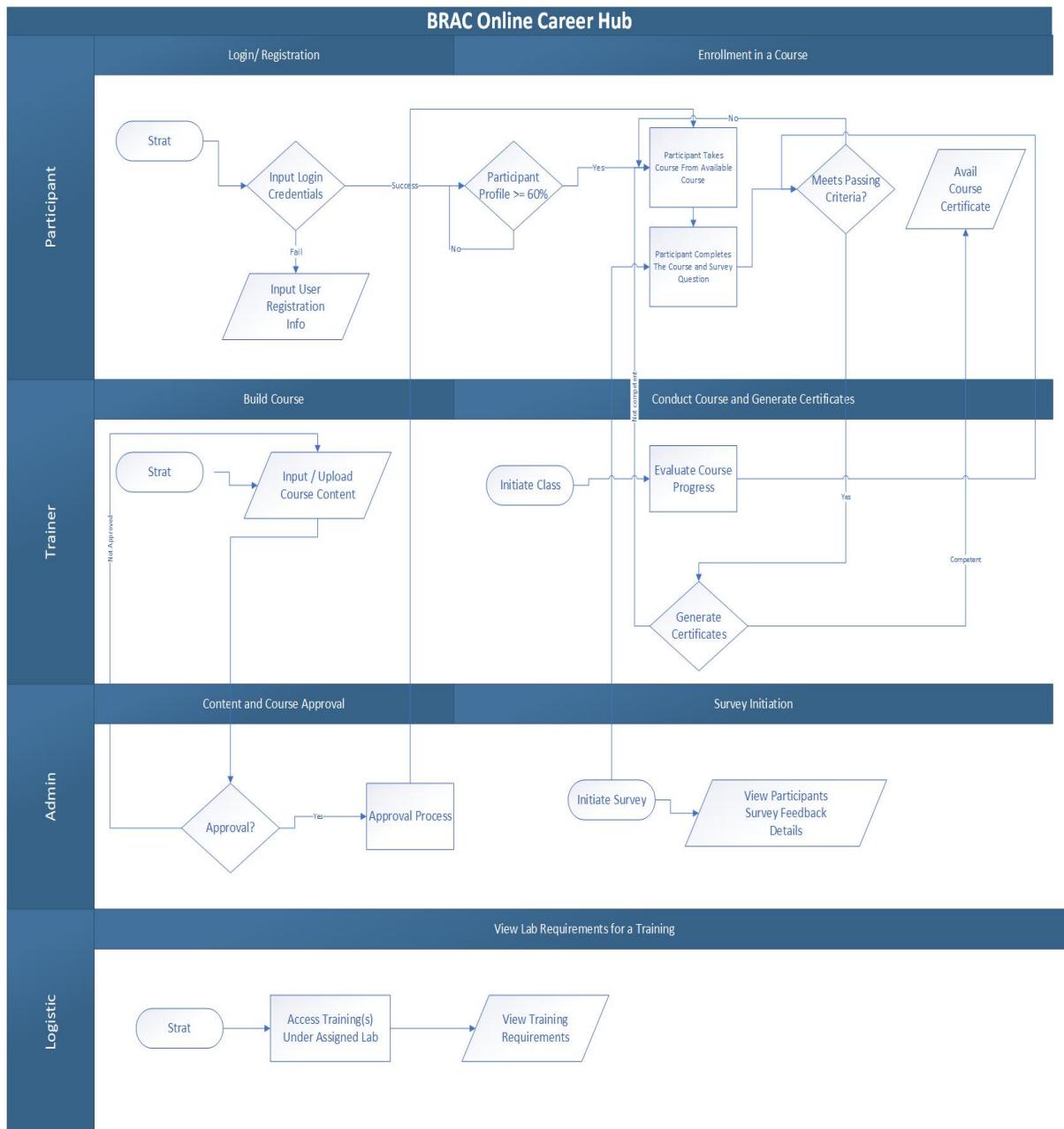


Figure 5.4: Activity Diagram

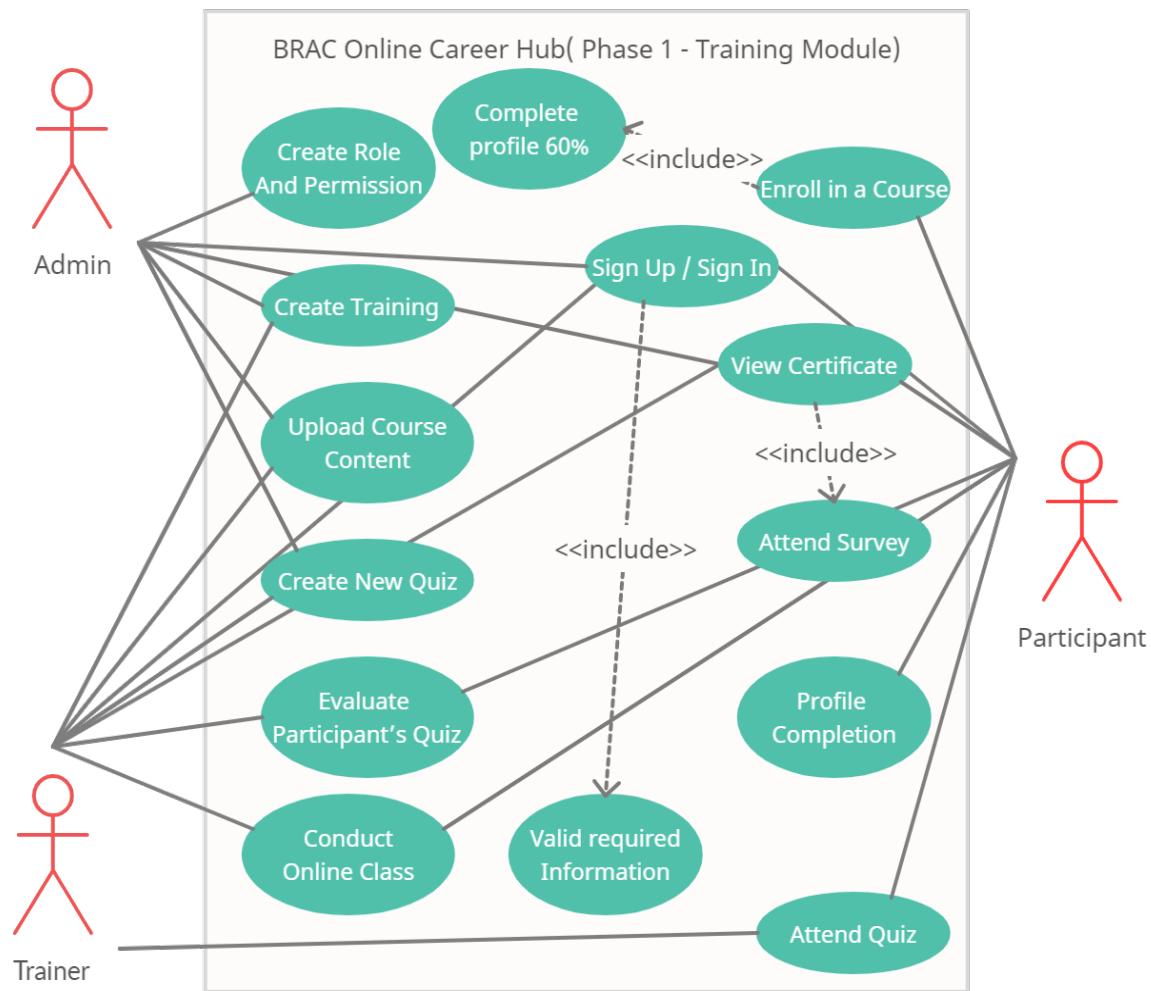


Figure 5.5: Use Case Diagram

5.3.3 Functional and Non-Functional Requirements

Functional Requirements

The basic system behavior is defined by functional requirements.[6] This covers what the system can or cannot accomplish and how the system responds to certain inputs may be understood. Features that enable the system to operate as planned. The system will not work if the functional needs are not satisfied. Product features and user requirements are functional needs.

Learner Account/Portfolio	<ul style="list-style-type: none"> The learner will be able to continue the courses using his/her personal profile at the website. The learners must be able to register for training courses. The learners will also be able to give information regarding their educational qualifications.
Training Hub Module	
Training	<ul style="list-style-type: none"> Trainer will be able to design Courses. There will be a specific Start Date, End Date, Total Capacity, Trade/Category, and sub-Trade/Sub-Category for each training course. A thumbnail image and video of the course will be available to upload (to be shown on the Landing page). The learners must be able to participate in a survey after each training session. Trainers will be able to conduct training sessions both online and offline through the platform's training hub section. The trainer will have the option to upload video content, reading materials, and other materials. The platform will allow for the conduction of live classes. Free offline/online soft skills courses will be offered to keep learners engaged with the platform. Learners will remain connected to the platform as a result of these Courses. Each trainer will be able to take attendance during the live class. The trainer will be able to set passing criteria for the course that she or has created.
Questionnaires	<ul style="list-style-type: none"> Using the existing features, trainers will be able to create questions for training exams.
Tracking	<ul style="list-style-type: none"> Trainers must be able to see an individual learner's overall progress. The trainer must be able to track their students' progress, including the results of quizzes and assignments, and provide them with suggestions for improvement.
Certifications	<ul style="list-style-type: none"> Trainers can generate certificates for a course after the end of training and completion of survey questions generated by Admin. Learners will be able to download certificates at the conclusion of the course. Through the Online Career Hub, participants will be able to share their completed certificate on LinkedIn. The platform's admin will be able to customize or upload training completion certificates.
Forums	<ul style="list-style-type: none"> After completing certain training, learners must be able to download certificates. In addition, a separate students forum for initiating discussions must be included in the section.
Monitoring and Reporting	<ul style="list-style-type: none"> The platform will provide trainers with a summary report detailing the learners' overall performance throughout the courses, including whether they were completely unable to complete them. The purpose of this summary report is to keep the trainer informed about their scope of work in order to make the training content more understandable for the learners. The most highly rated course in terms of learner participation, must be visible to administration officers.

Figure 5.6: Functional Requirements

Non-Functional Requirements

A nonfunctional requirement provides a software system's or project's quality attribute.[6] The responsiveness, usability, security, portability, and other non-functional standards that are essential to the software system's success are used to evaluate it.

Usability Requirements:

- User friendly Graphical User Interface (GUI)
- Easy Navigation.

Reliability Requirements:

- Precision should be consistent throughout the queries and calculations.
- Security mechanism for accessing functionality based on role.
- Consistency of data will be provided throughout the application.
- There will be proper data validation.

Performance Requirements:

- The ability to generate reports quickly.
- The optimum process time.
- There will be appropriate messaging.

5.4 Product Features

In this section, I have listed all of the features that a user will gain as a result of this project.

5.4.1 Input and Output

Landing Page: This is the landing page of our online carrier hub. Users will be able to see this page when they visit our website.

Online Career Hub
Build skills with courses, certificates and degrees online from expert trainers companies.
[Join Now](#)

Popular Courses

- Graphic Design** - Md. Golam Rabbib
[Free](#) [Details](#)
- Data Warehouse Basics** - Rafid Methedi
[Free](#) [Details](#)
- Data Science: Wrangling** - Rafid Methedi
[Free](#) [Details](#)
- Data Warehouse Essentials** - Rafid Methedi
[Free](#) [Details](#)

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For Career Growth Development
[Get Started](#)

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Course Based Discussion Forum
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Privacy Policy
Feedback
Contact Us

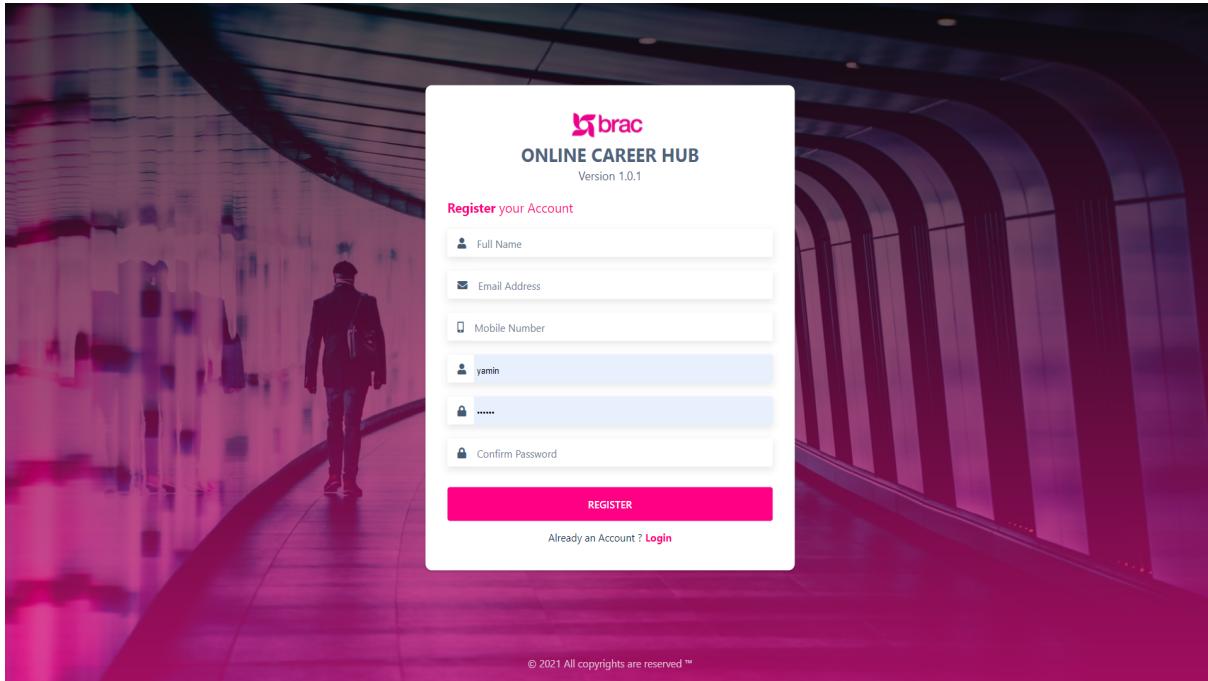
Title 1
Lorem ipsum, dolor
Lorem ipsum, dolor

Title 2
Lorem ipsum, dolor
Lorem ipsum, dolor

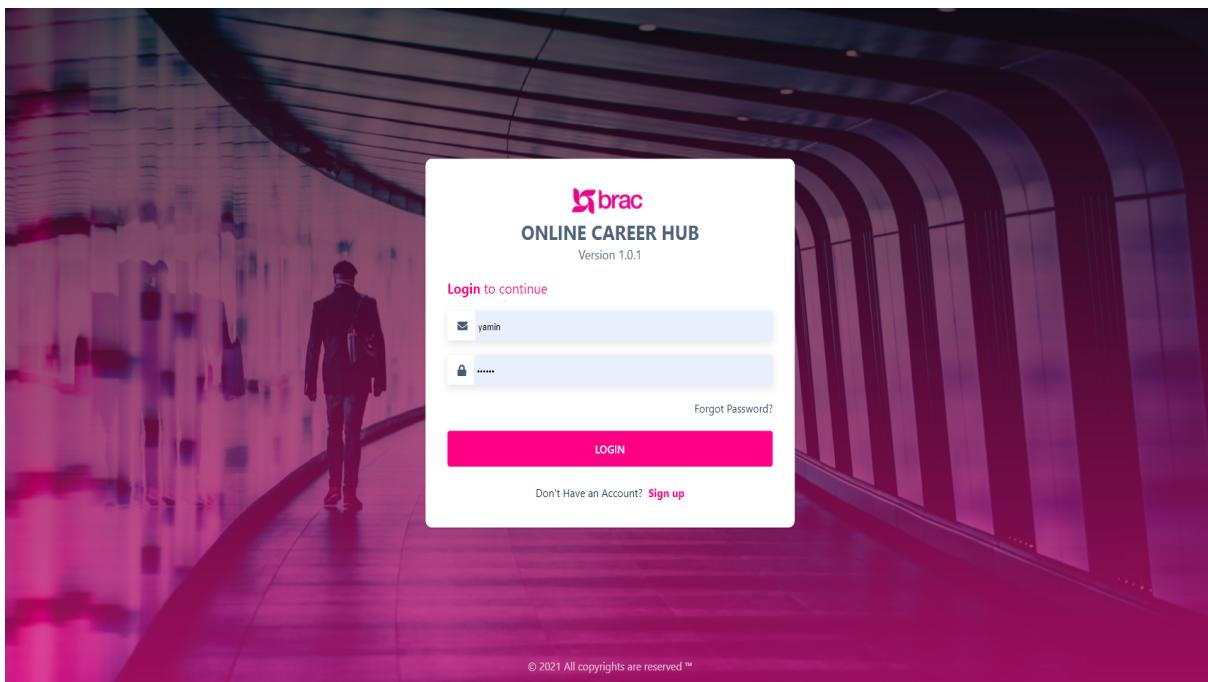
Title 3
Lorem ipsum, dolor
Lorem ipsum, dolor

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Registration Page: Those who want to join in BRAC Online Career HUB users of our website can register as users from here.



Login Page: If our users wants to login to our website, they can login through this page and access all the features of our website.



Participant Dashboard Page: This is the Participant Dashboard Participant will be able to view this page when logged in

The screenshot shows the participant dashboard for 'yamin hossain'. It includes a sidebar with 'Jobs For Me', 'Available Courses', 'Career Counseling', and 'Skill Assessment' sections. The main area displays a profile picture of 'yamin hossain' with a progress bar indicating 'Your profile is completed for 80%' and a 'Finish Your Profile' button. Below this is a section for 'Most Recent Hot Jobs' with a table listing one job: '1. brac Front-End Developer' at 'Steel Times' with an 'Apply Now' button. The footer contains links for 'Career Hub', 'About Us', and three title sections (Title 1, Title 2, Title 3) each with five Lorem ipsum dolor entries.

Available Course Page: If our users wants to login to our website, they can login through this page and access all the features of our website.

The screenshot shows the available course page. It features a header with the 'brac' logo and a banner stating 'Country's Largest Selection of Courses'. Below this is a navigation bar with 'Available Courses' and dropdown menus for 'Select Category' and 'Select Sub-Category'. A 'Find Now' button is also present. The main content area displays four course categories: 'Hardware', 'Atik's Vault', 'UI/UX Design', and 'Shovon's Category', each with a thumbnail image and a 'Course Lists' section. At the bottom, there is a 'Upcoming Courses' section with a 'Browse Training' button.

The screenshot continues from the previous page, showing course statistics: '92+' Online Courses, '83+' Enrolled Participant, and '17+' Expert Trainer. The footer contains the 'Career Hub' information, 'About Us' section, and three title sections (Title 1, Title 2, Title 3) each with five Lorem ipsum dolor entries. The footer also includes links for 'Terms and Condition', 'Site Map', 'Privacy Policy', and 'Cookie Policy'.

Available Course Details Page: On this page we can see all the details of the course

The screenshot shows the course details for 'Pattern Discovery in Data Mining' offered by BRAC. The course is described as providing general concepts of data mining along with basic methodologies and applications, specifically focusing on pattern discovery. It has a rating of 4.1 stars from 2 ratings and 2 seats available. The course is free and can be enrolled now. The page includes a sidebar with links to 'Career Hub', 'About Us', and other course titles.

Enroll Alert: Participants will see this alert when they click on Enroll Now Button

The screenshot shows a modal dialog box asking if the user is sure they want to enroll in the 'Pattern Discovery in Data Mining' course. The dialog box contains the course title, start date (18 Mar, 2021), and charge (Free). There are 'CANCEL' and 'ENROLL' buttons at the bottom. The background of the page shows the course details and sidebar.

Participant My Course Page: On this page Participant can see the list of their Enrolled Courses

The screenshot shows the 'My Courses' section of the participant's dashboard. It displays three course cards:

- AI Foundations** - Trainer: 100% Completed. Buttons: Start Training.
- AI Foundations** - Trainer: 100% Completed. Buttons: Start Training.
- Data Science** - Test Trainer 22: 100% Completed. Buttons: Start Training.

Below the courses, there is a footer section with links to 'Career Hub', 'About Us', and other site sections like 'Title 1', 'Title 2', and 'Title 3'. It also includes social media icons and copyright information.

Participant Enrolled Course Learning Details Page: Participants will see this Enrolled course Learning Details

The screenshot shows the learning details for the 'AI Foundations' course. The top section features a progress bar from 'Start' to 'Complete' at 100%. Below this, tabs for 'Course Content', 'Discussion Forum', 'Grades', and 'Notes' are visible, with 'Course Content' being the active tab.

The 'Course Content' tab displays a list of resources under 'Day 1':

- class#1**
- Resources**
- 1. Practice Sheet Linear Algebra.docx (Download, Read Only, Watch Now)
- observations.docx
- wwwwww.mp4

At the bottom of the page, there is a footer with links to 'Career Hub', 'About Us', and other site sections like 'Title 1', 'Title 2', and 'Title 3'. It also includes social media icons and copyright information.

Trainer Dashboard: This is the Trainer Dashboard Trainer will be able to view this page when logged in

The screenshot displays the BRAC Online Career Hub Trainer Dashboard. At the top, there is a header bar with contact information (+8801636407330, vacancy_brac@careerhub.com.bd), social media links (Facebook, Google+, YouTube), and user navigation (Logout, My Question, My Vault, Profile Picture). Below the header is a search bar with placeholder text "what you are looking for".

Today's Summary: A section featuring a welcome message "Welcome back Yamin Hossain" and a call to action "Check & Explore your Training and Participants Information". It includes a "My Activities" button and a small icon of a document with a red mark.

Existing Courses: A section titled "Existing Courses" showing three course cards for "Graphics Design" (02 Months) with 04 Batches and 200 Participants each. There is also a "Create New Course" button with a plus sign icon.

Participant Information: A table listing participants. The columns include Name, ID No., Offline Competency, Status, and Action. All participants listed are "Yamin Hossain" with ID - 10001, Email: yaminkhan017@gmail.com, Enrollment: 20 Jan 2021, and Status: Running. Each row has "Details" and "Transfer" buttons.

Saved Courses: A section titled "Saved Courses" showing three course cards for "Graphics Design" (02 Months) with 04 Batches and 200 Participants each. There is also a "Create New Course" button with a plus sign icon.

Career Hub: A footer section with links to "Career Hub" (Online Career Platform, BRAC Center, Tel: +8802-2222-81265, E-mail: info@brac.net), "About Us" (About Career Hub, Global Partners, Privacy Policy, Feedback, Contact Us), and five "Lorem Ipsum" sections (Lorem Ipsum 01-05).

Page Footer: The footer includes copyright information ("© 2020 All Rights Reserved, BRAC Online Career Hub Ltd."), and links to "Terms & Conditions", "Site map", "Privacy policy", and "Cookie policy".

Trainer Create a New Course Page: This is the page for create a new course as a trainer

create New Course

Name of the Training: Adobe Photoshop cc 2021

Scheduling Unit: Day Wise, Capacity: 30

Category: Design and Creative, Sub-Category: Graphic Design

Training Overview: Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever

Start Date: 12 January, 2020, End Date: 12 April, 2020, Pricing Package: Non Paid

Upload Training Cover Image: Photoshop_course.png, Image Size Ratio: 1200 X 900 px (JPG/PNG Format)

Upload Training Preview Video: Training_Preview.mp4, Video Size: maximum capacity 150 MB (FLV / MP4 Format)

Funded By: DONOR, Donor 1: Donor Name, Donor 2: Donor Name

Signatory 01: Signator Name, Signatory 02: Signator Name

Scheduling Unit: Poppins

What you will learn

- Become a Professional UX designer
- You will be create UX portfolio
- Become a UI designer
- Build & test a full website design

Marks Distribution

Attendance (%): 10, Regular Quiz (%): 20, Final Quiz (%): 70, Total (%): 100, Passing Percentage (%): 60

Resource & Scheduling

Load Files From Vault

Choose Files From Here.

Resource List:

- Resource _ 2.1.docx
- Assignment Task 01.pdf
- Adobe Photoshop 01.mp4

Marks Distribution

For Day 01

Class Topic: How to become a profession UX Designer

Start Date: 12 January, 2020, Start Time: 10 : 30 AM, End Time: 12 : 30 PM

Live Online Class: Enter live class Link

Resource (Downloadable): sample_file_01.pdf, sample_file_01.pdf

Resource (Read Only): sample_file_01.pdf, sample_file_01.pdf

Quiz: Select Quiz

Assignment: Enter Title

Offline Lab: Select Lab

Due Date: 12 April, 2020

Additional Requirement: Projector System, A4 Paper & Pen, Internet

Save Now, + add more

CLOSE, SAVE, PUBLISH

Career Hub

Online Career Platform
BRAC Center, 75 Mohakhali,
Tel : +8802-2222-81265
E-mail : info@brac.net

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About Career Hub
Global Partners
Privacy Policy
Feedback
Contact Us

Lorem Ipsum

Lorem Ipsum 01
Lorem Ipsum 02
Lorem Ipsum 03
Lorem Ipsum 04
Lorem Ipsum 05

Lorem Ipsum

Lorem Ipsum 01
Lorem Ipsum 02
Lorem Ipsum 03
Lorem Ipsum 04
Lorem Ipsum 05

Lorem Ipsum

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Terms & Conditions | Site map | Privacy policy | Cookie policy

Trainer Create a New Quiz Page: This is the page for create a Quiz for a particular Course as a trainer

The screenshot shows the 'Create New Quiz' page. At the top, there is a header bar with contact information (+8801636407330, vacancy_brac@careerhub.com.bd), social media links (Facebook, Google+, YouTube, LinkedIn, and a local link), and user navigation options (Logout, My Question, My Vault, and a profile icon). Below the header is a search bar with placeholder text 'what you are looking for' and a magnifying glass icon.

The main form area has several sections:

- Quiz Name / Title of the Quiz:** A text input field with placeholder 'Enter the quiz name / title of the quiz' and a dropdown menu labeled 'Final quiz'.
- Category:** A dropdown menu labeled 'Select category'.
- Sub Category:** A dropdown menu labeled 'Select sub category'.
- Select Course:** A dropdown menu labeled 'Select course'.
- Duration / Time:** A dropdown menu labeled 'Duration (in minutes)'.
- Total Marks:** An input field containing the value '50'.
- Choose Type:** Radio buttons for 'MCQ' (unselected) and 'Descriptive Question' (selected).

Below the form is a section titled 'Enter Question Here' with four question inputs:

- Question 01:** An input field labeled 'Enter question here' with a 'Marks' button to its right.
- Question 02:** An input field labeled 'Enter question here' with a 'Marks' button to its right.
- Question 03:** An input field labeled 'Enter question here' with a 'Marks' button to its right.
- Question 04:** An input field labeled 'Enter question here' with a 'Marks' button to its right.

At the bottom of the page, there is a footer with the 'Career Hub' logo, social media links (Facebook, Twitter, Google+, LinkedIn), and a copyright notice: '© 2020 All Rights Reserved, BRAC Online Career Hub Ltd.' The footer also includes links for 'About Us', 'Terms & Conditions', 'Site map', 'Privacy policy', and 'Cookie policy'. There are also three columns of placeholder text labeled 'Lorem Ipsum'.

Trainer Attendance Page: This is the page for Taking Attendance of the Participant as a trainer

The screenshot shows the 'Attendance Entry' section of the website. At the top, there are navigation links for 'Home', 'Logout', and social media icons. A search bar is also present. The main content area has three columns: 'Course' (Adobe Photoshop CC 2021), 'Live Class Date' (04 April, 2021), and 'Present Student' (30). Below this is a table titled 'All Student Lists' with columns for SL No., Student ID, Student Name, Present/Absent status, and Remarks. The table contains 10 rows of student data. At the bottom of the table are two buttons: 'Update' and a green 'Update' button. The footer of the page includes sections for 'Career Hub' (with contact info like address, phone, and email), 'About Us' (links to various policies), and five 'Lorem Ipsum' placeholder columns.

Quiz Description Page: On this page, the trainers will be able to see the description of each of their quizzes

The screenshot shows the 'Training Adobe Photoshop' quiz description page. It features a header with contact information and a search bar. The main content area displays three questions with their respective answers and marks. Question 1: 'Lorem Ipsum is simply dummy text of the printing and typesetting industry' (Marks: 05, Answer: 03). Question 2: 'Lorem Ipsum is simply dummy text of the printing and typesetting industry' (Marks: 05, Answer: 03). Question 3: 'Lorem Ipsum is simply dummy text of the printing and typesetting industry' (Marks: 05, Answer: 03). The footer of the page includes sections for 'Career Hub' (with contact info like address, phone, and email), 'About Us' (links to various policies), and five 'Lorem Ipsum' placeholder columns.

Admin User Management Page: This is the admin dashboard from here the admin can create new users.

The screenshot shows the 'User Management' section of the admin dashboard. At the top, there is a navigation bar with links for User Management, Role Management, Category Management, Vault Management, Training Management, Assessment Management, and Logout. Below the navigation bar, a pink header bar says 'List of All Users'. Underneath, a sub-header 'User Management' is followed by a 'Create New User' form. The form fields include: Full Name (Yamin Hossain), Phone No. (01636407330), Username/Pin Number (Enter PIN Number), Email Address (Enter Email Address), Password (Enter Password), Confirm Password (Confirm Password), Role (Select Role dropdown), Status (radio buttons for Active and Inactive), and two buttons at the bottom: 'CLOSE' and 'Create'.

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Admin Training approvement Page: The course published by the trainer from this page will be approved by the admin and will go to the participant.

The screenshot shows the 'Training Management' section of the admin dashboard. At the top, there is a navigation bar with links for User Management, Role Management, Category Management, Vault Management, Training Management (which is highlighted in pink), and Assessment Management. Below the navigation bar, a pink header bar has links for List of all Training, Transfer, Evaluation, Funding Info, and Signatory Info. Underneath, a sub-header 'Training Management' is followed by a table titled 'All File List'. The table has columns for SL No., Training Name, Category Name, Sub-Category Name, Uploaded By, Details, Accept, and Reject. Each row contains a 'Details' button, an 'Accept' button, and a 'Reject' button. At the bottom of the table, there are pagination controls: 'show All entries', 'showing 1 to 8 of 8 entries', and a page number '1'.

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Evaluation Survey Page: This is the admin dashboard from here the admin can initiate survey.

The screenshot shows the 'Evaluation Survey' section of the BRAC Online Career Hub. At the top, there's a navigation bar with links for User Management, Role Management, Category Management, Vault Management, Training Management (which is highlighted in pink), Assessment Management, and Logout. Below the navigation is a pink header bar with links for List of all Training, Transfer, Evaluation (which is underlined in white), Funding Info, and Signatory Info. The main content area is titled 'Evaluation Survey' and contains a table titled 'All Survey List'. The table has columns for SL No., Course Name, Trainer Name, Start Date, End Date, and Action (with 'Initiate Survey' buttons). There are 8 entries in the table. At the bottom, there are pagination controls: 'show All' entries, 'showing 1 to 8 of 8 entries', and a page number '1'.

SL No.	Course Name	Trainer Name	Start Date	End Date	Action
01.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
02.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
03.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
04.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
05.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
06.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
07.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
08.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
09.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>

Admin Training Funding Information Page: In this page admin will be able to see any course related funding information.

The screenshot shows the 'Funding Information' section of the BRAC Online Career Hub. At the top, there's a navigation bar with links for User Management, Role Management, Category Management, Vault Management, Training Management (which is highlighted in pink), Assessment Management, and Logout. Below the navigation is a pink header bar with links for List of all Training, Transfer, Evaluation, Funding Info (which is underlined in white), and Signatory Info. The main content area is titled 'Funding Information' and contains a table titled 'All Funding Information'. The table has columns for SL No., Donor Name, Donor Logo, Status, and Action (with 'Edit' buttons). There are 10 entries in the table. At the bottom, there are pagination controls: 'show All' entries, 'showing 1 to 8 of 8 entries', and a page number '1'.

SL No.	Donor Name	Donor Logo	Status	Action
01.	UNICEF		Active	<button>Edit</button>
02.	UNICEF		Active	<button>Edit</button>
03.	UNICEF		Active	<button>Edit</button>
04.	UNICEF		Active	<button>Edit</button>
05.	UNICEF		Active	<button>Edit</button>
06.	UNICEF		Active	<button>Edit</button>
07.	UNICEF		Active	<button>Edit</button>
08.	UNICEF		Active	<button>Edit</button>
09.	UNICEF		Active	<button>Edit</button>
10.	UNICEF		Active	<button>Edit</button>

5.4.2 Architecture

We used Laravel with React.js, a powerful Javascript library, to develop this project. Laravel is a modern web application framework based on the MVC architecture. It's a software architectural standard that distinguishes between the representation of data and how users interact with it.[7] The model includes a method for inserting, retrieving, and updating data from the database. React.js is used to create the view, which contains the data that is displayed to the user. The controller connects the model and view in order to process HTTP requests and build a web page. All requests are received by the controller, which then passes them on to the model and view. When a person goes to a website, he or she sees information. When User performs an activity, the controller receives the request and acts as a mediator between the model and the view.

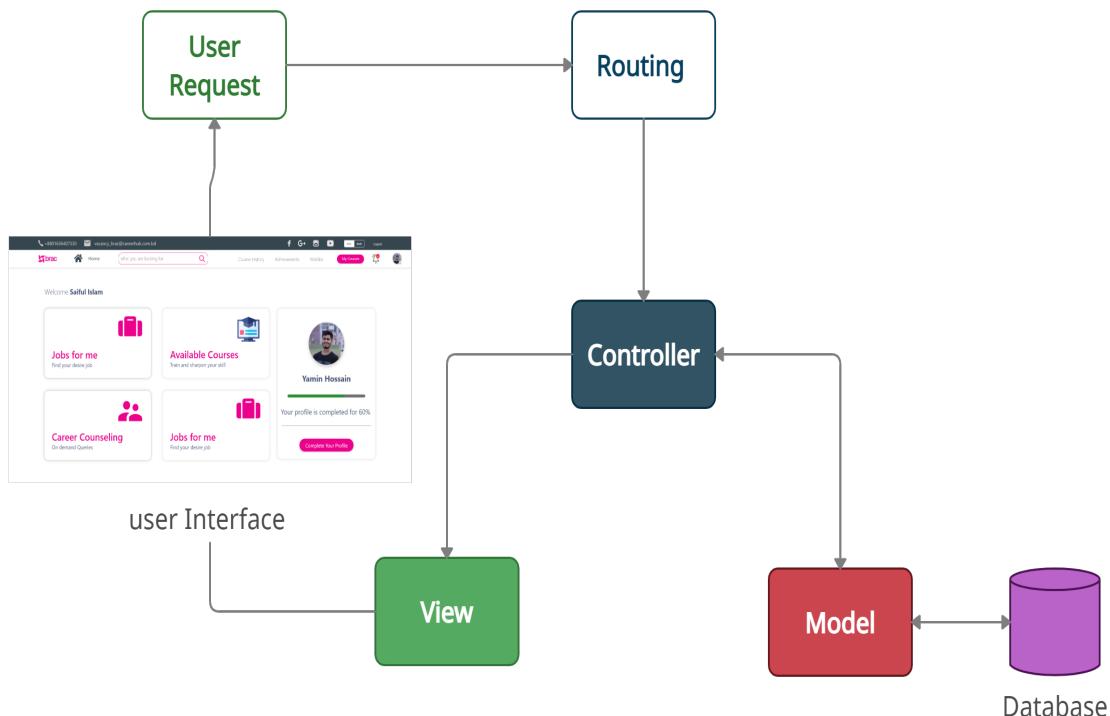


Figure 5.7: System Architecture

Chapter 6

Results & Analysis

To view how the "BRAC Online Career Hub" appears, this chapter includes screenshots.

Available Course Page:

Our training module's primary objective is to give learners with a variety of training. Those functional needs have been taken into consideration when designing this page of the course available here. We can see in this image how a Participant's dashboard will display the available courses when he signs in and accesses our system. He can then search for the course of his choice and interest. Participants will be sent to the course details page if they click on the course of their choosing from here.

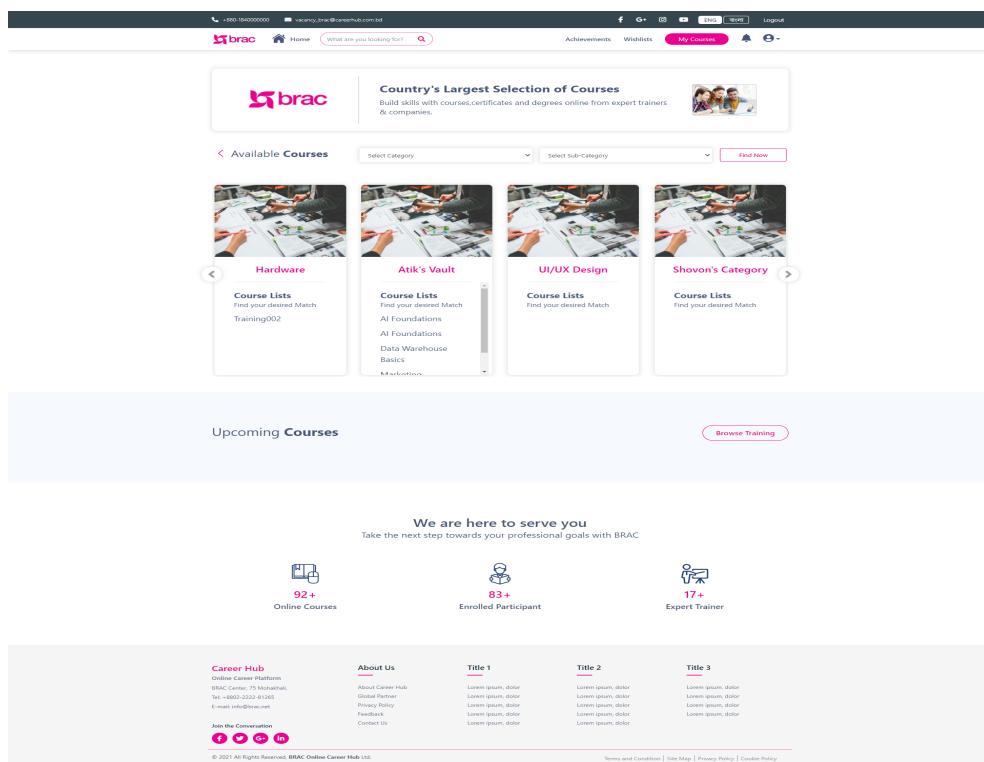


Figure 6.1: Available Course Page

Available Course Details Page:

Clicking on the course of interest will lead participants to this page. On this page, participants may find out all they need to know about the course of their choosing before enrolling in it or adding it to their wish list. Which was mentioned in our Functional Requirements.

The screenshot shows the course details for 'Pattern Discovery in Data Mining' offered by BRAC. The course title is displayed prominently at the top left. Below the title, there is a brief description: 'Learn the general concepts of data mining along with basic methodologies and applications. Then dive into one subfield in data mining: pattern discover...'. A rating section indicates '(4.1 Ratings) - Only 02 seats are available'. A 'Wishlist' button is located below the rating. To the right, there is a thumbnail image of a smartphone displaying a word cloud related to data mining, with the word 'DATA' being the largest. Below the phone image, the word 'Free' is displayed. At the bottom right of the card, there is a pink 'Enroll Now' button. The background of the main content area has a purple gradient overlay. At the very bottom of the page, there is a footer section containing links for 'About Us', 'Title 1', 'Title 2', and 'Title 3', each followed by placeholder text 'Lorem ipsum, dolor'. The footer also includes social media icons for Facebook, YouTube, Google+, and LinkedIn, as well as copyright information and links to 'Terms and Condition', 'Site Map', 'Privacy Policy', and 'Cookie Policy'.

Figure 6.2: Available Course Details Page

Participant My Course Page:

There will be a My Courses page that displays all of the courses the participants have enrolled. If they click on the Start Learning button, they will be able to begin learning their As a result of this, they will be able to begin their training.

The screenshot shows the 'My Courses' section of the BRAC Online Career Hub. At the top, there is a navigation bar with links for 'Home', 'Achievements', 'Wishlists', 'Logout', and a search bar. Below the navigation is a 'Sort By' dropdown and a 'Search' input field. The main content area is titled 'My Courses' and displays three course cards:

- AI Foundations** by -Trainer (100% Completed) with a 'Start Training' button.
- AI Foundations** by -Trainer (100% Completed) with a 'Start Training' button.
- Data Science** by -Test Trainer 22 (100% Completed) with a 'Start Training' button.

At the bottom of the page, there is a footer with sections for 'Career Hub' (including address and contact info), 'About Us' (links to About, Global Partner, Privacy Policy, Feedback, and Contact Us), and three placeholder sections labeled 'Title 1', 'Title 2', and 'Title 3', each containing five lines of lorem ipsum text. The footer also includes social media icons for Facebook, Twitter, Google+, and LinkedIn, as well as links for Terms and Condition, Site Map, Privacy Policy, and Cookie Policy.

Figure 6.3: Participant My Course Page

Course Learning Page:

As part of the participant's learning plan, this page will keep them informed about their course. Day wise learning plans are explained here for the participant. All the supporting materials related to the course are attached in this page and the progress of the training of the participants so far can be seen from here.

The screenshot shows a course page for 'AI Foundations' by Trainer. At the top, there is a navigation bar with links for Home, Achievements, Wishlists, My Courses, and Logout. Below the navigation bar, the course title 'AI Foundations' is displayed along with a progress bar showing 100% completion. The course description is 'Explore Fundamentals of Artificial intelligence Neural Networks'. Below the title, there are tabs for Course Content (which is selected), Discussion Forum, Grades, and Notes. Under the Course Content tab, a section for 'Day 1' is shown, dated March 23rd 2021, 2:30:00 pm. It includes a file named 'class#1' and a list of resources: '1.Practice Sheet Linear Algebra.docx', 'observations.docx', and 'wwwwww.mp4'. There are buttons for Download, Read Only, and Watch Now. At the bottom of the page, there is a footer with sections for Career Hub (Address: BRAC Center, 75 Mohakhali, Tel: +8802-2222-81265, Email: info@brac.net), About Us (links to About Career Hub, Privacy Policy, Feedback, Contact Us), and three placeholder sections titled Title 1, Title 2, and Title 3, each containing five lines of placeholder text ('Lorem ipsum, dolor'). The footer also includes social media icons for Facebook, Twitter, Google+, and LinkedIn, and links for Terms and Condition, Site Map, Privacy Policy, and Cookie Policy.

Figure 6.4: Course Learning Page

Create a New Course Page:

These functional requirements state that "Trainer shall be able to create Courses". As can be seen from this page, if the trainer wishes to publish a new course, he must do so using all of the data inputs shown on this page. After the course has been published, it will be available for approval on the admin dashboard.

CHAPTER 6. RESULTS & ANALYSIS

< create New Course

Name of the Training
Adobe Photoshop cc 2021

Scheduling Unit
Day Wise

Capacity
30

Category
Design and Creative

Sub-Category
Graphic Design

Training Overview
Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s.

Start Date
12 January, 2020

End Date
12 April, 2020

Pricing Package
Non Paid

Upload Training Cover Image
Photoshop_course.png

Browse File

Upload Training Preview Video
Training_Preview.mp4

Browse File

Funded By
DONOR

Donor 1
Donor Name

Donor 2
Donor Name

Signatory 01
Signator Name

Signatory 02
Signator Name

Scheduling Unit
Poppins

What you will learn

- Become a Professional UX designer
- You will be create UX portfolio
- Become a UI designer
- Build & test a full website design

Marks Distribution

Attendance (%)
10

Regular Quiz (%)
20

Final Quiz (%)
70

Total (%)
100

Passing Percentage (%)
60

Resource & Scheduling

Load Files From Vault

Choose Files From Here.

Resource – 2.1.docx
Assignment Task 01.pdf
Adobe Photoshop 01.mp4

Marks Distribution

For Day 01

Class Topic
How to become a profession UX Designer

Start Date
12 January, 2020

Start Time
10 : 30 AM

End Time
12 : 30 PM

Live Online Class
Enter live class Link

Resource (Downloadable)
sample_file_01.pdf

Resource (Read Only)
sample_file_01.pdf

Quiz
Select Quiz

Assignment
Enter Title

Offline Lab
Select Lab

Due Date
12 April, 2020

Additional Requirement
Projector System, A4 Paper & Pen, Internet

Save Now

+ add more

CLOSE

SAVE

PUBLISH

Career Hub

Online Career Platform
BRAC Center, 75 Mohakhali,
Tel : +8802-2222-81265
E-mail : info@brac.net

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Terms & Conditions | Site map | Privacy policy | Cookie policy

Figure 6.5: Create a New Course Page
Page 51 of 62

Create a New Quiz Page:

Trainers will be able to generate quizzes for their courses from this page. The train will be able to design quizzes for their course based on the information listed here.

The screenshot shows the 'Create New Quiz' page. At the top, there is a header with the BRAC logo, a phone number (+8801636407330), an email address (vacancy_brac@careerhub.com.bd), and social media links (Facebook, Google+, YouTube). Below the header is a search bar with the placeholder 'what you are looking for'. To the right are buttons for 'My Question', 'My Vault', and a user profile icon.

The main form area has the following fields:

- Quiz Name / Title of the Quiz:** A text input field with the placeholder 'Enter the quiz name / title of the quiz'.
- Quiz Type:** A dropdown menu set to 'Final quiz'.
- Category:** A dropdown menu set to 'Select category'.
- Sub Category:** A dropdown menu set to 'Select sub category'.
- Select Course:** A dropdown menu set to 'Select course'.
- Duration / Time:** A dropdown menu set to 'Duration (in minutes)'.
- Total Marks:** An input field containing the value '50'.
- Choose Type:** Radio buttons for 'MCQ' (unselected) and 'Descriptive Question' (selected).

Below the form is a section titled 'Enter Question Here' containing four question inputs:

- Question 01:** An input field with the placeholder 'Enter question here'.
- Question 02:** An input field with the placeholder 'Enter question here'.
- Question 03:** An input field with the placeholder 'Enter question here'.
- Question 04:** An input field with the placeholder 'Enter question here'.

At the bottom left is a button labeled '+ Add more Question'. At the bottom right are 'CLOSE' and 'SAVE' buttons.

The footer contains the 'Career Hub' logo, contact information (BRAC Center, 75 Mohakhali, Tel: +8802-2222-81265, E-mail: info@brac.net), social media links (Facebook, Twitter, LinkedIn), and a copyright notice: '© 2020 All Rights Reserved, BRAC Online Career Hub Ltd.'.

The footer also includes five columns of placeholder text labeled 'Lorem Ipsum':

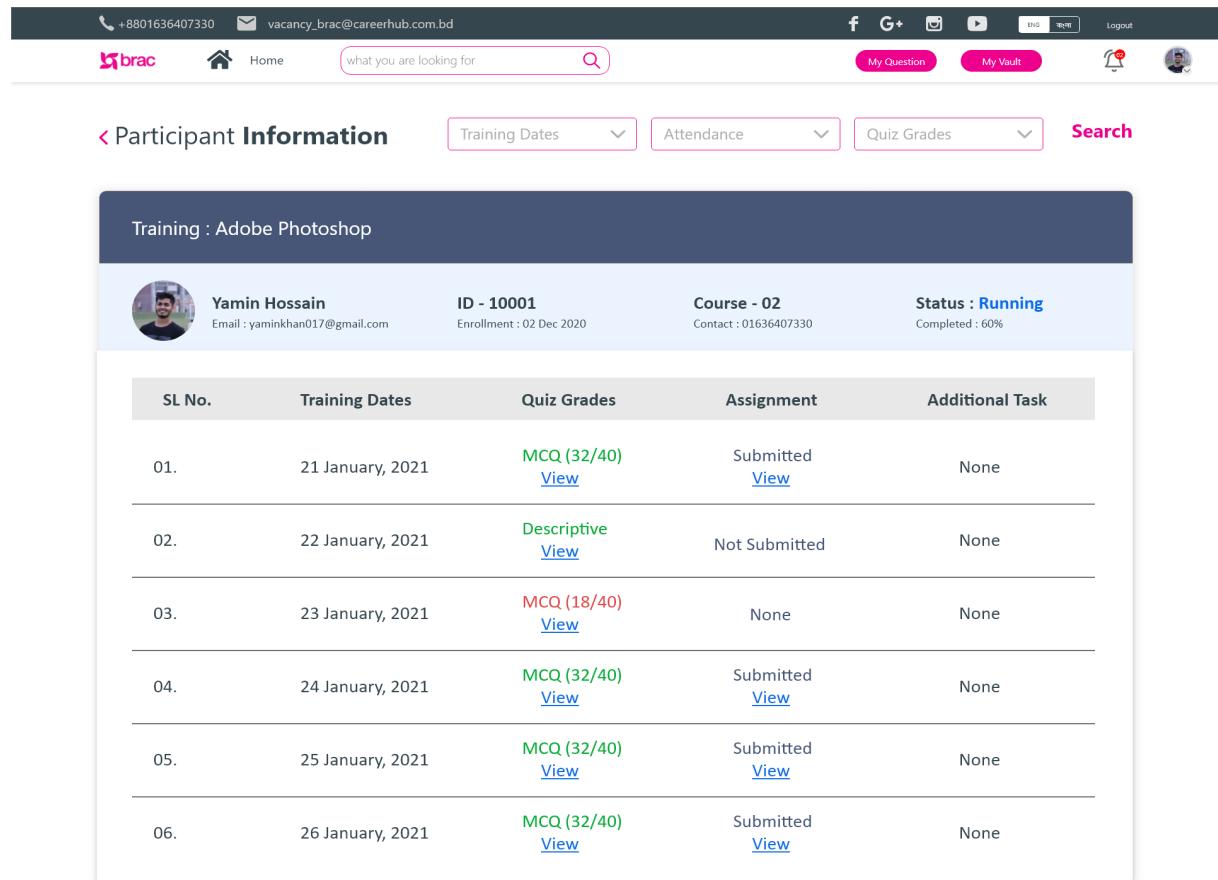
- Column 1: Lorem Ipsum 01, 02, 03, 04, 05
- Column 2: Lorem Ipsum 01, 02, 03, 04, 05
- Column 3: Lorem Ipsum 01, 02, 03, 04, 05
- Column 4: Lorem Ipsum 01, 02, 03, 04, 05
- Column 5: Lorem Ipsum 01, 02, 03, 04, 05

Links at the bottom of the footer include 'Terms & Conditions', 'Site map', 'Privacy policy', and 'Cookie policy'.

Figure 6.6: Create a New Quiz Page

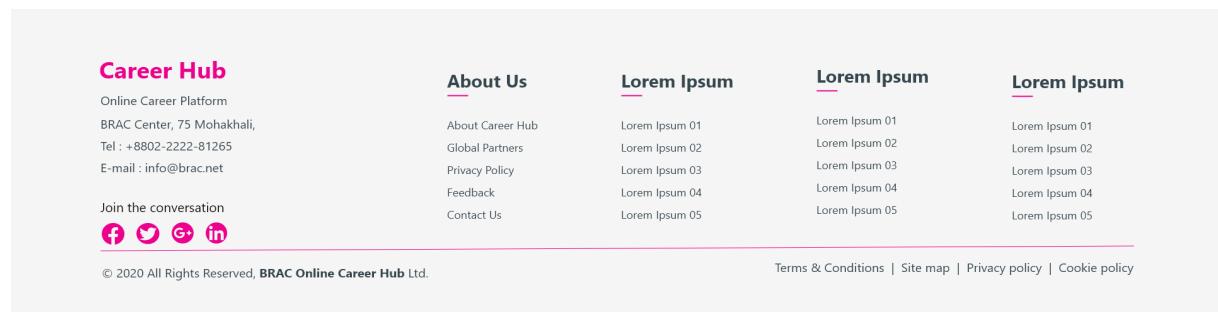
Participant Information Page:

The trainer will be able to track all of the details of each participant in each of his classes, according to Functional Requirements. On this screen, we can see that the trainer can see all of the details of a participant in one of his classes, as well as his current progress.



The screenshot shows the 'Participant Information' page for a participant named Yamin Hossain. The participant's profile includes a photo, name, ID (10001), enrollment date (02 Dec 2020), course (Course - 02), and status (Running, completed 60%). Below this, a table lists six training sessions from January 21 to January 26, 2021. Each session includes a quiz grade (MCQ 32/40 or Descriptive View), assignment status (Submitted or Not Submitted), and additional tasks (None). The table has columns for SL No., Training Dates, Quiz Grades, Assignment, and Additional Task.

SL No.	Training Dates	Quiz Grades	Assignment	Additional Task
01.	21 January, 2021	MCQ (32/40) View	Submitted View	None
02.	22 January, 2021	Descriptive View	Not Submitted	None
03.	23 January, 2021	MCQ (18/40) View	None	None
04.	24 January, 2021	MCQ (32/40) View	Submitted View	None
05.	25 January, 2021	MCQ (32/40) View	Submitted View	None
06.	26 January, 2021	MCQ (32/40) View	Submitted View	None



The footer section includes the 'Career Hub' logo, contact information (BRAC Center, 75 Mohakhali, Tel: +8802-2222-81265, E-mail: info@brac.net), social media links (Facebook, Twitter, Google+, LinkedIn), and links to About Us, Privacy Policy, Feedback, and Contact Us. It also features five placeholder sections labeled 'Lorem Ipsum'.

Figure 6.7: Participant Information Page

Training approvement Page:

Waiting lists are displayed for all of the classes that have been published by the trainer. Using the details button, the trainer may check all the details linked to the course and approve it accordingly. As soon as the course is approved by the administrator, it will appear on the participants' dashboard.

The screenshot shows the 'Training Management' section of the BRAC Online Career Hub. At the top, there are navigation links for User Management, Role Management, Category Management, Vault Management, Training Management (which is highlighted in pink), Assessment Management, and Logout. Below the header, a pink bar contains links for List of all Training, Transfer, Evaluation, Funding Info, and Signatory Info. The main content area is titled 'Training Management' and shows a table titled 'All File List'. The table has columns: SL No., Training Name, Category Name, Sub-Category Name, Uploaded By, Details, Accept, and Reject. There are 10 entries listed, each with a 'Details' button, an 'Accept' button, and a 'Reject' button. At the bottom of the table, there are pagination controls: 'show All 8 entries', 'showing 1 to 8 of 8 entries', and a page number '1'.

SL No.	Training Name	Category Name	Sub-Category Name	Uploaded By	Details	Accept	Reject
01.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
02.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
03.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
04.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
05.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
06.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
07.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
08.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
09.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject
10.	Computer	Category_101	SubCategory_101	Yamin Hossain	Details	Accept	Reject

Figure 6.8: Training approvement Page

Evaluation Survey:

Upon completion of the course, the participant can download the certificate according to our functional requirements. In addition to this, before a participant receives their certificate, they are required to submit a survey that will be used to evaluate the course. By clicking on the Initiative Survey button on his dashboard, the admin will launch the survey. Upon launching the survey, it will be sent to the participants, who will then be able to claim their certificate after completing the survey.

The screenshot shows the 'Evaluation Survey' section of the BRAC Online Career Hub. At the top, there is a navigation bar with links for User Management, Role Management, Category Management, Vault Management, Training Management (which is highlighted in red), Assessment Management, and Logout. Below the navigation bar, a pink header bar contains links for List of all Training, Transfer, Evaluation (which is underlined in red), Funding Info, and Signatory Info. The main content area is titled 'Evaluation Survey' and displays a table titled 'All Survey List'. The table has columns for SL No., Course Name, Trainer Name, Start Date, End Date, and Action. There are 9 entries, all for 'Adobe Photoshop Course 01' taught by 'Sumon Khandokar' from '12 Jan, 2021' to '12 Feb, 2021'. Each entry has a 'Initiate Survey' button in the 'Action' column. At the bottom of the table, there are pagination controls: 'show All entries', 'showing 1 to 8 of 8 entries', and 'Previous 1 Next'.

SL No.	Course Name	Trainer Name	Start Date	End Date	Action
01.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
02.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
03.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
04.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
05.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
06.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
07.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
08.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>
09.	Adobe Photoshop Course 01	Sumon Khandokar	12 Jan, 2021	12 Feb, 2021	<button>Initiate Survey</button>

Figure 6.9: Evaluation Survey Page

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Sustainability in the project profession is an approach to business that balances the environmental, social, economic aspects of project-based working to meet the current needs of stakeholders without compromising or overburdening future generations.[8] Project sustainability has been the focus of attention since the creation of this project. The idea of this project is based on the fact that the number of unemployed in our country is increasing day by day. And the main reason for this is that the number of skilled employees in our country is very low. The main objective of this project is to transform the unemployed into skilled candidates and so that it can continue to play a role in transforming the skilled candidate into the future. We will provide skill training to the students by skilled trainers free of cost from this platform. So that the participants can easily get what they need for their desired job from here. So our platform will act as a bridge between those who are now unemployed or looking for work yet unable to obtain one owing to a lack of skills and the skills needed to get to work and connect with the employers.

7.2 Social and Environmental Effects and Analysis

We know that our unemployment rate is increasing day by day. This epidemic of corona has added a new dimension to it. According to a recent International Labor Organization report (ILO), due to the COVID-19 catastrophe, 25 million people around the world are expected to lose their jobs. As a result, our unemployment rate is increasing dramatically. And one of the main reasons for this unemployment is the lack of skilled candidates. This is where the BRAC Online Career Hub comes in. The role of BRAC Online Career Hub

is to enable candidates to take courses to improve or gain skills to get a job which is free of cost. Which will play a special role in our society. Candidates no longer have to spend a lot of money to do paid courses or don't have to spend money to buy membership and look for jobs from other websites. They will be able to avail all these benefits from BRAC online carriers for free. And this platform will generate a great social impact.

7.3 Addressing Ethics and Ethical Issues

In the age of smartphones, where there is so much data collecting, hacking, cybercrime, and so on, there are laws and ethics that must be followed while developing and launching an application. Some of them are as follows:

7.3.1 Collecting only relevant User data

User data is collected by the "BRAC Online Career Hub" but it is strictly saved, maintained, and used specifically for the purpose of this application. The only data that is gathered is the user's relevant information for the creation of the profile.

7.3.2 Not Sharing or Selling any User data

Despite the fact that the data collected is unlikely to cause any privacy concerns for most users, the "BRAC Online Career Hub" does not allow any service, application, or third party access to the information acquired.

7.3.3 Data Storage Security

The server and database are only accessible to the lead developer and the SDP.

7.3.4 Proper use of third-party Services and API

We want to provide safe communication by utilizing tokens as a security purpose because our application is connected to the front end through back end via API.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

Working on this Project throughout my internship has presented me with several obstacles. The most important are:

1) Understanding the Requirement

It was difficult for me to grasp what was actually needed, and I frequently did things that weren't asked of me, causing me to lose out on the true need.

2) Adapting to New Technologies

Because this was my first time working on a Web application, I had to learn and adapt to new technology.

3) Keeping up to Speed

Learning new technologies and putting them to use was a slow process for me at first because it was my first time doing so.

4) Identifying and Fixing Bugs

Bugs were frequently difficult to locate, and even when they were located, fixing them became a major challenge.

8.2 Solution of those Problem

When working on a project, we will encounter all types of problems at various times, but the most important factor is how we resolve such issues. I have encountered various problems while working on this project. In this part I want to describe how I have solved those problems.

1) Understanding the Requirement

I have read TOR (Terms of Reference) over and over again to get a complete idea of the requirements and have studied all those issues online, recharged various similar sites and

come up with solutions.

2) Adapting to New Technologies

I learned Adobe XD to develop a prototype for this Platform for training models. React.js is used for front end development and Redux is used for state management. I have learned all these technologies from their official website and various training tutorials.

3) Keeping up to Speed

Because I was learning new technologies and applying them to a real-world project, my work speed was pretty slow. However, with consistent work, I was able to improve my speed.

3) Identifying and Fixing Bugs

Bug fixing was a very difficult task I had while working on the project. Outside of my office hours, I worked on projects, researched, and recharged different things, as a result of which I was able to address those Bugs, with the assistance of senior engineers I have been able to solve them.

Chapter 9

Future Work & Conclusion

9.1 Future Works

The following is a list of upcoming features for the “BRAC Online Career Hub”-
Mobile App

Despite the fact that our platform is currently mobile responsive, we want to create a mobile app for our website to give a better user experience for mobile use.

Chat Support

We would like to add live chat to our website so that users may continue to connect with our customer care representatives directly.

Dark Mode

We want to bring Dark Mode on our website for better user experience. Which is designed to decrease blue light exposure and lessen eye strain caused by prolonged screen usage, according to the company.

Text Recognition

We also want to introduce the Text recognition in our website so that users do not have to spend a lot of time to complete their profile. We will recognize their ID card and collect all their information.

9.2 Conclusion

In this report, I have provided thorough information on the website. Background, advantages, how it works, technique utilized, outcomes, and so on. This project includes front-end (UI design, Web design, HTML, CSS, SCSS, TypeScript, React.js) and back-end (Laravel 8) development for the ”Online Career Hub” and training that I worked on during my internship. As a participant, individuals will be able to enroll in courses of their preference and obtain a free certificate after finishing the course. As a trainer,

users will be able to publish their courses here, take live classes, and take quizzes to send students from this platform. As an admin, users will be able to oversee various courses on the platform, approve the course to the public, give students access to the platform, and issue certificates to students through evaluation. The APIs have been created, and the hooks are now being integrated. Multiple projects are in the works, and the client is waiting for the hosting platform for as long as it takes. The remaining steps include integrating the database, installing hooks in the front-end that link to the back-end, and finally deploying the project. The project is now undergoing final QA testing prior to launch. Working as an intern at BRAC Technology Division has been a fantastic experience. During my three-month internship, I gained valuable experience that helped me launch my career in the workplace. During my internship, I learnt a lot about the IT industry. After participating in the internship program, I learned a great deal about how our nation's IT industry is developing. Working at BRAC Technology Division, I gained experience in handling a variety of clients, subsequent program related advancements, commonly used advances, and the optimum use of this technology. This curriculum offered me a vivid picture of what it's like to be a software engineer in the real world.

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