



**TRIBHUVAN UNIVERSITY
FACULTY OF HUMANITIES AND SOCIAL SCIENCES
LALITPUR ENGINEERING COLLEGE**

BUILD WIZARD : PC PART PICKER

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**A PROJECT
SUBMITTED TO THE DEPARTMENT OF COMPUTER APPLICATION
IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR
THE DEGREE OF BACHELORS IN COMPUTER APPLICATION**

DEPARTMENT OF COMPUTER APPLICATION

LALITPUR, NEPAL

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Faculty of Humanities and Social Sciences

BUILD WIZARD : PC PART PICKER

Submitted to
Department of Computer Application
Lalitpur Engineering College

**In partial fulfillment of the requirement for the degree of Bachelors in Computer
Application**

Submitted by
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OCTOBER 2023

Under the Supervision of
Er. Sandesh Sharan Poudel

DECLARATION

I declare that the work hereby submitted for Bachelors in Computer Application at the Department of Computer Application , Lalitpur Engineering College entitled "**BUILD WIZARD : PC PART PICKER**" is my own work and has not been previously submitted by me at any university for any academic award. I authorize the Department of Computer Application , Lalitpur Engineering College to lend this project work to other institutions or individuals for the purpose of scholarly research.

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RECOMMENDATION

The undersigned certify that they have read and recommend to the Department of Computer Application for acceptance, a project work entitled "**BUILD WIZARD : PC PART PICKER**", submitted by **Sirjan Shrestha (LEC077BCA06) and Sujal Maharjan (LEC077BCA07)** in partial fulfillment of the requirement for the award of the degree of "**Bachelors in Computer Application**".

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Tribhuvan University
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LETTER OF APPROVAL

This is to certify that this project prepared by Sujal Maharjan and Sirjan Shrestha entitled “**Build Wizard:Pc Part Picker**” in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion, it is satisfactory in the scope and quality as a project for the required degree.

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ABSTRACT

Build Wizard is a web-based platform designed to simplify the process of selecting compatible components for custom PC builds. It provides a comprehensive database of PC components, including processors, motherboards, graphics cards, memory modules, storage drives, power supplies, and more. The platform offers an intuitive user interface that allows enthusiasts, and professionals to create, customize, and compare PC builds tailored to their specific requirements. Users can search for components based on various criteria such as brand, performance, price, and compatibility. Build Wizard ensures that selected components are compatible with each other, preventing common pitfalls that arise from incompatible hardware combinations. In addition to component selection, Build Wizard also provides up-to-date pricing information from various retailers, enabling users to make informed decisions based on budget constraints. The platform assists in comparing prices across different vendors, ensuring users can find the best deals for their chosen components.

Keywords: *Compare price, Compatible components, Customize*

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LIST OF ABBREVIATIONS

CSS	Cascading Style Sheets
DFD	Data Flow Diagram
DOM	Document Object Model
ER	Entity-Relationship
HTML	Hypertext Markup Language
IT	Information Technology
JS	JavaScript
MySQL	My Structured Query Language
OS	Operating System
PHP	Hypertext Preprocessor
SQL	Structured Query Language
UI	User Interface
URL	Uniform Resource Locator
UX	User Experience

1 INTRODUCTION

1.1 Introduction

The Build Wizard project aims to develop an innovative online platform that assists PC builders in Nepal in selecting compatible components, comparing prices, and engaging with a vibrant community. This provides a comprehensive background for the project, outlining the need, objectives, and potential impact. The PC building industry in Nepal has witnessed significant growth in recent years, fueled by increasing demand for custom-built PCs. However, PC builders often face challenges in selecting compatible components and comparing prices across multiple retailers. The absence of a localized platform catering specifically to the Nepalese market creates a gap that the Build Wizard project intends to address.

1.2 Problem Statement

The process of selecting and assembling compatible components for custom PC builds poses significant challenges for individuals in the rapidly evolving PC building industry. With a plethora of PC components available and constant technological advancements, users face difficulties in navigating the complex landscape, often resulting in compatibility issues, time-consuming troubleshooting, and suboptimal hardware choices.

Thus, a comprehensive solution is required to address these problems, providing a user-friendly interface, an extensive and up-to-date component database, real-time pricing information, compatibility verification, and a vibrant community for sharing expertise and support. By tackling these challenges, users will be empowered to confidently select and assemble compatible PC components, optimize their budget, and create high-performance custom PC builds tailored to their specific needs and preferences.

1.3 Objectives

- The objective of the project is to create a comprehensive and localized solution that simplifies the PC building process.

1.4 Scope

The scope of the Build Wizard project in Nepal would encompass providing a localized version of the platform tailored to the needs and preferences of Nepalese users. The project

would aim to address the specific challenges faced by PC builders in Nepal and offer a comprehensive solution for component selection, compatibility verification and pricing comparison.

Localized Component Database: The project would involve compiling a comprehensive and up-to-date database of PC components available in the Nepalese market. This would include processors, motherboards, graphics cards, memory modules, storage drives, power supplies, cooling solutions, peripherals, and other relevant hardware.

Pricing Integration: The platform would integrate with local retailers and online marketplaces to provide real-time pricing information from Nepalese vendors. This functionality would enable users to compare prices, find the best deals, and optimize their budget while making informed purchasing decisions.

Vendor Partnerships: Collaborating with local PC component retailers and manufacturers would be crucial to ensure accurate and up-to-date information, pricing integration, and availability of components. Building partnerships with these entities would enhance the platform's credibility and provide users with a seamless experience.

Education and Resource Hub: The platform could also feature educational content, tutorials, and resources specific to the Nepalese context, empowering users with the necessary knowledge and skills for successful PC builds.

1.5 Limitation

- This system doesn't have offline customizing.
- The platform may not fully cater to users with limited technical expertise.
- Any inaccuracies or outdated data could impact compatibility checks or pricing information

1.6 Potential Applications

A PC part picker project has several potential applications that can benefit both individual users and the broader computing community. Some of these applications include:

- **Custom PC Building:** The primary application is assisting users in selecting compatible components for building their own custom PCs. It streamlines the process, ensuring

that the selected components work well together, and helps users optimize performance according to their needs.

- Gaming Enthusiasts: Gamers often require high-performance systems. This project can aid them in building gaming rigs that meet their specific requirements, taking into account factors like graphics card capabilities, cooling solutions, and more.
- Educational Use: The platform can serve as an educational tool, helping students learn about different PC components, their specifications, and how they work together. It could be integrated into technology courses or workshops.
- DIY PC Building Workshops: Institutions or organizations offering DIY PC building workshops can utilize this tool to simplify the process for participants.

1.7 Originality of Project

The originality of a PC part picker project lies in how it innovatively addresses challenges and provides value that sets it apart from existing solutions.

- Unique Feature Set: This project offers novel features not commonly found in other PC part pickers, such as advanced compatibility algorithms.
- Educational Aspect: This project not only helps users select components but also educates them about the technology behind each component, it can be unique in promoting learning alongside building.

1.8 Report Organisation

The material in this project report is organised into seven chapters. After this introductory chapter introduces the problem topic this research tries to address, chapter 2 contains the literature review of vital and relevant publications, pointing toward a notable research gap. Chapter 3 describes the methodology for the implementation of this project. Chapter 4 provides an overview of what has been accomplished. Chapter 5 contains some crucial discussions on the used model and methods. Chapter 6 mentions pathways for future research direction for the same problem or in the same domain. Chapter 7 concludes the project shortly, mentioning the accomplishment and comparing it with the main objectives.

2 BACKGROUND AND LITERATURE REVIEW

2.1 Background Study

In today's rapidly evolving PC hardware market, the complexity of selecting and configuring PC components has surged. Users often face challenges in identifying compatible parts and optimizing their configurations. The proposed project seeks to address this issue by leveraging Bootstrap, a powerful front-end web framework, to develop an intuitive and user-friendly online platform. The objective is to simplify the process of building PC configurations by offering a structured interface, real-time updates, and seamless compatibility checks, ultimately empowering users to create their ideal PC setups efficiently.

By leveraging the power of Build Wizard, users can confidently navigate the vast array of PC components, unleash their creativity, and embark on the journey of building their dream computer systems.

2.2 Literature Review

The field of computer science and technology has advanced rapidly over the years, leading to significant developments in the design and assembly of personal computers (PCs). One crucial aspect of building a PC is selecting the right components, such as processors, graphics cards, memory modules, and storage devices.

In this research paper, the authors present PC Builder Hero, a virtual reality (VR) game that allows users to experience the process of building a custom personal computer (PC) in a safe and immersive environment. The primary objective of the game is to increase awareness and curiosity about the inner components and workings of computers. By utilizing VR technology, the game aims to provide users with a hands-on experience of building a PC, without the risk of costly mistakes. Users are able to select virtual computer components and track the price of their built computer, as well as monitor the accumulation of static electricity over time. The game challenges users to find a balance between component specifications and overall price, while adhering to proper PC building procedures. The paper provides detailed information on the design and implementation of a high-fidelity prototype of the game, along with the results and implications of an informal early testing phase[1]. The objective of this project is to assist users in buying or upgrading custom-branded PCs by providing recent information about computer components and automatically filtering for compatibility. The implementation involves web scraping for component information,

building a database to store the data, and creating a user-friendly web page for component display and compatibility checks. The database is updated daily to ensure up-to-date information. The main contribution of this project is the automatic detection of component compatibility, which is particularly helpful for first-time buyers who may be hesitant to build their own PC[2]. A custom-built PC is assembled to cater to specific user needs. Internationally, there are many e-stores available for users that offer them the option to build and order their systems according to their requirements. However, the COVID-19 pandemic in 2020 led to cancellations of international shipments, highlighting the local market's deficiency in fulfilling the demands of custom-built PC users. In this paper, a generic architecture for an e-store called Nice PC Maker (NPM) is proposed and designed to address this issue. The architecture facilitates users with custom-build PC options, as well as additional features like pre-built system purchasing and PC component purchasing. The implementation of the architectural design utilizes WooCommerce product builders in WordPress. The configuration of this generic architecture for a local client not only helps them enhance their business but also provides users with the convenience of obtaining their desired systems[3].

3 SYSTEM ANALYSIS AND DESIGN

3.1 methodology

To build a Build Wizard website in Nepal, an agile methodology with an iterative approach would be well-suited. Here's a breakdown of the methodology:

- **Flexibility:** Agile is a flexible approach to project management and development.
- **Customer-Centric:** It prioritizes customer satisfaction and regular customer feedback.
- **Iterative Development:** Projects are divided into small, iterative steps for incremental progress.
- **Collaboration:** Cross-functional teams work closely together, promoting collaboration.
- **Continuous Feedback:** Regular feedback loops are essential for improvement.

3.2 System Analysis

- **Define Requirements and Scope:** Gather requirements considering their needs and preferences. Clearly define the scope of the project, identifying the key features and functionalities.
- **Plan and Design:** Create prototypes to visualize the user interface. Plan the overall architecture, database structure, and technology stack for the website.
- **Develop Minimum Viable Product:** Start by building the core functionalities required for the Build Wizard, such as component search, filtering, and basic compatibility checks. Release an initial version of the website with the essential features to gather user feedback and validate the concept.
- **Gather User Feedback:** Encourage users to provide feedback on their experience, including usability, features, and any issues they encounter. Conduct surveys or user interviews to gain insights into user preferences, and improvements.
- **Iterative Development:** Based on user feedback, prioritize and implement enhancements and additional features in iterative cycles. Continuously refine the user interface, performance, and usability to optimize the website.

- **Test and Quality Assurance:** Conduct thorough testing to ensure the functionality and compatibility of the website across different devices, browsers, and operating systems. Identify and address any bugs, errors, or inconsistencies to improve the website's stability and reliability.
- **Release and Deployment:** Deploy the website to a production environment, ensuring proper setup and security measures. Monitor the performance of the website and address any issues that arise after the launch.
- **Continuous Improvement:** Regularly gather user feedback and track website analytics. Plan and implement updates, new features, pricing and component database expansions to keep the website relevant and up to date.

3.3 Requirement Analysis

3.3.1 functional Requirements

- **User Registration:** Users should be able to create accounts and authenticate themselves securely to access personalized features and configurations.
- **PC Component Selection:** Users should be able to browse and select PC components (e.g., CPU, GPU, RAM) from a categorized list.
- **Configuration Building:** Users should be able to add selected components to a configuration list and customize quantities based on their requirements.
- **Real-time Data Updates:** Prices, availability, and specifications of components should be updated in real time from reliable sources.
- **Admin Dashboard:** Admins should have access to a dashboard to manage users, components, reviews, and configurations.

3.3.2 Non-functional Requirements

- **Performance:** The system should respond to user interactions within appropriate time to provide a seamless user experience.
- **User Experience and Design:** The user interface should be intuitive, visually appealing, and responsive across various devices and screen sizes. The design should follow usability principles, making the platform easy to navigate and understand for users.

3.4 Feasibility Analysis

The feasibility analysis conducted for the BuildWizard project has shed light on crucial aspects integral to its successful development, deployment, and sustainability. Key findings from each dimension of the analysis are summarized below:

- **Technical Feasibility:** The technical aspects required for the BuildWizard project, encompassing hardware, software, and technical expertise, are feasible and attainable within the proposed scope.
- **Schedule Feasibility:** A well-structured project timeline has been devised, accounting for necessary phases and potential time constraints to ensure timely completion.
- **Operational Feasibility:** The integration of BuildWizard with existing systems and workflows is feasible, and user acceptance testing will further optimize its operational efficiency.

3.5 ER diagram

An Entity-Relationship (ER) diagram is a graphical representation used in database design to illustrate the logical structure and relationships of entities, attributes, and the associations between them within a database system. It serves as a visual tool for modeling and communicating how different components in a database are connected.

Figure 3.2 is ER diagram of system it shows the entites of system with their attributes and relationships.

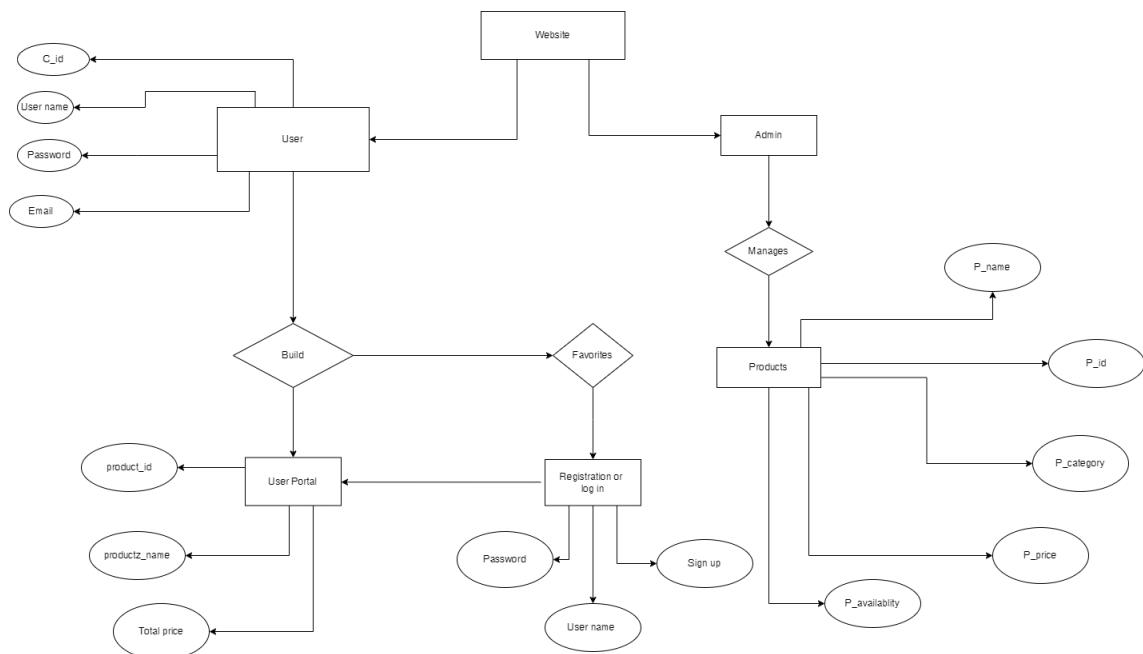


Figure 3.1: ER diagram

3.5.1 Process Modeling(DFD)

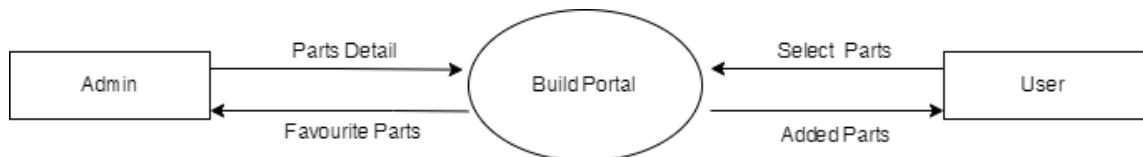


Figure 3.2: DFD diagram

3.6 System Design

3.6.1 Architecture design

Following figure shows the architecture design of this system. It shows what are the functions can be accessed after opening our site.

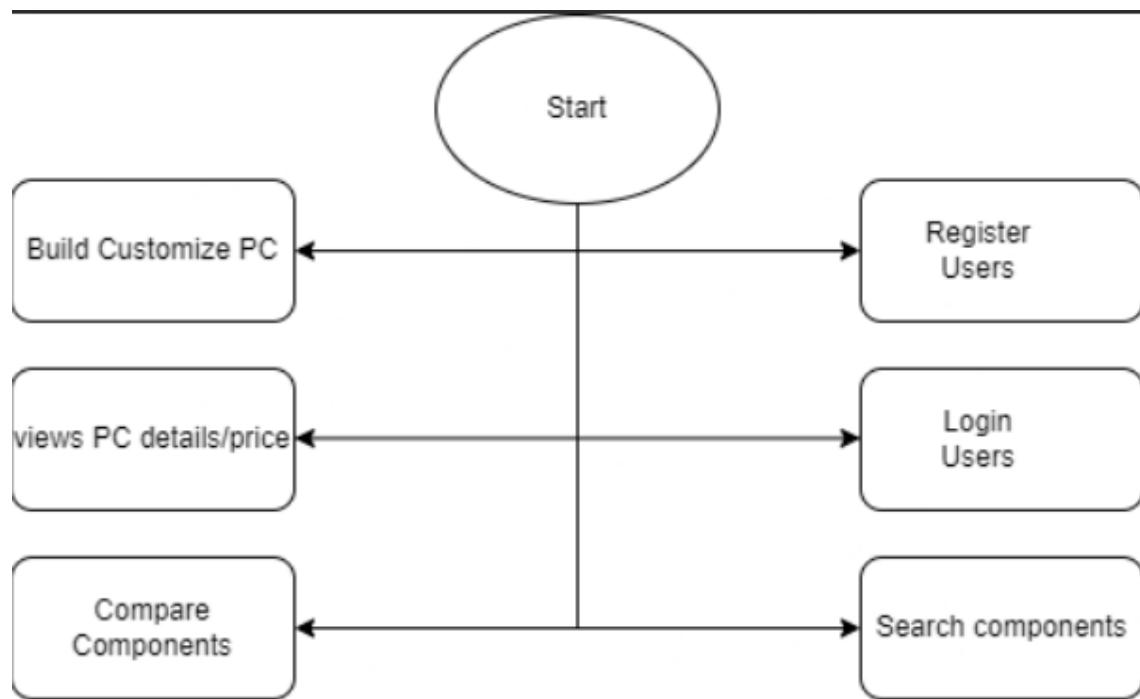


Figure 3.3: Architecture design

3.6.2 Database Schema Design

Schema design, also known as database design or data modeling, is the process of structuring and organizing the data and relationships within a database system. It involves defining the tables, fields, data types, constraints, and relationships that will be used to store and manage information in a database.

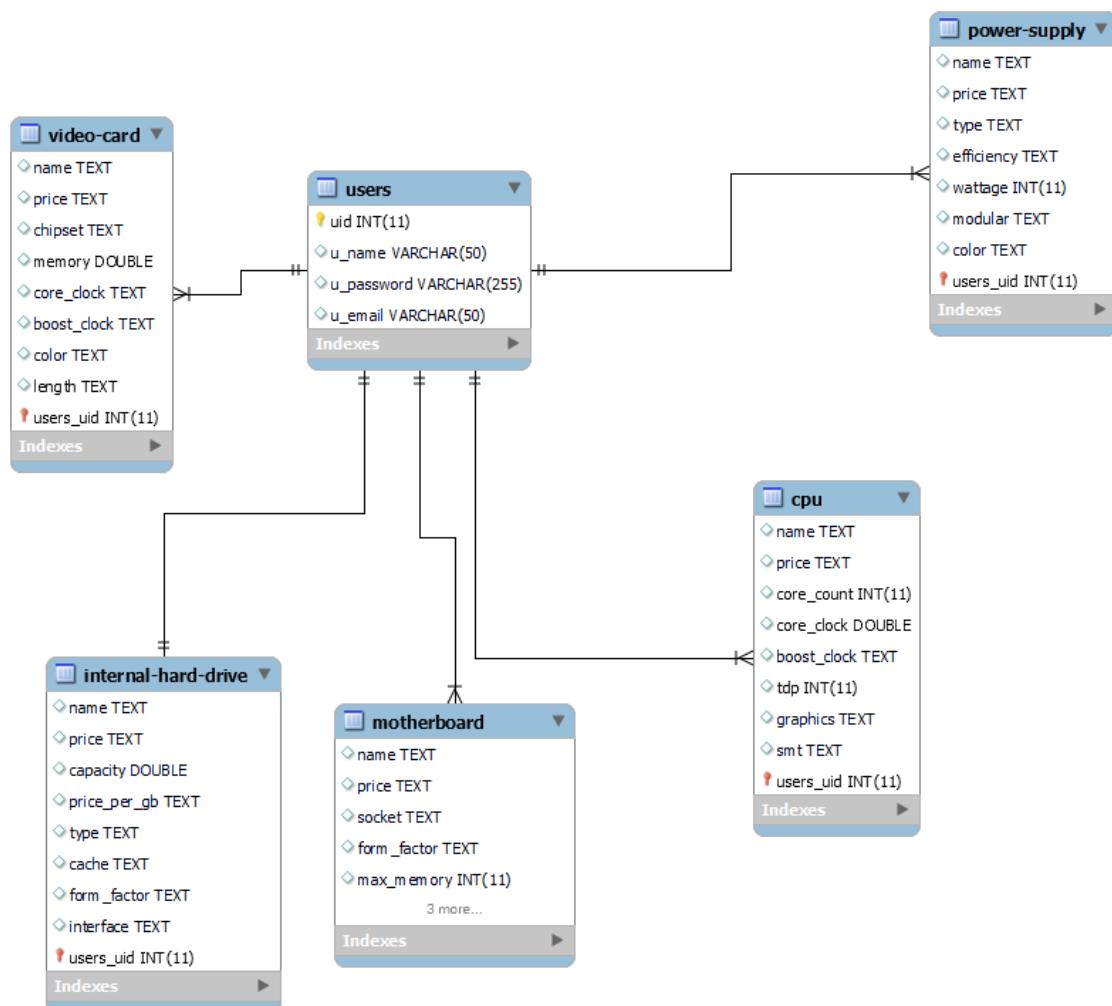


Figure 3.4: Database Schema Design

3.6.3 Interface Design

User Interface (UI) design is the process of creating the visual layout, appearance, and interactive elements of a digital product, such as a website or application. It focuses on enhancing user experience by crafting a visually pleasing, intuitive, and efficient interface. UI designers select colors, typography, icons, and other visual elements, as well as design the

arrangement and behavior of user interface components to ensure a seamless and engaging interaction between users and the product. The goal of UI design is to create an interface that is both aesthetically appealing and user-friendly, facilitating easy navigation and efficient completion of tasks.

Given picture shows the Home page of BuildWizard website.

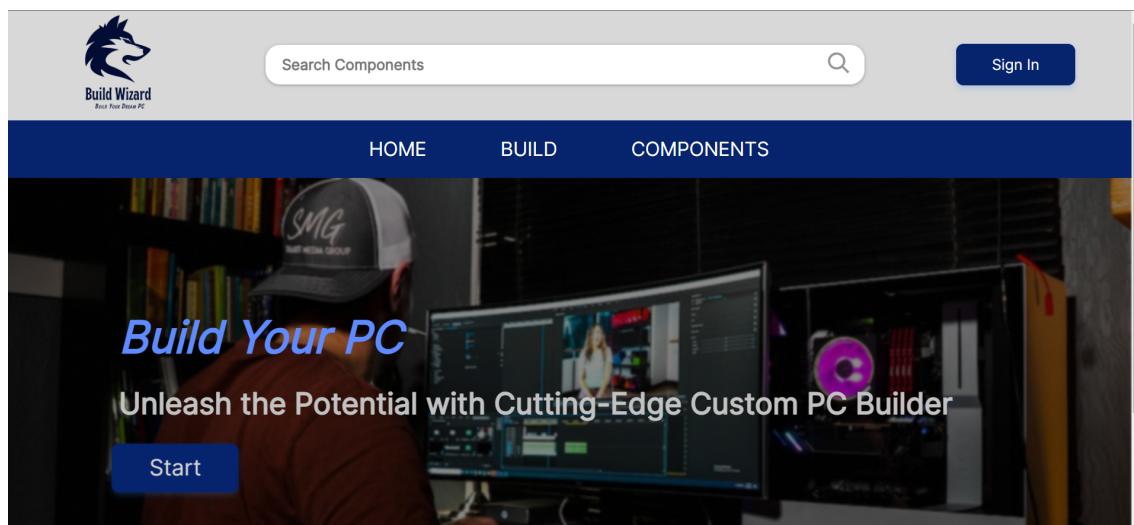


Figure 3.5: Interface Design Home page

Below picture shows the UI SignUp page of this website.

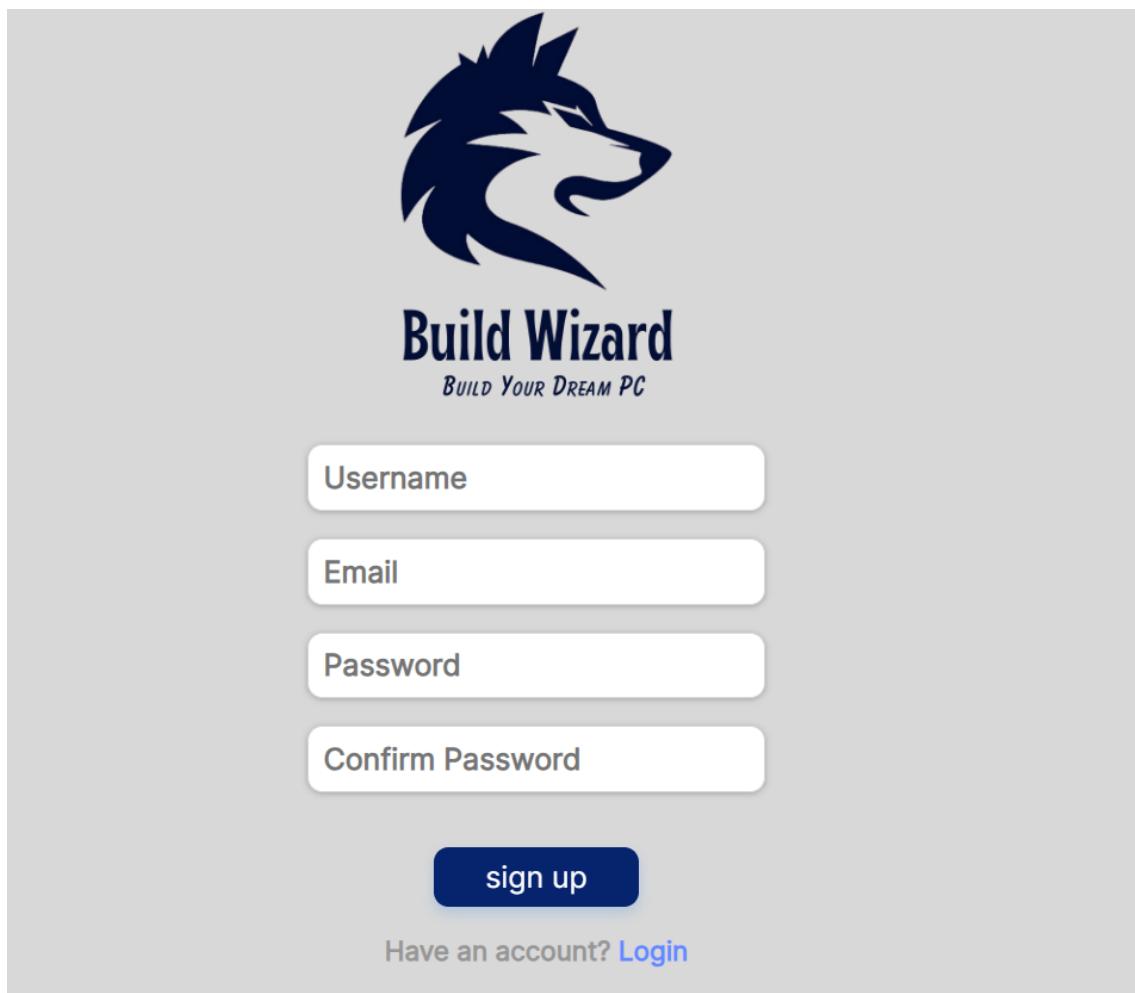


Figure 3.6: Interface Design SignUp

Following Picture shows the UI of LogIn on this website.

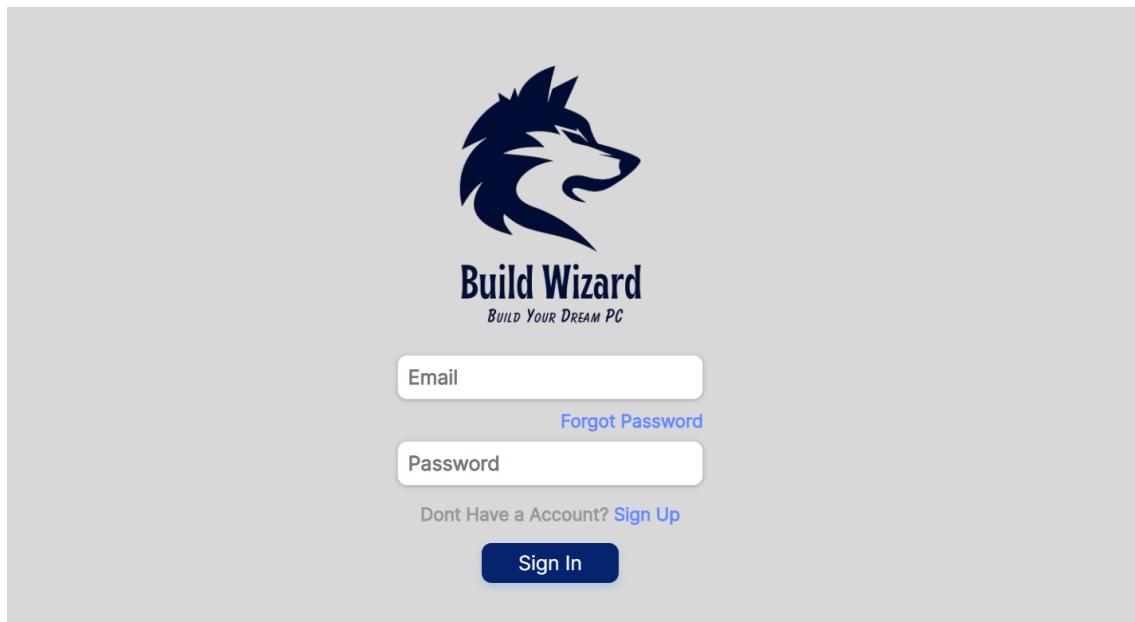


Figure 3.7: Interface Design SignIn

3.6.4 Physical DFD

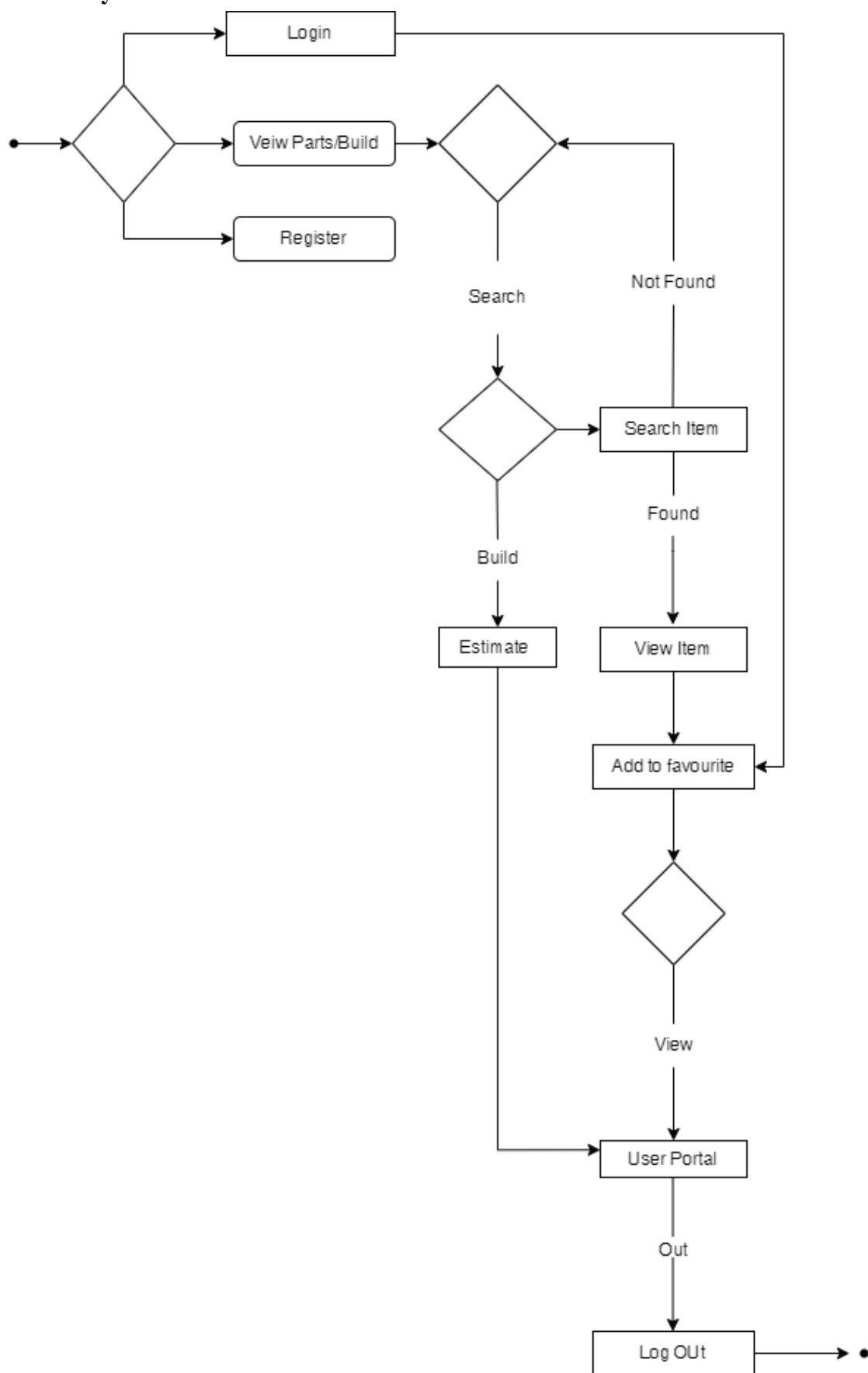


Figure 3.8: Physical DFD diagram

4 IMPLEMENTATION AND TESTING

4.1 System Development Tools

HTML:

HTML, or Hypertext Markup Language, constitutes the backbone of web development by providing the structural foundation for web content. Utilizing a system of tags, HTML defines the arrangement of content elements on a webpage. These tags encapsulate diverse elements, such as headings, paragraphs, images, links, and forms, which compose the web interface. HTML's hierarchical structure reflects the logical flow of information, enhancing accessibility and readability for both users and developers.

PHP:

PHP, or Hypertext Preprocessor, empowers web apps with server-side capabilities for data manipulation, database interaction, and dynamic content generation. It handles form inputs, manages user sessions, and enforces authentication. PHP also performs server-side validation, data processing, and complex backend logic, making it ideal for enhancing platforms like PC part pickers. It seamlessly integrates with JavaScript via AJAX, enabling real-time updates without page reloads, ensuring users receive accurate information and a smooth, interactive experience.

JavaScript:

JavaScript is a versatile scripting language that enables interactivity and dynamic behavior on web pages. It runs directly in the browser, allowing developers to create responsive and engaging user experiences. JavaScript adds a layer of functionality that HTML and CSS alone cannot achieve, making it an essential tool in modern web development.

Figma:

Figma is a cloud-based design tool that plays a vital role in the initial design and prototyping phases of web development. It fosters collaboration among designers and developers, streamlines the design process, and ensures a cohesive and user-centered visual design for the platform.

Bootstrap:

Bootstrap is a popular, open-source front-end web framework for designing responsive and mobile-first web pages and applications. It was originally developed by Twitter, and it is now maintained by volunteers through GitHub. Bootstrap provides pre-built design components, CSS (Cascading Style Sheets) frameworks, and JavaScript plugins, making it easier and faster to create consistent, visually appealing, and functional web interfaces.

JQuery:

jQuery is a widely-used JavaScript library that simplifies web development. It provides a collection of pre-built functions and plugins for interacting with HTML documents, handling events, and making asynchronous requests. jQuery streamlines client-side scripting, making it easier to create interactive and dynamic web pages. Its concise syntax and cross-browser compatibility have made it a popular choice for developers seeking to enhance user interfaces and improve the overall user experience on websites and web applications.

4.2 Testing

4.2.1 Test Cases for Unit Testing

Unit testing is a software testing technique where individual units or components of a software application are tested in isolation to ensure that they function correctly. These units can be functions, methods, classes, or even small modules. Unit testing aims to verify that each unit performs as expected, providing developers with confidence that their code works as intended and catches bugs early in the development process.

Table 4.1: Unit Test Cases of home/index.php in Build Wizard

Tests	Scenario	Expected Output	Actual Output
1	GETmethod: favourites =true	User Portal with favourite item	favourite list with description
2	GETmethod: search= intel	Shows components of intel	Shows components of intel
3	POSTmethod: estimate	Shows estimates of build	shows estimated price

4.2.2 Test Cases for System Testing

Here testing different test cases of authentication system in BuildWizard : Pcpart picker is performed with screenshots as required results:

Table 4.2: Authentication Test Cases

Tests	Test Cases	Input	Output
1	signup	Email:sirjan2@gmail.com Password:sirjan1234	signup
2	Incorrect Password in SignIn	Email:sirjan2@gmail.com Password:12345679 Password:12345678	Password Incorrect
3	Correct Credentials In Login	Email:sirjan2@gmail.com Password:sirjan1234	Redirects to homepage

In given below figure we are testing signin and signup with incorrect and correct authentication.

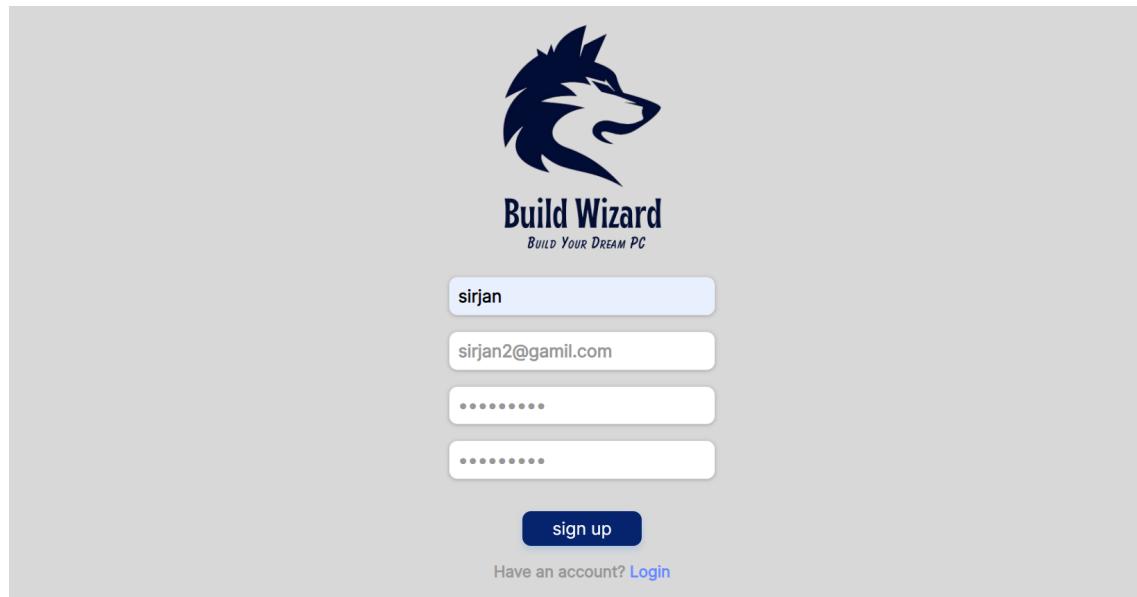


Figure 4.1: Sucessfull SignUp

Table 4.3: Launch Application

Tests	Test Cases	Input	Expected Out-put	Actual Output
1	Launch Appli-cation	http://localhost/pbw/home/	Home page	Home page

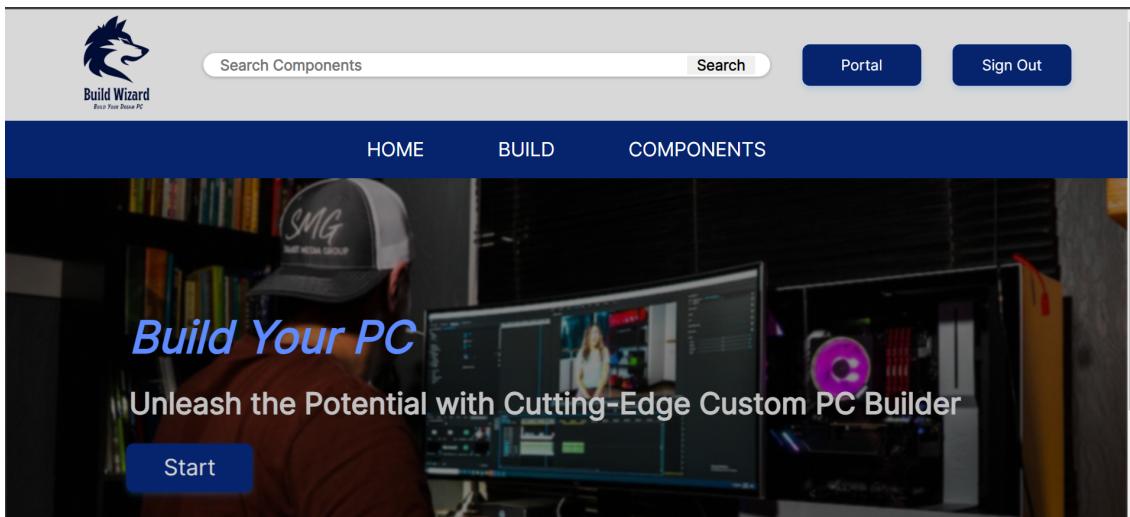


Figure 4.2: Successful Login

Table 4.4: Add component by Admin

Tests	Test Cases	Input	Expected Out-put	Actual Output
1	Add components/Manage CPU	http://localhost/pbw/adminportal/?manage=cpu	Add product details in form	opens cpu form
2	Delete components/Manage CPU	http://localhost/pbw/adminportal/?manage=cpu	Manage Product list	Remove unwanted components

The screenshot shows the 'Welcome to Admin Dashboard of Build Wizard' interface. On the left, there's a sidebar with links like 'Add/Manage CPU', 'Add/Manage RAM', etc., and a 'Logout' button. The main area has two sections: 'Add Product' on the left and 'Product List' on the right.

Add Product: This section contains fields for 'Title' (Product Title), 'Description' (Product Description), 'Minimum Amount' (Minimum Amount), and 'Maximum Amount' (Maximum Amount). Below these fields is a placeholder 'Product Photo'.

Product List: This section displays a table of products with columns for 'Image', 'Name', 'Description', 'Min Amount', and 'Max Amount'. The products listed are:

Name	Description	Min Amount	Max Amount
Intel 10th Gen i5	Intel 10th Gen i5	24000.00	30000.00
AMD Ryzen 7 7700X	AMD Ryzen 7 7700X	50000.00	58000.00
AMD RYZEN 5 3600X	AMD RYZEN 5 3600X		

Figure 4.3: Add component by Admin

Table 4.5: Component page

Tests	Test Cases	Input	Expected Out-put	Actual Output
1	Show compo-nents	http://localhost/pbw/components/	Components	Shows compo-nents
2	Component: RAM	http://localhost/pbw/products/?component=ram	shows list of ram	ram details

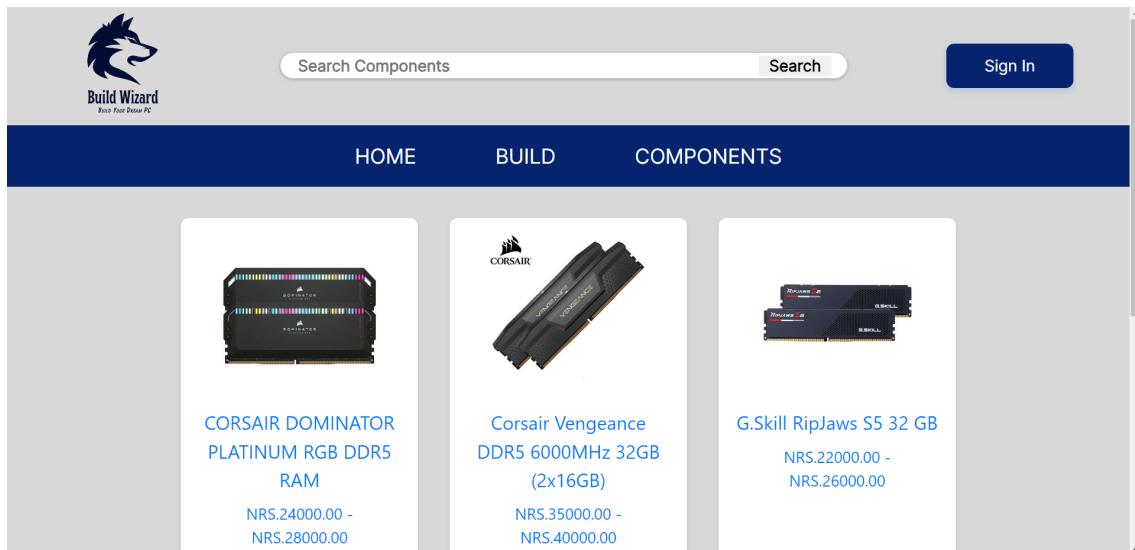


Figure 4.4: Components

5 CONCLUSION AND FUTURE RECOMMENDATION

5.1 Lesson Learnt/Outcome

5.1.1 Home Page

At the top of the home page, there's a header section that includes the project logo, navigation menu, and user login/signup options. This section provides easy access to different parts of the platform and allows users to log in or create an account.

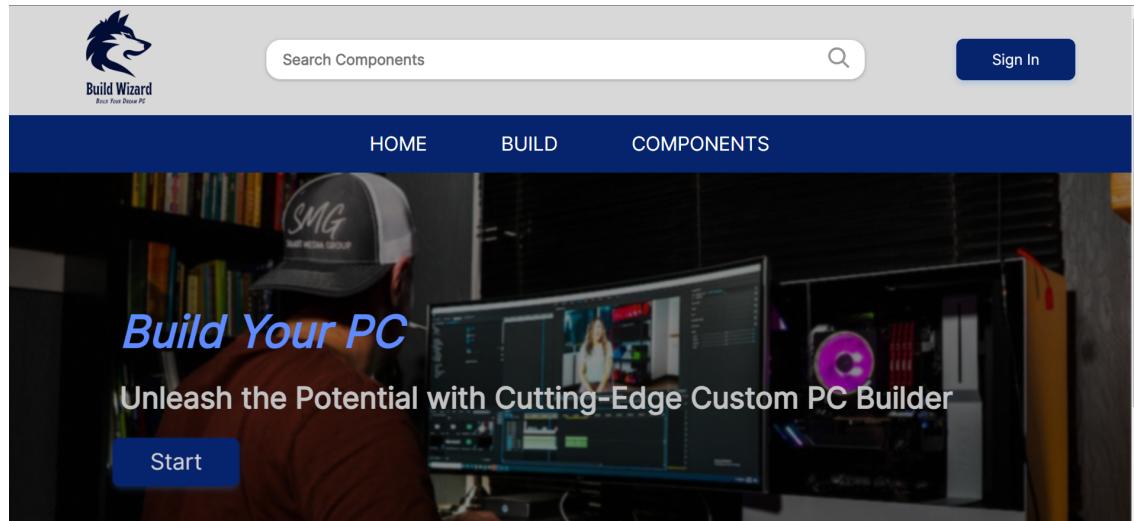


Figure 5.1: Home Page

5.1.2 Build Page

A Build Page within the context of the Build Wizard :PC part picker project refers to a dedicated section of the platform where users can create and customize their own PC configurations. This page allows users to select various computer components, such as processors, graphics cards, memory modules, storage devices, and more, to assemble a complete and functional computer system tailored to their specific needs and preferences.

Select Components for your Build
We will provide an estimate for your build.

Select a CPU: Select

Select a Video-Card: Select

Select a Motherboard: Select

Select a Storage: Select

Select a Cooler: Select

Select a power-supplies: Select

Select a RAM: Select

Select a cpu-cases: Select

Estimate

Figure 5.2: Build Page

5.1.3 Components Page

The "Components" page for this project, focusing on building a user-friendly platform for viewing pc components and their information. It's crucial to design this page to be intuitive, informative, and visually appealing to provide a better experience.

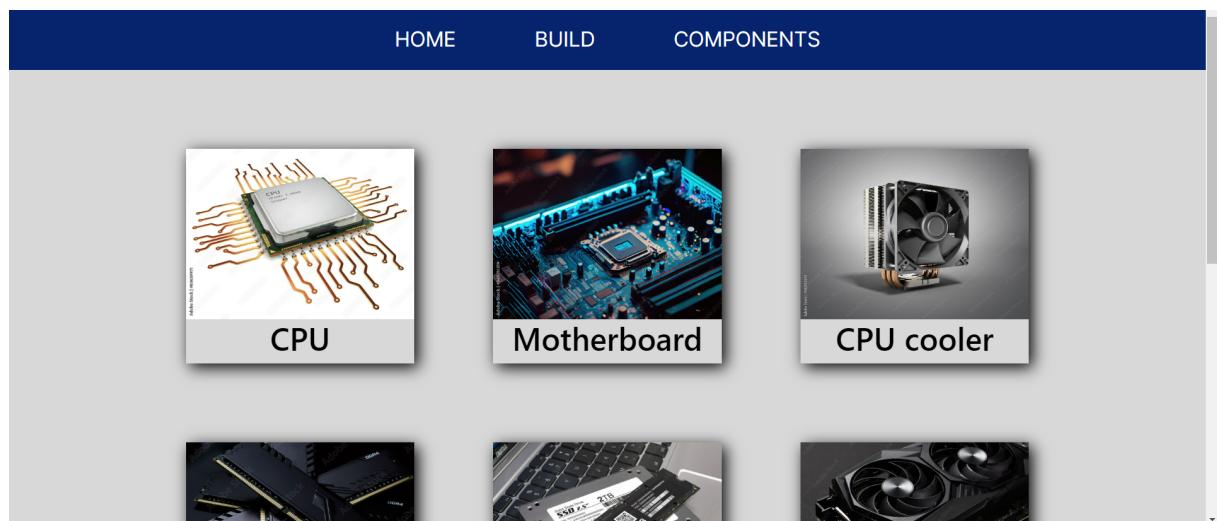


Figure 5.3: component Page

5.1.4 Admin Portal

The admin portal for this project serves as a centralized interface accessible to authorized administrators, allowing them to manage components for the webpage.

The screenshot shows the Admin Dashboard of Build Wizard. At the top, there's a navigation bar with links: Add/Manage CPU, Add/Manage RAM, Add/Manage Storage, Add/Manage Video-card, Add/Manage power-supplies, Add/Manage Motherboard, Add/Manage Cooler, Add/Manage cpu-cases, and Logout. Below the navigation bar, there are two main sections: 'Add Product' on the left and 'Product List' on the right.

Add Product: This section contains fields for Product Title, Product Description, Minimum Amount, and Maximum Amount. There is also a placeholder for Product Photo.

Product List: This section displays a list of three products with their details and a delete icon (red X) next to each entry.

Product	Description	Min Amount	Max Amount
Intel 10th Gen i5	Description: Intel 10th Gen i5	24000.00	30000.00
AMD Ryzen 7 7700X	Description: AMD Ryzen 7 7700X	50000.00	58000.00
AMD RYZEN 5 3600X			

Figure 5.4: Admin Page

5.1.5 Sign-in Page

The screenshot shows the Sign-in Page for Build Wizard. It features a logo of a stylized blue wolf head above the text "Build Wizard" and the tagline "BUILD YOUR DREAM PC". Below the logo, there are input fields for Email and Password, along with a "Forgot Password" link. A "Sign In" button is at the bottom. A link to "Sign Up" is also present.

Figure 5.5: SignIn Page

5.1.6 Incorrect Password

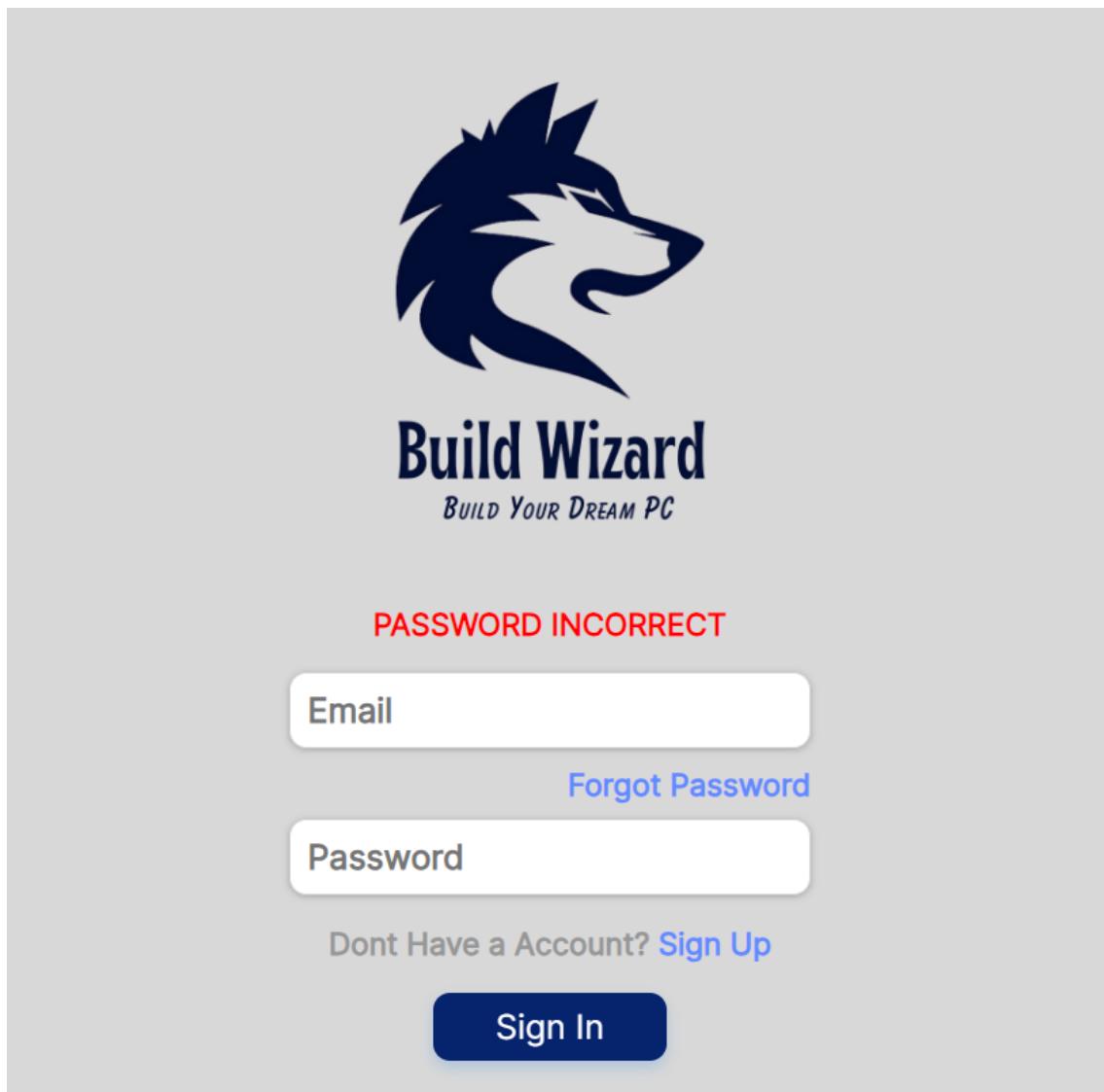


Figure 5.6: Incorrect Password

5.1.7 Sign-up Page

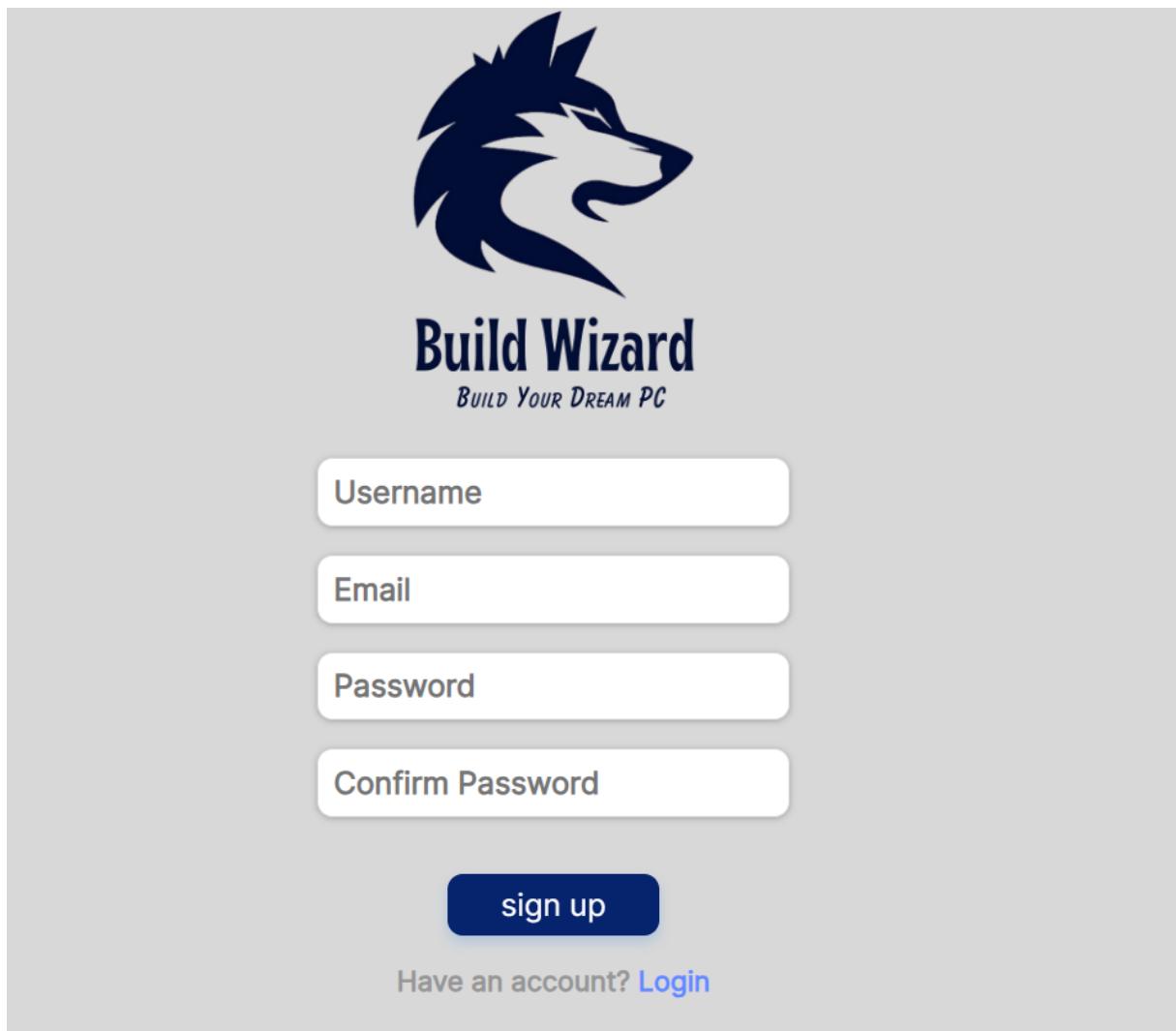


Figure 5.7: SignUp Page

5.1.8 Searching Page

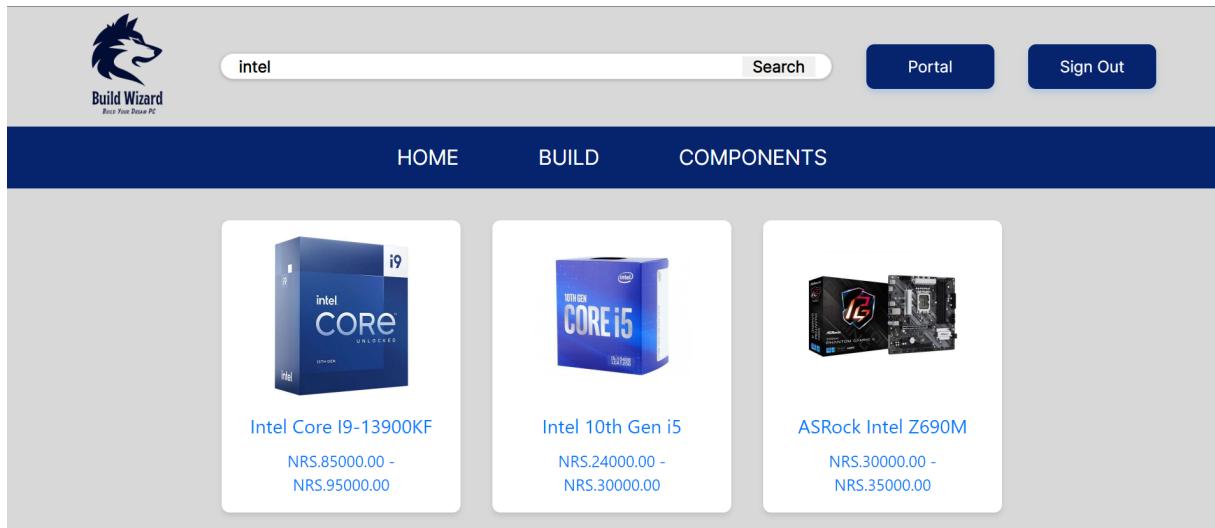


Figure 5.8: Searching Page

5.2 Conclusion

In conclusion, the Build Wizard project is an innovative online platform tailored for the Nepalese PC building community. It addresses compatibility challenges and facilitates price comparisons. This localized solution simplifies the PC building process, promoting informed decisions and enhancing the overall PC building experience in Nepal.

5.3 Future Recommendations

- **Vendors:** In future ,Local vendors can feature products.
- **Ordering System:** Odering and delivary system can be integrated.
- **Mobile Accessibility:** System will accessible and user-friendly on mobile devices, as many users may prefer to use it on smartphones or tablets.
- **Offline Customization:** This would allow users to customize the system and use it even when they don't have an internet connection. This can be particularly useful in situations where a stable internet connection is not guaranteed.

APPENDIX A

A.1 Project Schedule

Below is the Gantt chart of our project Schedule. We have planned to perform these specific tasks between these time frames.

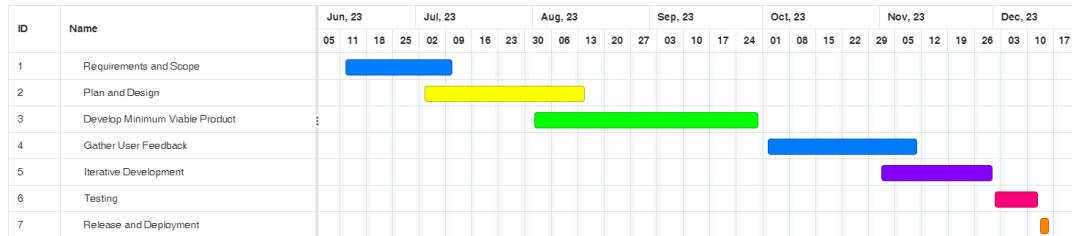


Figure A.9: Gantt Chart of Schedule

A.2 Setup Guide to run BuildWizard Locally

1. Prerequisite:
 - (a) XAMPP
 - (b) Operating System that support XAMPP.
 - (c) Internet Connection for CDN libraries.
 - (d) Project Files Cloned from Git Hub.
2. Clone Repo in htdocs/

```
git clone https://github.com/sujalmhrzn/BuildWizard
```
3. Open PhpMyAdmin by going into <http://localhost/phpmyadmin>
4. Create Database BuildWizard
5. Import Database sql file from folder cloned using Import button located in navbar.
6. Open XAMPP Control Panel.
7. Start Apache and MySQL Servers.
8. Run it on <http://localhost/> Build Wizard directory.

A.3 Running Hosted Build Wizard

1. Open Mobile/Desktop Browser .
2. Go to <https://github.com/sujalmhrzn/BuildWizard>

A.4 MySQL Connection in our Build Wizard PHP

```
<?php  
$servername = "localhost";  
$username = "root";  
$password = "";  
$dbname = "BuildWizard";  
  
$conn = new mysqli($servername, $username, $password, $dbname);  
  
if ($conn->connect_error) {  
    die("Connection failed: " . $conn->connect_error);  
}  
?>
```

A.5 Database

In the context of the PC part picker project, a database is a structured and organized collection of digital information. It stores essential data such as user profiles and component details. Following figures shows database of users.

	uid	u_name	u_password	u_email
▶	1	sujal	12345678	sujal@s.com
	2	sirjan	Sirjan123	sirjanshrestha1@gmail.com
	3	sirjan	sirjan123	sirjan2@gmail.com
*	NULL	NULL	NULL	NULL

Figure A.10: User Database

Following figures shows components database

	name	price	socket	form_factor	max_memory	memory_slots	color
▶	MSI MAG B550 TOMAHAWK	159.59	AM4	ATX	128	4	Black / Silv
	MSI B550-A PRO	138.39	AM4	ATX	128	4	Black / Silv
	MSI B550M PRO-VDH WIFI	101.99	AM4	Micro ATX	128	4	Black
	Gigabyte Z790 AORUS ELITE AX	249.99	LGA1700	ATX	128	4	Black
	Gigabyte B650 AORUS ELITE AX	199	AM5	ATX	192	4	Black / Silv
	Asus Prime B450M-A II	79.99	AM4	Micro ATX	128	4	None
	MSI MAG B650 TOMAHAWK WIFI	219.95	AM5	ATX	128	4	Black
	MSI MAG Z790 TOMAHAWK WIFI	259.99	LGA1700	ATX	192	4	Black
	Asus ROG STRIX B550-A GAMING	169.99	AM4	ATX	128	4	Black / Wh

Figure A.11: Motherboard Database

	name	price	type	interface	capacity	price
▶	Western Digital My Book Duo	1609.98	Desktop	USB Type-A 3.2 Gen 1, USB Type-C 3.2 Gen 1	36000	0.045
	Western Digital My Book Duo	829.99	Desktop	USB Type-A 3.2 Gen 1, USB Type-C 3.2 Gen 1	24000	0.035
	Western Digital ELEMENTS	54.99	Portable	USB Type-A 3.2 Gen 1	1000	0.055
	Western Digital WD_BLACK P10	119.99	Portable	USB Type-A 3.2 Gen 1	5000	0.024
	Western Digital My Book Duo	719.99	Desktop	USB Type-A 3.2 Gen 1, USB Type-C 3.2 Gen 1	20000	0.036
	Corsair EX100U	324.99	Portable	USB Type-C 3.2 Gen 2x2	4000	0.081
	Seagate Backup Plus Portable	89	Portable	USB Type-A 3.2 Gen 1	4000	0.022
	Sabrent Rocket XTRM-Q	None	Desktop	USB Type-C 3.2 Gen 2	16000	None
	Samsung T7 Shield	129.99	Portable	USB Type-C 3.2 Gen 2	2000	0.065

Figure A.12: External HDD

A.6 Supervisor Consultation Form

Tribhuvan University

Faculty of Humanities & Social Sciences, Lalitpur Engineering College

Department of Computer Application

Student & Supervisor Consultation Form

(BCA Project-I)

Notes:

Consultation form is the "Gate Pass" to participate in presentations

At least FIVE (new) consultations (evenly distributed) before Midterm Checkpoint

At least TEN (new) consultations (evenly distributed) before FINAL Checkpoint

Project Title	Build wizard : PC Part Picker
Student Name & CRN	Sujal Maharjan / LEC077BCA07
Supervisor Name	Sirjan Shrestha / LEC077BCA06 Er. Sandesh Sharan Poudel

S.N.	Summary of Discussion	Date	Supervisor Signature
1	UI design (HTML)	4/2	Sandesh
2	Database design - login (I)	4/6	Sandesh
3	Page integration	4/9	Sandesh
4	Home Page	4/11	Sandesh
5	Front End I	4/13	Sandesh
6	Database II	4/24	Sandesh
7	Components I	4/26	Sandesh
8	Front End II	4/27	Sandesh
9	Searching I	4/29	Sandesh
10	Session Configuration	5/1	Sandesh
11	Searching II	5/3	Sandesh
12	Component Selection	5/5	Sandesh
13	Price Estimation	5/8	Sandesh
14	Dashboard (Admin)	5/14	Sandesh
15	Overall Presentation	6/18	Sandesh


.....
Er. Bibat Thokar
Program Coordinator

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- [1] David Slovikosky, Danielle Sanchez, Jonathon Davis, and Lila Bozgeyikli. Pc builder hero: An immersive computer building workshop experience in virtual reality. In *Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion*, pages 283–288, 2019.
- [2] Gerard Romero Bujalance. Implementing a webpage that helps manage a custom pc build. B.S. thesis, Universitat Politècnica de Catalunya, 2021.
- [3] Sameer Khursheed, Muhammad Moiz Khan, Lachman Das, Shazia Usmani, and Uzma Afzal. Nice pc maker: An online interface to build custom pcs. *KIET Journal of Computing and Information Sciences*, 6(1):65–81, 2023.