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Web Generator

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Abstract

The Web Generator is a versatile app for creating personal websites and e-commerce platforms. Compatible with

Web Generator

The Web Generator is a contemporary tool designed to simplify the creation of websites and applications for users of all ages. It serves as an all-in-one solution for developing modern personal websites, as well as helping businesses establish their own e-commerce platforms. This versatile application is compatible with web browsers and can also be used on Android and iOS devices, making it accessible from virtually any device.

For individuals, the Web Generator provides an easy-to-use interface that guides users through the process of creating personalized websites. Whether you're tech-savvy or a complete beginner, this application offers intuitive features that allow you to customize your website to reflect your personal style and needs. You can choose from a variety of templates, add your own content, and tweak the design to make it truly yours.

For businesses, the Web Generator is an invaluable tool for setting up e-commerce sites. It helps companies create professional online stores where they can sell their products or services. The application includes features like shopping cart integration, payment gateway support, and inventory management, ensuring that businesses can manage their online presence efficiently. With its robust security measures, businesses can also ensure that their transactions are safe and secure. Overall, the Web Generator is a modern, user-friendly application that democratizes the process of website and app creation. By offering comprehensive tools for both personal and commercial use, it empowers users to build and maintain a strong online presence without needing extensive technical knowledge. This makes it an ideal solution for anyone looking to establish or enhance their digital footprint.

Structure of the document:

This document will be split into Six main Chapters

Chapter 1: Introduction

Chapter 2: Survey and Historical data

Chapter 3: Software life cycle and Analysis

Chapter 4: Design

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Chapter 1

Introduction

1.1 Web Generator Services

We chose the Web Generator project for our university initiative due to its wide-ranging applicability, educational value, and the potential impact it can have on various user groups. This project addresses the growing need for accessible digital tools that empower individuals and businesses to establish a robust online presence.

Firstly, the Web Generator aligns well with current technological trends, as more people and businesses seek to create websites and e-commerce platforms. By working on this project, we can delve into the intricacies of web development, mobile app development, and user experience design, offering us a comprehensive learning experience that covers both front-end and back-end technologies.

Secondly, this project offers a significant educational benefit. It provides a hands-on opportunity to apply theoretical knowledge from our coursework in real-world scenarios. We will engage with various programming languages, design principles, and security practices, enhancing our technical skills and preparing us for future professional endeavors.

Moreover, the Web Generator has a broad user base potential. By creating a tool that caters to both individuals looking to build personal websites and businesses aiming to set up e-commerce platforms, we ensure that our project is relevant and useful to a diverse audience. This inclusivity also means we can gain feedback from a varied user base, allowing us to refine and improve the application continuously.

Lastly, this project fosters creativity and innovation. It challenges us to think about user-friendly design, effective problem-solving, and seamless integration of multiple functionalities. This not only boosts our creativity but also encourages us to develop solutions that are both practical and innovative.

In summary, the Web Generator project is a strategic choice for our university initiative, offering extensive learning opportunities, broad applicability, and the potential to make a meaningful impact.

1.2 Problem Definition

In today's digital age, individuals and businesses alike face significant challenges in establishing a robust online presence. Many lack the technical skills required to create and manage modern websites and e-commerce platforms, which are essential for personal branding, professional networking, and commercial success. Traditional web development can be complex, time-consuming, and costly, posing a barrier especially for small businesses and individuals with limited resources.

Furthermore, existing website and e-commerce solutions often do not cater to the diverse needs of users, leading to a gap in accessibility and usability. There is a need for a comprehensive, user-friendly tool that simplifies the creation and management of websites and e-commerce platforms, making these digital services accessible to a broader audience.

This problem is compounded by the rapid evolution of web technologies, requiring constant updates and maintenance to ensure security and functionality. Users must navigate a maze of different software, plugins, and services, which can be overwhelming and inefficient.

Our solution, the Web Generator, addresses these issues by providing an all-in-one application that streamlines website and e-commerce development. It offers an intuitive interface, customizable templates, and robust security features, empowering users of all ages and technical backgrounds to build and maintain their online presence effectively and affordably. This approach not only democratizes web development but also supports the digital transformation essential for success in today's connected world.

1.3 Solutions Approach

Our solution to the problem of complex, inaccessible web development is the Web Generator, an all-in-one application designed to simplify the creation and management of modern websites and e-commerce platforms. Our approach involves several key strategies to ensure the tool is user-friendly, versatile, and effective for a wide range of users.

1. Intuitive User Interface: We will design an easy-to-navigate interface that requires no prior technical knowledge. Users can choose from various templates and drag-and-drop elements to customize their websites. This approach ensures that even beginners can create professional-looking sites without extensive training.
2. Comprehensive Features: The Web Generator will include essential features for both personal and business websites. For individuals, it offers blogging tools, portfolio layouts, and social media integration. For businesses, it provides e-commerce functionalities such as product listings, shopping cart, payment gateways, and inventory management.
3. Cross-Platform Compatibility: The application will be accessible via web browsers, Android, and iOS devices, ensuring users can build and manage their websites from any device. This flexibility is crucial for meeting the diverse needs of our target audience.
4. Robust Security: We will implement strong security measures, including SSL certificates, data encryption, and regular updates to protect against vulnerabilities. This ensures that user data and transactions are safe, building trust with our user base.
5. Continuous Support and Updates: To keep up with evolving web technologies and user needs, the Web Generator will offer ongoing support and updates. This includes adding new features, improving existing functionalities, and ensuring compatibility with the latest devices and software.

By integrating these strategies, the Web Generator aims to democratize web development, making it accessible, affordable, and efficient for individuals and businesses alike. This solution approach addresses the current gaps in the market and supports users in establishing and maintaining a strong online presence.

1.4 Objectives Of The Project

Accessibility: Develop an intuitive, user-friendly interface that allows individuals and businesses of all technical skill levels to create and manage websites and e-commerce platforms effortlessly.

Comprehensive Features: Provide a wide range of customizable templates and features tailored for personal websites, blogs, portfolios, and e-commerce needs, ensuring versatility for various user requirements.

Cross-Platform Compatibility: Ensure the Web Generator is accessible on web browsers, Android, and iOS devices, offering flexibility for users to build and maintain their websites from any device.

Security: Implement robust security measures, including SSL certificates and data encryption, to protect user information and ensure safe transactions, building trust with users.

Scalability and Updates: Offer continuous support and regular updates to incorporate new features, improve performance, and adapt to evolving web technologies and user needs.

Affordability: Create an affordable solution that reduces the cost barriers associated with traditional web development, making professional website creation accessible to a broader audience.

1.5 Advantages

Ease of Use: The Web Generator's intuitive interface allows users of all ages and technical backgrounds to create professional websites and e-commerce platforms without needing coding skills. This democratizes web development and enables a broader range of people to participate in the digital economy.

Cost-Effective: By providing an affordable alternative to traditional web development services, the Web Generator lowers financial barriers. Small businesses and individuals can establish an online presence without incurring high costs, promoting economic inclusion and entrepreneurial activity.

Versatility: With customizable templates and features, the Web Generator caters to diverse needs—from personal blogs and portfolios to fully functional e-commerce sites. This flexibility helps users create websites that align with their specific goals, enhancing user satisfaction and engagement.

Cross-Platform Accessibility: The application's compatibility with web browsers, Android, and iOS devices ensures users can build and manage their websites from any device, enhancing convenience and productivity.

Robust Security: Implementing strong security measures such as SSL certificates and data encryption protects user data and transactions. This builds user trust and encourages more online interactions and transactions, bolstering digital commerce.

Continuous Support and Updates: Regular updates and support ensure the Web Generator remains up-to-date with the latest technologies and user needs. This helps users maintain modern, secure, and functional websites, enhancing their online presence.

Economic Growth: By enabling more businesses to enter the online marketplace, the Web Generator stimulates economic growth. Increased digital commerce can lead to job creation, higher business revenues, and a more vibrant economy.

Digital Literacy and Inclusion: As more individuals use the Web Generator, overall digital literacy improves. This contributes to a more digitally inclusive society, where people are better equipped to leverage technology for personal and professional growth.

1.6 Tools

Product Perspective: A generator application contains the following:

- Users: It include all the Users in the application .
- Admin: It include all the admins in the application.

1.6.1 Application Function

- By using this System/Application the User have to sign up/sign in so he can use all the features, he can choose to create project that he wants then apply to it, Also he can see all Project styles and attributes
- After done the changes and add his/her information, he can export that project as zip file
- By using this System/Application the User have to make payment so to able to get project coins So can use it and create his project as he/she like

1.6.2 Main Work

Adobe XD: is a vector-based digital design tool for sites and programs. Use it to create and collaborate on everything from prototypes into mockups to full designs. XD stands for “Experience Design,” and is Adobe’s successful new all-in-one UX/UI solution to quickly go from concept to prototype in designing sites, mobile apps, and much more.

Adobe XD is designed and constructed with cellular and net experiences in your mind, but the applications for it go much farther. Globally, design teams are leveraging the strong features in Adobe XD for their full experience design procedure and a whole lot more.

Provides:

- Stacks and Padding
- Components & States
- 3D Transforms
- Shareable Libraries
- Plugins
- Prototype



1.6.2 Main Work

Figma: is a vector-based digital design tool for sites and programs. Use it to create and collaborate on everything from prototypes into mockups to full designs. Stands for “Experience Design,” and is Adobe’s successful new all-in-one UX/UI solution to quickly go from concept to prototype in designing sites, mobile apps, and much more.

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Provides:

- Stacks and Padding
- Components & States
- 3D Transforms
- Shareable Libraries
- Plugins
- Prototype



Visual Studio Code: is a dual-licensed source-code editor made by Microsoft for Windows, Linux and macOS. In the Stack Overflow 2019 Developer Survey, Visual Studio Code was ranked the most popular developer environment tool, with 50.7% of 87,317 respondents reporting that they use it. Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js, Python and C++. It is based on the Electron framework, which is used to develop Node.js Web applications that run on the Blink layout engine. Visual Studio Code employs the same editor component (codenamed "Monaco") used in Azure DevOps (formerly called Visual Studio Online and Visual Studio Team Services).



Visual Studio Code

Android Studio: Is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development.

It is available for download on Windows, macOS and Linux based operating systems or as a subscription-based service in 2020. It is a replacement for the Eclipse Android Development Tools (E-ADT) as the primary IDE for native Android application development



Spyder: is an open-source cross-platform integrated development environment (IDE) for scientific programming in the Python language.

Spyder, the Scientific Python Development Environment, is a free integrated development environment (IDE) that is included with Anaconda. It includes editing, interactive testing, debugging, and introspection features.

Spyder is a free and open source scientific environment written in Python, for Python, and designed by and for scientists, engineers and data analysts. It features a unique combination of the advanced editing, analysis, debugging, and profiling functionality of a comprehensive development tool with the data exploration, interactive execution, deep inspection, and beautiful visualization capabilities of a scientific package.

Spyder is extensible with first-party and third-party plugins, includes support for interactive tools for data inspection and embeds Python-specific code quality assurance and introspection instruments, such as Pyflakes, Pylint and Rope. It is available cross-platform through Anaconda, on Windows, on macOS through MacPorts, and on major Linux distributions such as Arch Linux, Debian, Fedora, Gento Linux, OpenSUSE and Ubuntu



1.6.3 Website Content

The **front-end** of a website is merely how the information is presented to the users, and it fetches everything from the backend to display in user browsers.

HTML (HyperText Markup Language) is used to design web pages using a markup language. Hypertext defines the link between the web pages. A markup language is used to define the text document within tag which defines the structure of web pages. HTML is a markup language that is used by the browser to manipulate text, images, and other content to display it in the required format.

CSS (Cascading Style Sheets) is a stylesheet language used to design the webpage to make it attractive. The reason for using CSS is to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.

JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative (e.g. functional programming) styles.



Font Awesome is the Internet's icon library and toolkit, used by millions of designers, developers, and content creators.

Font Awesome contains over 7,000 new icons, so you're sure to find what you need for your project. Plus they're more consistent and easier to use.

Font Awesome 6 makes it even easier to use icons where you want to. More plugins and packages to match your stack. Less time wrestling browser rendering.



The backend of a website is the place that contains all the data and relevant information that is to be shown to the visitors with the help of a browser and Code written by back-end developers helps to communicate the database information to the browser.

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases.

PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.

It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.



Laravel is a web application framework with expressive, elegant syntax. We've already laid the foundation — freeing you to create without sweating the small things.

Laravel is a web application framework with expressive, elegant syntax. We believe development must be an enjoyable, creative experience to be truly fulfilling. Laravel attempts to take the pain out of development by easing common tasks used in the majority of web projects, such as authentication, routing, sessions, and caching.



MySQL Language is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of cofounder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web applications, including Drupal, Joomla, phpBB, and WordPress. MySQL is also used by many popular websites, including Facebook, Flickr, MediaWiki, Twitter, and YouTube.



XAMPP stands for Cross-Platform (X), Apache (A), MySQL (M), PHP (P) and Perl (P). is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.



1.6.4 Mobile Content

Flutter using dart:

Is an open-source UI software development kit created by Google. It is used to develop cross platform applications for Android, iOS, Linux, Mac, Windows, Google Fuchsia, and the web from a single codebase. Flutter apps are written in the Dart language and make use of many of the language's more advanced features. On Windows, macOS, and Linux Flutter runs in the Dart virtual machine, which features a just-in-time execution engine. While writing and debugging an app, Flutter uses Just In Time compilation, allowing for "hot reload", with which modifications to source files can be injected into a running application. Flutter extends this with support for stateful hot reload, where in most cases changes to source code are reflected immediately in the running app without requiring a restart or any loss of state.

Flutter has more app-specific libraries, more often on user interface elements like:

- Widget: common app elements, like the Text or ListView.
- Material: containing elements following Material design, like FloatingActionButton.
- Cupertino: containing elements following current iOS designs, like CupertinoButton.



Dart Is a programming language designed for client development, such as for the web and mobile apps. It is developed by Google and can also be used to build server and desktop applications. Dart is an object-oriented, class-based, garbage-collected language with C-style syntax. Dart can compile to either native code or JavaScript. It supports interfaces, mixins, abstract classes, reified generics, and type inference.

Coding in Dart look Like most ALGOL languages (like C# or Java):

The entry point of a Dart class is the main() method. This method acts as a starting point for Flutter apps as well.

Dart classes only support single inheritance. There can be only one superclass for a particular class but it can have many implementations of Interfaces.

Abstraction works in a similar manner, allowing abstract classes and interfaces.

Unlike them (and sometimes a bit like JavaScript).

Dart has type inference. The data type of a variable need not be explicitly declared, as Dart will “infer” what it is. In Java, a variable needs to have its type explicitly given during declaration.

For example, String something; But in Dart, the keyword is used instead like so, var something;. The code treats the variable according to whatever it contains, be it a number, string, bool or object.

-All data types are objects, including numbers. So, if left uninitialized, their default value is not a 0 but is instead null.



1.6.5 Artificial intelligent Content

Python is a high-level scripting language. It has a growing ecosystem of libraries, frameworks, and tools. These tools and libraries are equipped with pre-written codes, that help users to perform a myriad of functions while saving an adequate amount of time spent in code generation.

Pandas: Pandas is a versatile library used for data manipulation and analysis. It introduces two primary data structures: DataFrame and Series. DataFrames are 2-dimensional, size-mutable and heterogeneous tabular data structures with labeled axes (rows and columns), similar to Excel spreadsheets or SQL tables. Series are 1-dimensional arrays with labels. Pandas supports data alignment, missing data handling, and time series operations, making it indispensable for data preprocessing, cleaning, and transformation.

NumPy: NumPy (Numerical Python) is the core library for numerical computations in Python. It provides support for arrays, matrices, and a collection of mathematical functions to operate on these data structures. NumPy arrays (ndarrays) are more efficient for large-scale numerical data operations than Python lists. It includes functionalities for linear algebra, random number generation, and Fourier transforms, making it essential for scientific and engineering computations.

NLTK (Natural Language Toolkit): NLTK is a comprehensive library for natural language processing (NLP) in Python. It provides tools for working with human language data, including tokenization, part-of-speech tagging, stemming, lemmatization, parsing, and semantic reasoning. NLTK also offers access to various text corpora and lexical resources. It is widely used in research and education for building and testing NLP models.

re: The re module provides support for regular expressions, which are patterns used to match sequences of characters in text. Regular expressions are useful for string manipulation tasks such as searching, replacing, and splitting strings based on complex patterns. The re module enables operations like searching for patterns, extracting substrings, and validating string formats.

Scikit-learn (sklearn): Scikit-learn is a powerful machine learning library that provides simple and efficient tools for data mining and data analysis. Built on NumPy, SciPy, and matplotlib, it includes a wide range of machine learning algorithms for classification, regression, clustering, and dimensionality reduction. It also offers tools for model selection, evaluation, and preprocessing.

Metrics: The metrics module in scikit-learn provides functions to evaluate the performance of machine learning models. It includes a variety of scoring functions and metrics for classification (accuracy, precision, recall, F1 score, ROC-AUC), regression (mean absolute error, mean squared error, R² score), and clustering (adjusted Rand index, silhouette score). These metrics are crucial for assessing model effectiveness and making informed decisions.

Pairwise: The pairwise module in scikit-learn includes functions to compute pairwise distances and similarities between samples or sets of samples. This module provides various metrics such as Euclidean distance, Manhattan distance, cosine similarity, and linear kernel. Pairwise metrics are used in algorithms like nearest neighbors, clustering, and kernel methods.

Cosine Similarity: Cosine similarity is a metric used to measure the similarity between two non-zero vectors in an inner product space. It is defined as the cosine of the angle between the vectors, yielding a value between -1 and 1. In text mining and NLP, cosine similarity is used to compare the similarity of documents based on term frequency vectors. It is useful in applications like document clustering, information retrieval, and recommendation systems.

NetworkX: NetworkX is a library for the creation, manipulation, and study of complex networks (graphs). It provides tools to work with both undirected and directed graphs, including algorithms for shortest path, clustering, centrality measures, and network visualization. NetworkX supports various types of graphs such as simple graphs, multigraphs, and weighted graphs, making it a powerful tool for network analysis in fields like social network analysis, biology, and computer science.

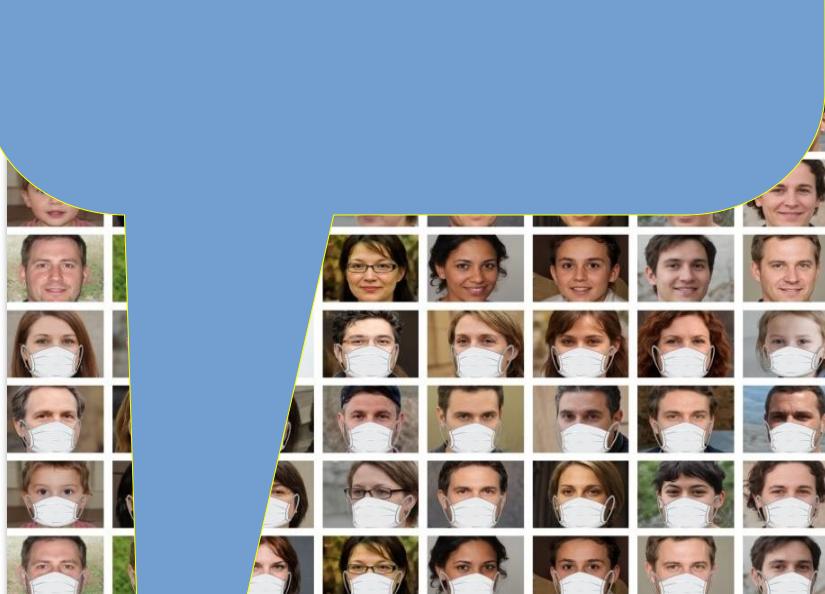
These libraries collectively enable Python developers to perform a wide range of tasks, from data manipulation and numerical computation to natural language processing, machine learning, and network analysis, making them essential tools for modern data science and analytics.

Cosine similarity is a measure used to determine how similar two vectors are in a multidimensional space. While

Data Sets Used

This dataset contains:

- with_mask
- without_mask



Training:

Transfer learning:

This is a common way to develop the neural network.

Three benefits to transfer learning:

- save time in training a new model and a hidden layer
- we don't need to train from scratch; high accuracy
- save time to fine-tune the pre-trained model during training.

and time needed

time out layer

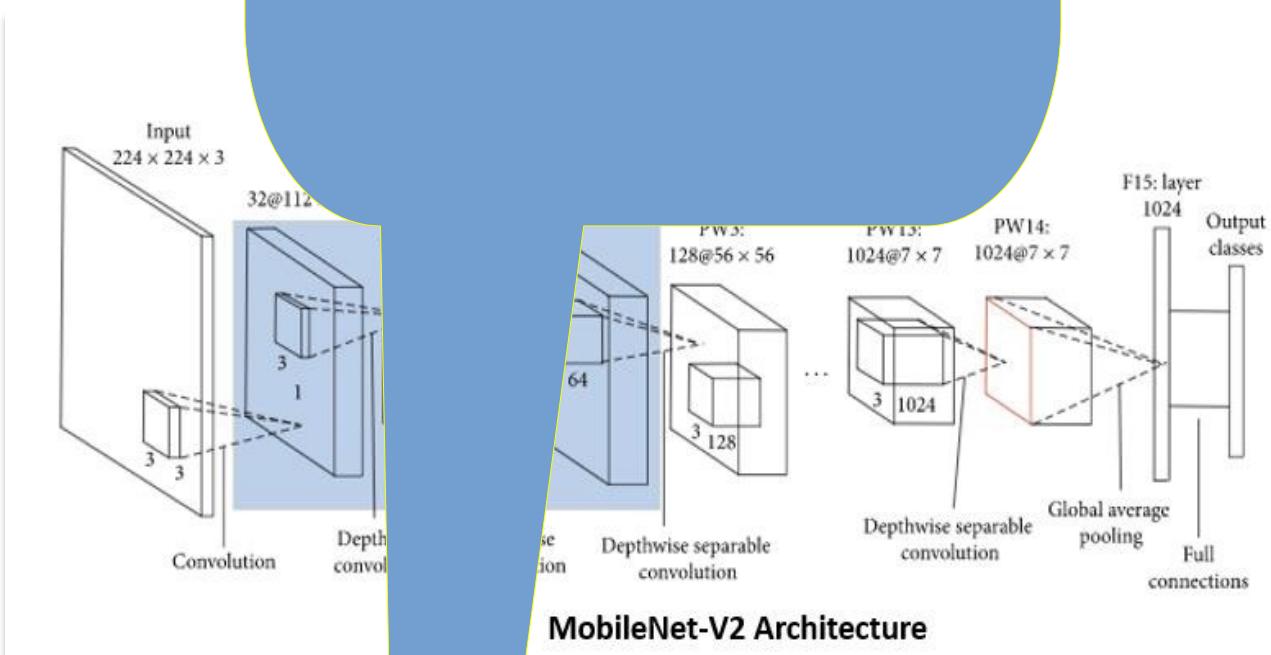
; high accuracy

MobileNetV2 class

for embedded

vision applications

- It consists of two main parts: a backbone and a head.
- Second layer of backbone uses depthwise separable convolution but not standard convolution but with non-linear activation function, Dense, Dropout function.



MobileNet-V2 Architecture

1.6.6 Algorithm Content

Cosine similarity is a measure used to determine how similar two vectors are in a multidimensional space. While it's often discussed in the context of text analysis, it can also be applied to image analysis.

In the case of images, cosine similarity can be used to compare their visual features. Here's how it works: Feature Extraction: Before calculating cosine similarity, we typically extract features from the images. These features could be pixel values, color histograms, texture descriptors, or more complex features extracted using convolutional neural networks (CNNs).

Vector Representation: Once we have extracted the features, each image is represented as a vector in a high-dimensional space. Each dimension of the vector corresponds to a particular feature.

Calculating Cosine Similarity: To measure the similarity between two images, we calculate the cosine of the angle between their feature vectors. Cosine similarity ranges from -1 to 1, with 1 indicating that the images are identical and -1 indicating that they are completely dissimilar.

Interpreting the Results: A cosine similarity value close to 1 indicates that the images are similar in terms of their visual features, while a value close to -1 suggests that they are dissimilar. A value around 0 suggests that there is little to no similarity between the images.

Applications of cosine similarity in image analysis include image retrieval, content-based image retrieval (CBIR) systems, image clustering, and image recommendation systems. It allows us to efficiently compare images and retrieve those that are visually similar to a given query image, which can be valuable in various domains such as e-commerce, digital asset management, and multimedia databases.

But, when we combine all these vulnerable learners, they become strong learners. They become strong learners because their predictive power, accuracy, precision are high. And the error rate is less. We call this type of combined model ‘Meta-learning’ in machine learning. It refers to learning algorithms that can learn from other learners. This is also called ‘ensemble learning’. It decreases bias, and improves precision. It is like a ‘Nirvana’ moment as a data analyst.

Neighborhood Topologies

A neighborhood must be defined to define social interaction within the swarm. Interaction occurs when the neighbors are close. Convergence will be slower, but faster for more prominent neighborhoods.

This is the extent of social interaction. Less neighborhoods, the convergence will be faster as convergence occurs earlier.

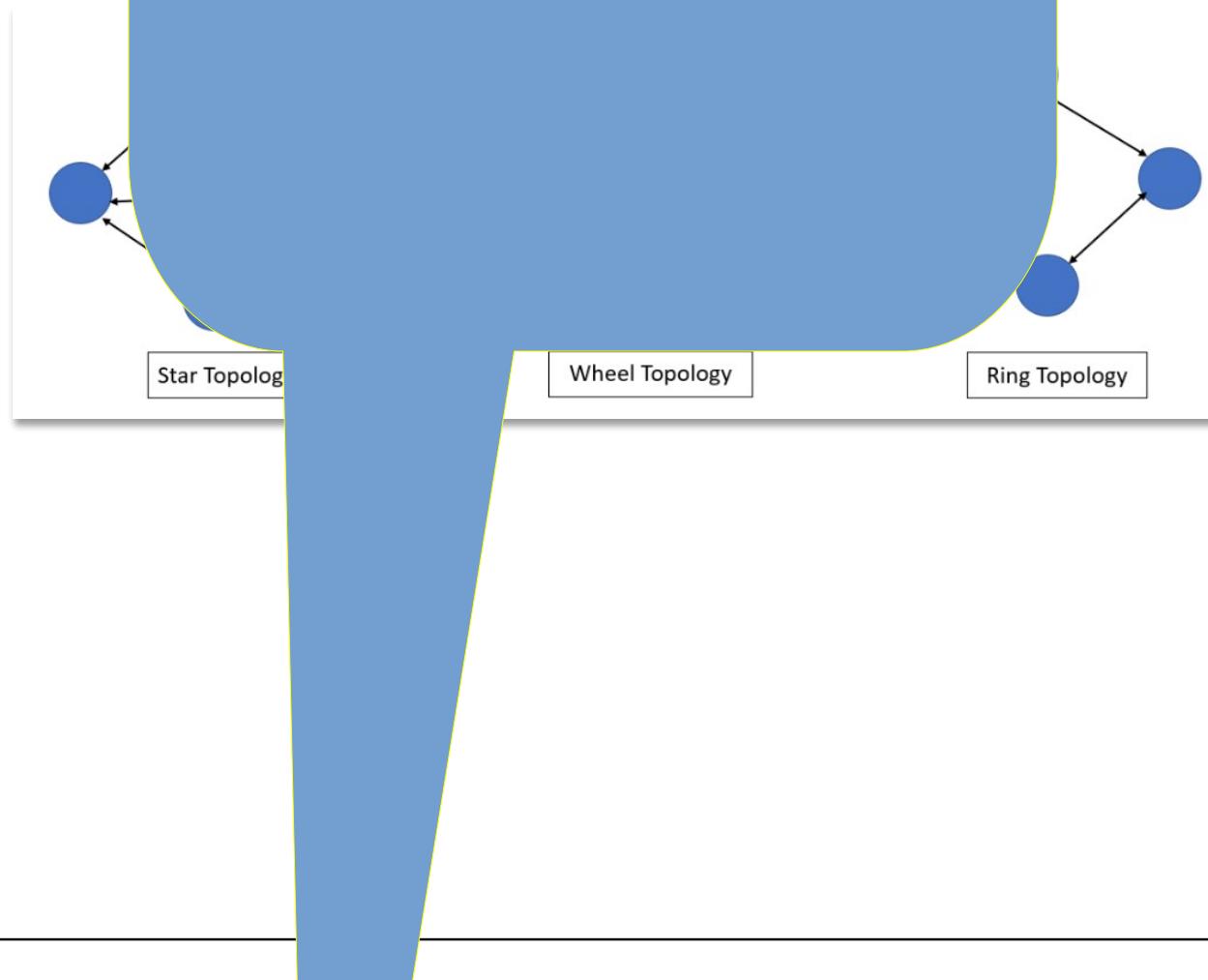
Advantages of Particle Swarm Optimization

- Insensitive to scaling of variables.
- Easily parallelized for computation.
- Derivative free.
- Very few algorithm parameters.
- A very efficient global search algorithm.

The difference between PSO and Genetic Algorithms is that PSO does not traverse the search space like birds flocking, covering many points in the space. Instead, it is more like Monte Carlo, where the candidate solution is picked to compete with a new set of random solutions. After normalization of the input vectors to represent them as unit vectors, the particles don't truly converge). GAs can work well in discrete spaces.

GAs are more randomized, and the best solutions are found by chance. Also, PSO algorithms require “convergence” (as heuristic algorithms, both continuous and discrete).

Genetic Algorithms (GAs) and PSOs are both used as cost functions, they are both iterative, and they both have search space. The difference between PSOs and GAs is that PSOs are like Monte Carlo, which compete with each other to find the global optimization of the input space. Once the input space converges, the algorithm stops. Also, In PSO, the particles move on a landscape and interact with other creatures.



Chapter 2

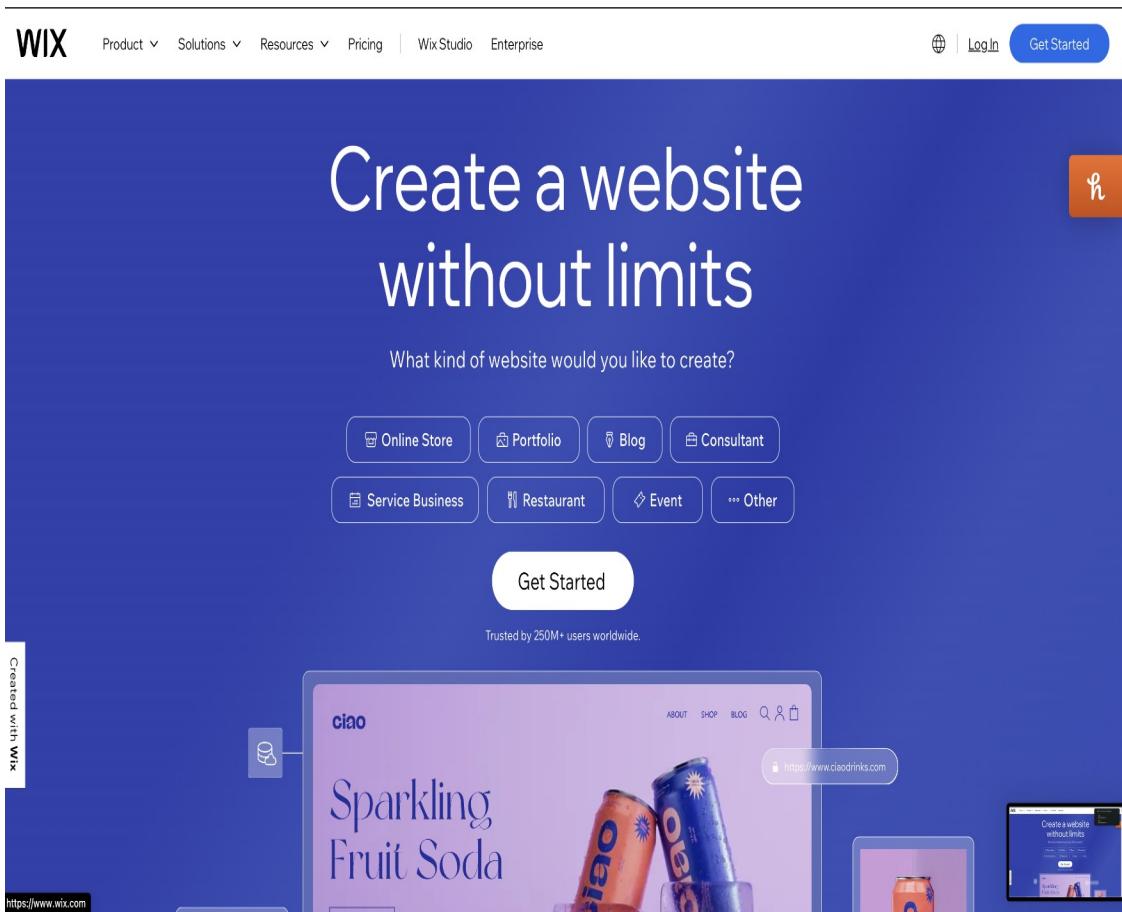
Survey & Historical data

2.1 Historical data

We take some ideas from this websites, we adjust and add more features to be more easier and flexible.

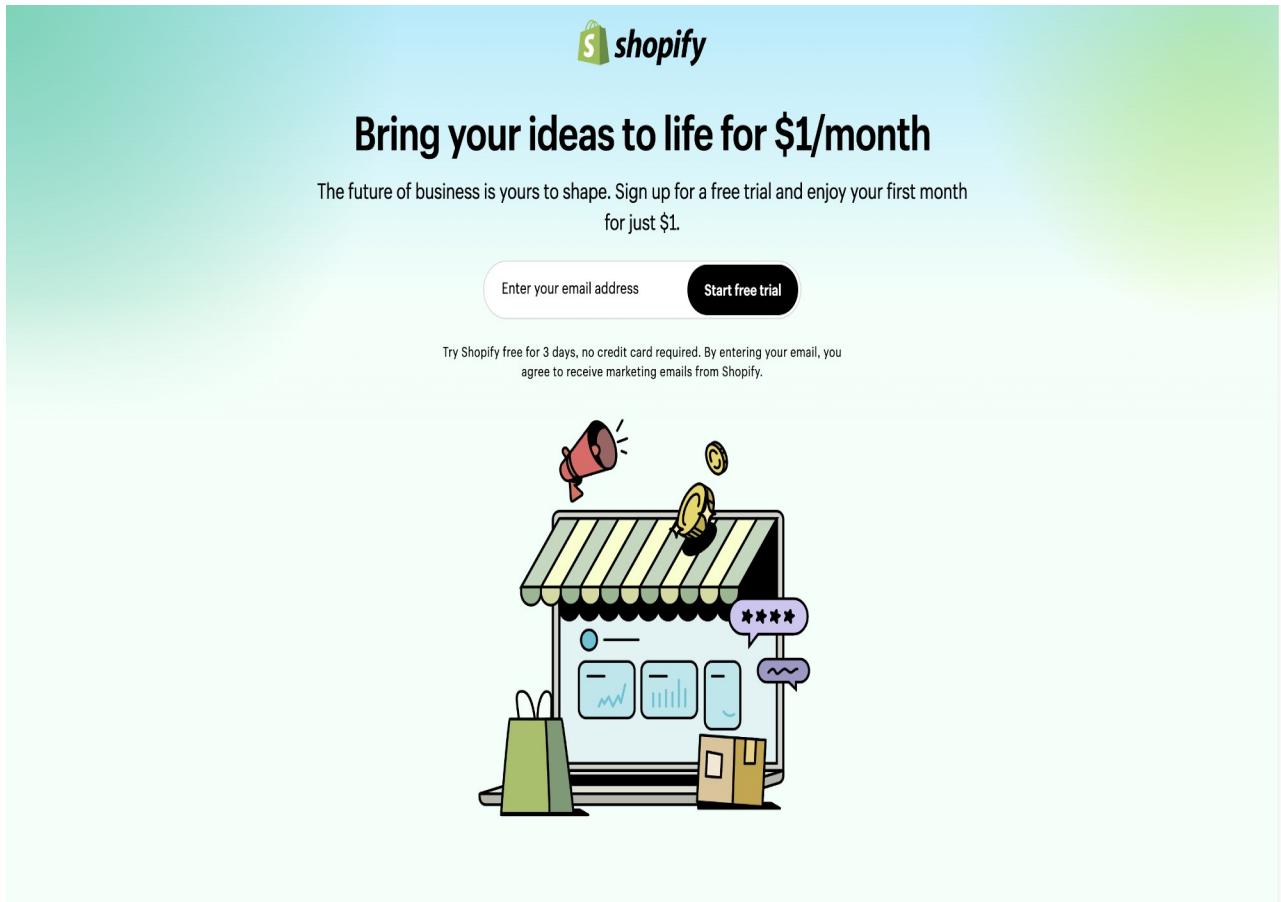
2.1.1 Wix

Wix is a cloud-based website development platform that allows users to create professional-looking websites with



2.1.2 Shopify

Shopify is a leading e-commerce platform that allows individuals and businesses to create and manage online stores. With Shopify, users can choose from a variety of professionally designed templates to create their online store's visual identity.

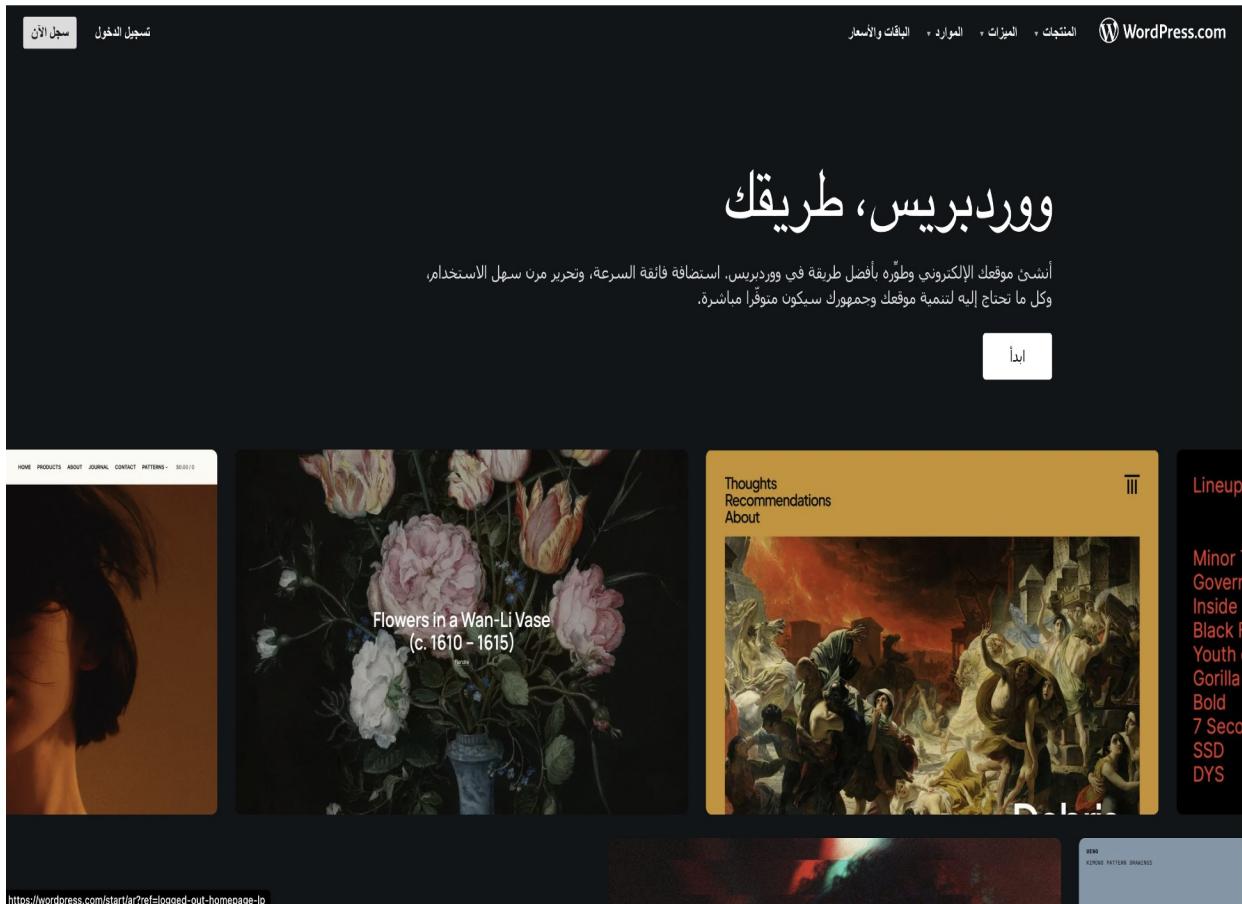


2.1.3 Wordpress

WordPress is a versatile and widely-used content management system (CMS) that allows users to create and manage websites.

WordPress offers a user-friendly interface and a wealth of customizable themes and plugins, making it accessible to users of all skill levels.

One of the key strengths of WordPress is its flexibility and scalability. Whether users need a simple blog, a portfolio,



2.1.3 Weebly

Weebly is a user-friendly website builder that allows individuals and businesses to create professional-looking websites without requiring any coding skills. It provides an intuitive drag-and-drop interface, making it easy for users of all skill levels to design and customize their websites.

With Weebly, users can choose from a variety of professionally designed templates to create their website's visual appearance. These templates cover a range of industries and purposes, including business websites, online stores, portfolios, blogs, and more. Users can customize these templates by adding text, images, videos, and other content to create a unique and personalized website.

The screenshot shows the Weebly website builder interface. At the top, there is a navigation bar with links for 'Websites', 'Online Stores', 'Pricing', 'More ▾', the 'weebly' logo, and 'eCommerce by Square'. To the right are 'Log In' and 'Sign Up' buttons. The main headline reads 'Build a professional website that grows with your business.' Below this is a large image of a smiling man with a beard. To his right is a preview of a website for 'NATURE'S KINDLE' featuring a product page for a '4oz Reed Diffuser' priced at \$15.00. The bottom section contains another headline: 'Build a free website that grows with your business.' and a note: 'Get access to customizable webpage designs and useful tools to build your website and'.

Chapter 3

Software life cycle & Analysis

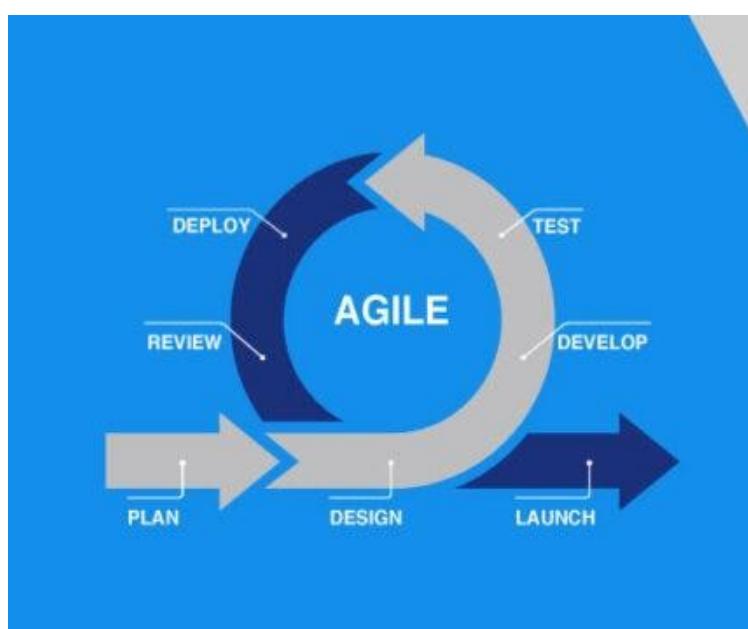
3.1 Project Development Methodology (phases)

The characteristics of the agile methodology in software development, it helps to maximize the productivity as the project is divided into short iterations.

3.1.1 Software Developments Method :

The systems development life cycle (SDLC), or software development process in systems engineering, information systems and software engineering, is a process of creating or altering information systems, and the models and methodologies that people use to develop these systems. It consists of a set of steps or phases in which each phase of the SDLC uses the results of the previous one.

Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams. Agile methods or Agile processes generally promote a disciplined project management process that encourages frequent inspection and adaptation, a leadership philosophy that encourages teamwork, self-organization and accountability, a set of engineering best practices intended to allow for rapid delivery of high-quality software, and a business approach that aligns development with customer needs and company goals. Agile development refers to any development process that is aligned with the concepts of the Agile Manifesto.



3.1.2 Software Lifecycle Phases :

The agile lifecycle is a structured series of stages that a product goes through. It consists of six phases

- Requirements collection
- Design
- Coding
- Testing
- Implementation And Maintenance
- review

Requirements Phase: Stakeholders conduct an overall project assessment to determine the time and resources required for the development process. At the same stage, the owner assesses the risks and prioritizes the various functions depending on their business value.

Design Phase: The software owner meets with the software development team and introduces them to the requirements outlined in the first step. The group then discusses the sequence for introducing functions and identifies the essential tools – the programming language, syntax libraries, and basic frameworks. At the same stage, software development teams can prototype the expected user interface.

Coding Phase: After agreeing on the plan with the customer, the team develops the product itself. The product is delivered in stages, in separate sprints, each designed to improve the current version of the product. The initial release is likely to undergo many changes to provide improved functionality and new features.

Testing Phase: At this point, the product becomes available to consumers, so the team must conduct a series of tests to ensure that the software is fully functional. If potential bugs or flaws are found, the developers will fix them immediately. At this stage, they also collected consumer feedback.

Testing Phase: At this point, the product becomes available to consumers, so the team must conduct a series of tests to ensure that the software is fully functional. If potential bugs or flaws are found, the developers will fix them immediately. At this stage, they also collected consumer feedback.

Implementation And Maintenance Phase: The software is now fully deployed and available to customers. This action puts him in the maintenance phase. During this phase, the software development team provides ongoing support to keep the system running smoothly and fix any new bugs. Over time, further iterations are possible to update an existing product or add other functionality.

Review Phase: That is the last stage of the Agile development cycle. After completing all the previous stages of development, the development team presents to the owner the result achieved in meeting the requirements. After that, the Agile software development phases start over – either with a new iteration or moving to the next stage and scaling Agile.

3.2 Requirements

3.2.1 Requirements Analysis:

The first step in building a desired software product is to extract its requirements. While consumers may feel they understand what the programmed is supposed to accomplish, recognizing incomplete, unclear, or conflicting requirements may need expertise and experience in software engineering.

3.2.2 System Requirements:

- Software:
 - For the PCs need them with Windows 7 or Higher for the web application but we request higher for the mobile application to have higher performance in the Android studio.
 - For constructing the database we need MY SQL.

- For designing the interface and prototype of the web application and mobile application we use Adobe Xd and Figma
- For developing the web application we use HTML, CSS, JS, PHP, Laravel
- For the mobile application we used flutter
- For database we used Mysql
- For artificial intelligence we used Pandas, Numpy, Nltk, Re, Sklearn, Metrics, Pairwise, Cosine_similarity, Networkx

3.2.3 Software Requirements Specification:

- **Functional Requirements**
 - System Admin :
 - Sign In
 - View Users
 - View Transactions
 - System Customer :
 - Sign In
 - Sign Up
 - View Projects
 - Select Project
 - Project Studio
 - Buy Projects Coins
 - Checkout
 - Export Project
 - Delete Project
- **Nonfunctional Requirements**
 - Usability: The system have friendly and smooth interface that makes the user find what he wants without any effort
 - Availability: The system will be available on 24 hours on 7 days this will be on the semester only.
 - Supportability: The system will be built using many tools like MY SQL for database, HTML and PHP/Laravel for website & Flutter for mobile app, Pairwise, Cosine_similarity, Networkx for AI

3.2.4 System Users:

In the system we have two main users:

- 1- Admin.
- 2- Customer.

3.2.5 Tools:

- For Web and app design and prototype using AdobeXd/Figma
- For Web Development (Front-end) using Visual Studio Code:
 1. HTML Language (Hyper Text Markup Language).
 2. CSS (Styling Language).
 3. Java Script (Scripting Language).
- For Web Development (Back-end) using Visual Studio Code: PHP (programming language)
- Laravel 8.
- For Mobile Application using Android Studio: Flutter.
- For databases using XAMPP: Mysql
- For Ai using Spyder: Pandas,Numpy,Nltk,Re,Sklearn,Metrics,Pairwise,Networkx
- For Algorithm using Cosine_similarity

3.3 System Design :

The purpose of Design phase is to plan a solution for a problem specified by the requirements. System design aims to identify the modules that should be exist in the system, the specification of those modules and how they interact with each other to produce the results. The goal of the design process is to produce a model that can be used later to build that system. The produced model is called design of the system. System design is the process of defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirements.

Normally, the design proceeds in two stages:

- Physical design is a graphical representation of a system showing the system's internal and external entities and the flow of data into and out of these entities. An internal entity is an entity within the system that transforms data. To represent it, we use diagrams like use case diagrams, etc.
- Database design: It's the implementation of the schema into a database.

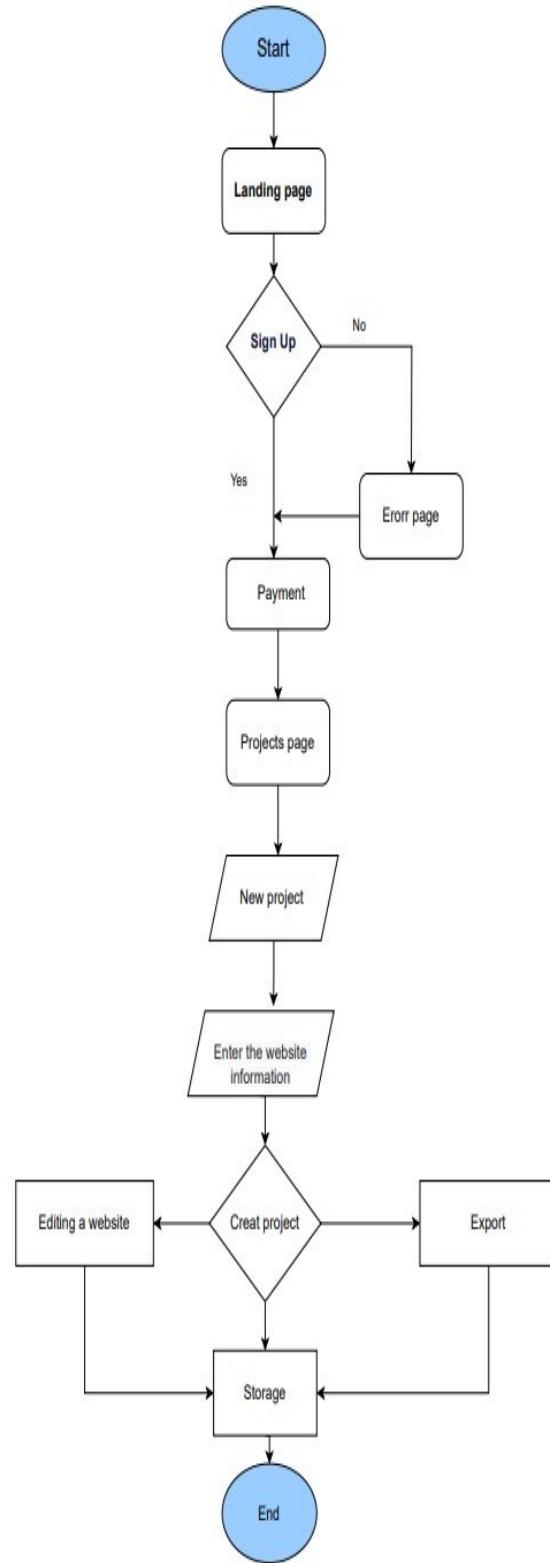
Chapter 4

Design

4.1 Flow Chart Diagram (Software)

The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields

Flowcharts are used in designing and documenting simple processes or programs. Like other types of diagrams, they help visualize what is going on and thereby help understand a process, and perhaps also find less-obvious features within the process, like flaws and bottlenecks.



4.4 Entity relationship diagram (ERD):

An Entity Relationship Diagram (ERD) is a visual representation of different entities within a system and how they relate to each other.

They are widely used to design relational databases. The entities in the ER schema become tables, attributes and converted the database schema. Since they can be used to visualize database tables and their relationships it's commonly used for database troubleshooting as well.

Entity relationship diagrams are used in software engineering during the planning stages of the software project. They help to identify different system elements and their relationships with each other.

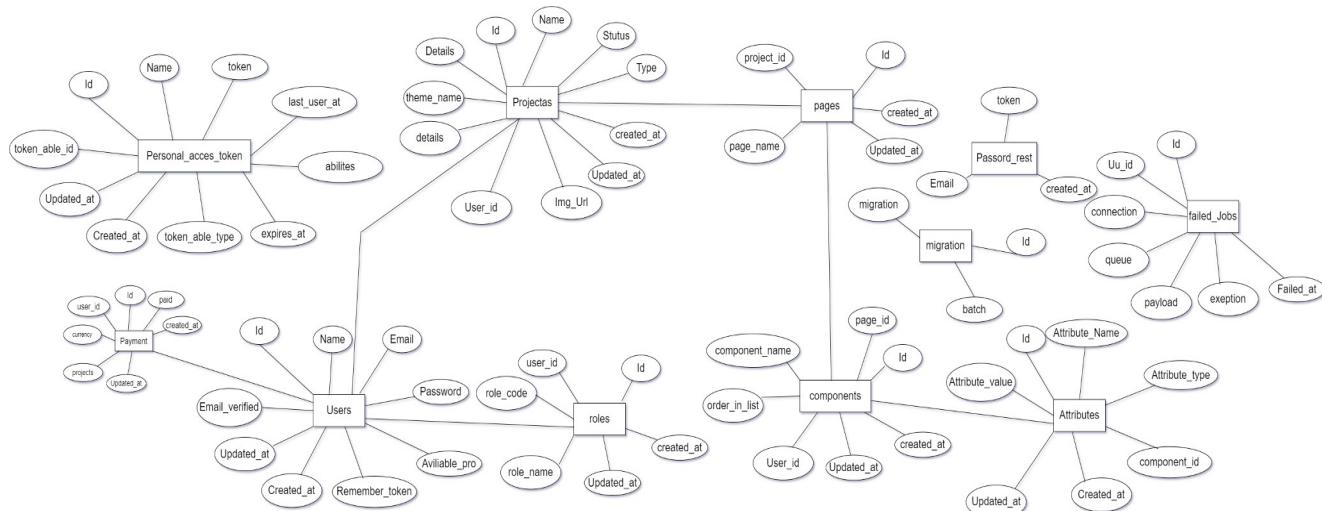


Figure 4.4 ERD

4.5 Sequence diagram

Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.

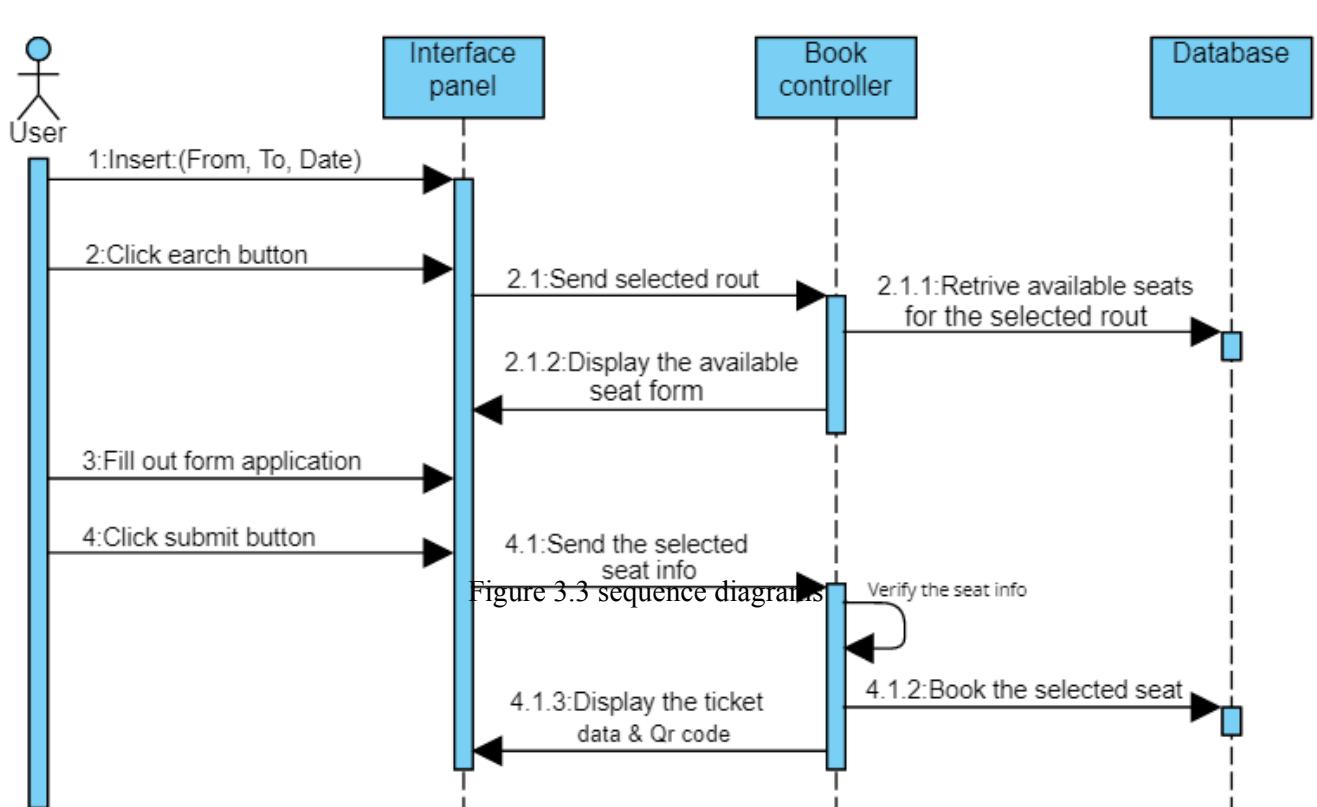


Figure 4.5 sequence diagram

4.6 Use Case Diagram

use case diagram is the primary form of system/software requirements for a new software program underdeveloped. Use cases specify the expected behavior (what), and not the exact method of making it happen (how). Use cases once specified can be denoted both textual and visual representation (i.e. use case diagram). A key concept of use case modeling is that it helps us design a system from the end user's perspective. It is an effective technique for communicating system behavior in the user's terms by specifying all externally visible system behavior.

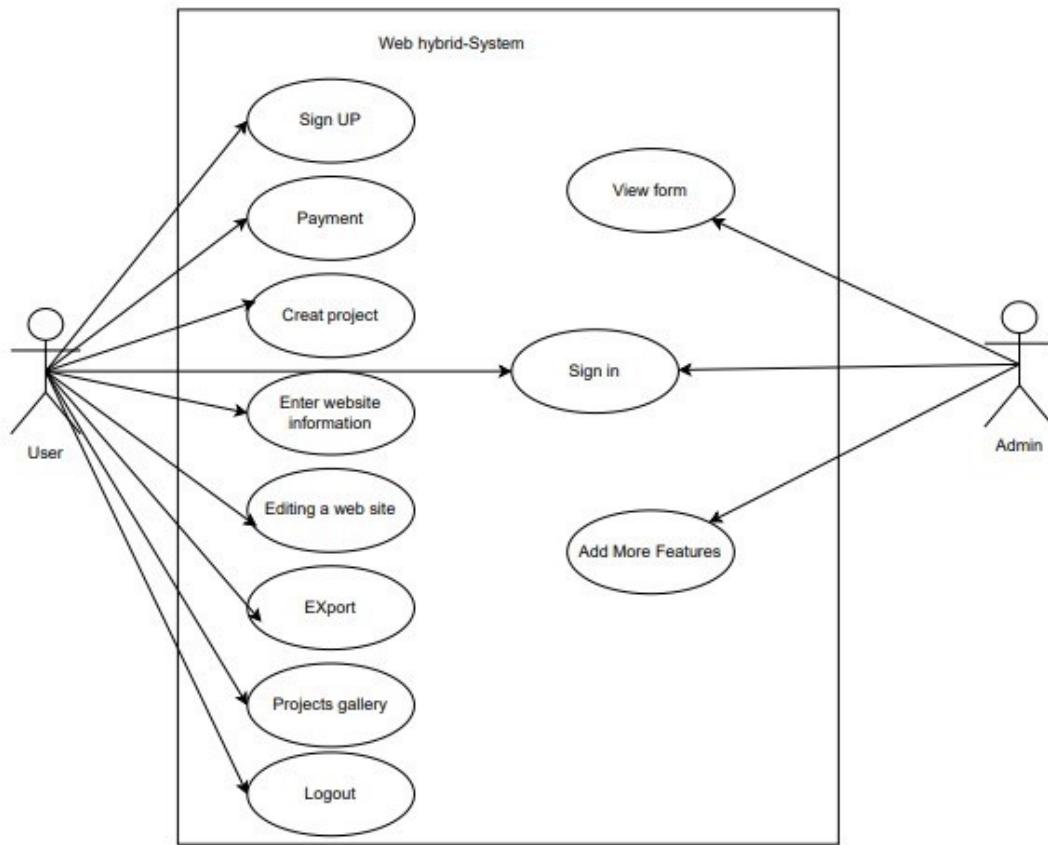
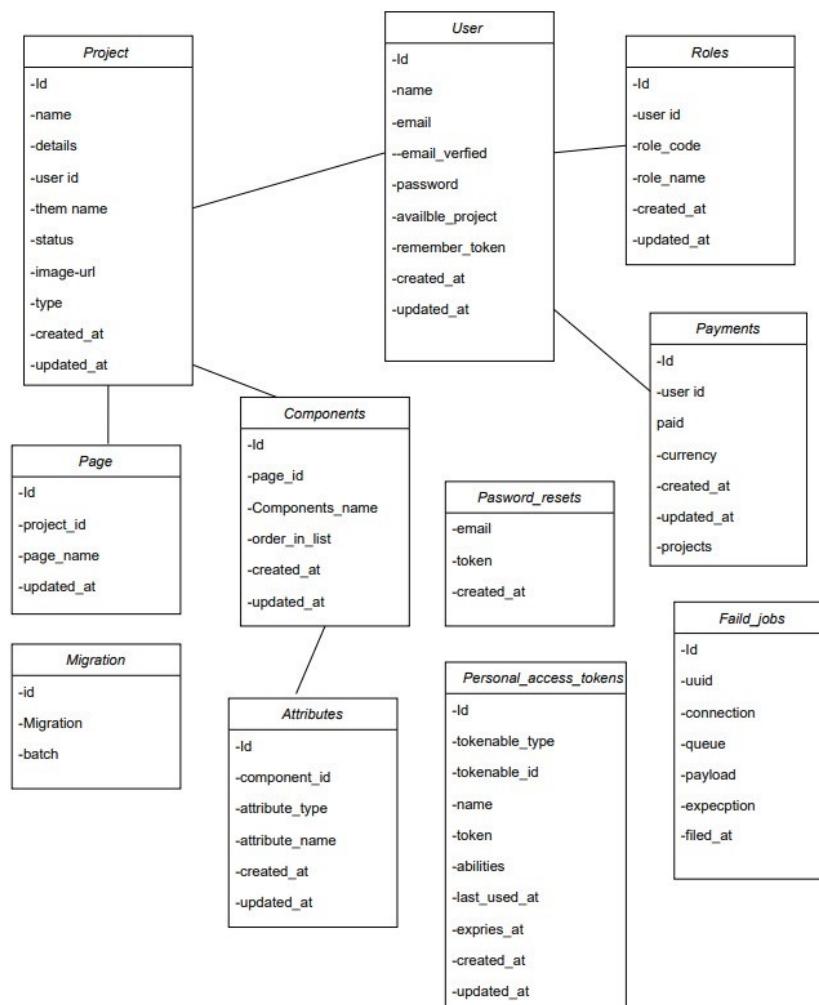


Figure 4.6 Use case diagram of database

4.7 The relation between tables in our Database

The design of the database is called a schema. This tells us about the structural view of the database. It gives us an overall description of the database. A database schema defines how the data is organised using the schema diagram. A schema diagram is a diagram which contains entities and the attributes that will define that schema. A schema diagram only shows us the database design. It does not show the actual data of the database. The schema represents the relationship between these tables.



schema of database

4.8 Tables Schema.

← ↑ →	id	name	email	email_verified_at	password	available_projects	remember_token	created_at	updated_at
<input type="checkbox"/>	5	test123	test@test.com	NULL	\$2y\$10\$koTcWZyAj2mMY4Wr.lOFVuuzXuvpJL1DNYZuN53B/aZY...	0	NULL	2024-02-26 21:25:26	2024-02-26 21:25:26
<input type="checkbox"/>	6	test	test@444.com	NULL	\$2y\$10\$htxRsqxtUwrMw4j3JP9ATuZkka5hAsZ57XjPfOHOKr...	0	NULL	2024-02-27 00:50:04	2024-02-27 00:50:04
<input type="checkbox"/>	7	test	test@4443.com	NULL	\$2y\$10\$.bFxj4UhQpQpKZ4wnJ2D.C0Q7Ehwk2aikmNQ30alQW...	0	NULL	2024-02-27 00:50:28	2024-02-27 00:50:28
<input type="checkbox"/>	8	werewr	etsf@fw.dew	NULL	\$2y\$10\$li3bCUtsZhMR994J6BjUemadFSqFh7CTy9EVIMQd7...	0	NULL	2024-05-16 16:10:54	2024-05-16 16:10:54
<input type="checkbox"/>	1	Qandil abdel facil awayn	qandilafa@gmail.com	NULL	\$2y\$10\$oNeihRphQggDzWRy0LeneUNnBqV0IB/CPLqDK3AYbv...	144	2ARdjmEZNj3UKPA5iZsdMpczd8qsZeUISOvQwj9ZM8wQuri...	2023-11-28 15:07:30	2024-05-19 17:51:34

Figure 4.8 Users table using phpmyadmin

Actions			ID	User ID	Role Code	Role Name	Created At	Updated At	
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	1 0x1	ADMIN	NULL	NULL	
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	4 0x2	CUSTOMER	2023-11-28 20:34:17	2023-11-28 20:34:17	
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	5 0x2	ADMIN	2024-02-26 21:25:26	2024-02-26 21:25:26	
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	6 0x2	CUSTOMER	2024-02-27 00:50:04	2024-02-27 00:50:04	
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	7 0x1	ADMIN	2024-02-27 00:50:28	2024-02-27 00:50:28	
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	8 0x2	CUSTOMER	2024-05-16 16:10:54	2024-05-16 16:10:54	

Figure 4.9 Roles table

4.8 Tables Schema.

				id	project_id	page_name	created_at	updated_at
<input type="checkbox"/>				215	live65de320456bf1	home	2024-02-27 19:03:32	2024-02-27 19:03:32
<input type="checkbox"/>				216	live65de320456bf1	contact	2024-02-27 19:03:36	2024-02-27 19:03:36
<input type="checkbox"/>				217	live65de526b737fe	home	2024-02-27 21:21:47	2024-02-27 21:21:47
<input type="checkbox"/>				218	live65de526b737fe	contact	2024-02-27 21:21:49	2024-02-27 21:21:49
<input type="checkbox"/>				219	live65de52f9227d3	home	2024-02-27 21:24:09	2024-02-27 21:24:09
<input type="checkbox"/>				220	live65de52f9227d3	contact	2024-02-27 21:24:14	2024-02-27 21:24:14
<input type="checkbox"/>				221	live65de53ebcc22c	home	2024-02-27 21:28:11	2024-02-27 21:28:11
<input type="checkbox"/>				222	live65de53ebcc22c	contact	2024-02-27 21:28:25	2024-02-27 21:28:25
<input type="checkbox"/>				223	live65de54562cc5c	home	2024-02-27 21:29:58	2024-02-27 21:29:58
<input type="checkbox"/>				224	live65de54562cc5c	contact	2024-02-27 21:30:27	2024-02-27 21:30:27
<input type="checkbox"/>				225	live65de55f24e197	home	2024-02-27 21:36:50	2024-02-27 21:36:50
<input type="checkbox"/>				226	live65de55f24e197	contact	2024-02-27 21:37:03	2024-02-27 21:37:03
<input type="checkbox"/>				227	live65de565c82acb	home	2024-02-27 21:38:36	2024-02-27 21:38:36
<input type="checkbox"/>				228	live65de565c82acb	contact	2024-02-27 21:38:52	2024-02-27 21:38:52
<input type="checkbox"/>				229	live65de5702858eb	home	2024-02-27 21:41:22	2024-02-27 21:41:22
<input type="checkbox"/>				230	live65de5715b338e	home	2024-02-27 21:41:41	2024-02-27 21:41:41
<input type="checkbox"/>				231	live65de5715b338e	contact	2024-02-27 21:42:20	2024-02-27 21:42:20
<input type="checkbox"/>				232	live65de5a946d2d8	home	2024-02-27 21:56:36	2024-02-27 21:56:36
<input type="checkbox"/>				233	live65de5a946d2d8	contact	2024-02-27 21:56:52	2024-02-27 21:56:52
<input type="checkbox"/>				234	live65de6006a3e60	home	2024-02-27 22:19:50	2024-02-27 22:19:50
<input type="checkbox"/>				235	live65de6006a3e60	contact	2024-02-27 22:20:28	2024-02-27 22:20:28
<input type="checkbox"/>				236	live65de6a831990e	home	2024-02-27 23:04:35	2024-02-27 23:04:35
<input type="checkbox"/>				237	live65de6a831990e	contact	2024-02-27 23:04:45	2024-02-27 23:04:45
<input type="checkbox"/>				238	live65de6ece7ae47	home	2024-02-27 23:22:54	2024-02-27 23:22:54
<input type="checkbox"/>				239	live65de6ece7ae47	contact	2024-02-27 23:23:12	2024-02-27 23:23:12

Figure 4.9 Pages table

4.8 Tables Schema.

			id	migration	batch
<input type="checkbox"/>				1 2014_10_12_000000_create_users_table	1
<input type="checkbox"/>				2 2014_10_12_100000_create_password_resets_table	1
<input type="checkbox"/>				3 2019_08_19_000000_create_failed_jobs_table	1
<input type="checkbox"/>				4 2019_12_14_000001_create_personal_access_tokens_ta...	1
<input type="checkbox"/>				5 2023_11_07_200257_create_roles_table	2
<input type="checkbox"/>				6 2024_02_23_163715_create_projects_table	3
<input type="checkbox"/>				7 2024_02_23_165911_create_attributes_table	3
<input type="checkbox"/>				8 2024_02_23_170840_create_pages_table	3
<input type="checkbox"/>				9 2024_02_23_170856_create_components_table	3
<input type="checkbox"/>				10 2024_02_27_045531_create_payments_table	4

Figure 4.9 migrations table

id	uuid	connection	queue	payload	exception	failed_at
Query results operations						

Figure 4.9 failed_jobs table

4.8 Tables Schema.

				id	page_id	component_name	order_in_list	created_at	updated_at
<input type="checkbox"/>				3298	266	navbar	0	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>				3299	266	features	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>				3300	266	demos	2	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>				3301	266	demos	3	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>				3302	266	footer	4	2024-05-14 17:18:43	2024-05-14 17:18:43
<input type="checkbox"/>				3303	267	navbar	0	2024-05-14 17:18:43	2024-05-14 17:18:43
<input type="checkbox"/>				3304	268	navbar	0	2024-05-14 17:21:05	2024-05-14 17:21:05
<input type="checkbox"/>				3305	269	navbar	0	2024-05-14 17:21:35	2024-05-14 17:21:35
<input type="checkbox"/>				3306	269	features	1	2024-05-14 17:21:35	2024-05-14 17:21:35
<input type="checkbox"/>				3307	269	demos	2	2024-05-14 17:21:35	2024-05-14 17:21:35
<input type="checkbox"/>				3308	269	demos	3	2024-05-14 17:21:35	2024-05-14 17:21:35
<input type="checkbox"/>				3309	269	footer	4	2024-05-14 17:21:38	2024-05-14 17:21:38
<input type="checkbox"/>				3310	270	navbar	0	2024-05-14 17:21:38	2024-05-14 17:21:38
<input type="checkbox"/>				3311	271	navbar	0	2024-05-14 17:23:37	2024-05-14 17:23:37
<input type="checkbox"/>				3312	271	features	1	2024-05-14 17:23:37	2024-05-14 17:23:37
<input type="checkbox"/>				3313	271	demos	2	2024-05-14 17:23:37	2024-05-14 17:23:37
<input type="checkbox"/>				3314	271	demos	3	2024-05-14 17:23:37	2024-05-14 17:23:37
<input type="checkbox"/>				3315	271	footer	4	2024-05-14 17:23:37	2024-05-14 17:23:37
<input type="checkbox"/>				3316	272	navbar	0	2024-05-14 17:23:38	2024-05-14 17:23:38
<input type="checkbox"/>				3373	273	navbar	0	2024-05-14 18:03:55	2024-05-14 18:03:55
<input type="checkbox"/>				3374	274	navbar	0	2024-05-14 18:03:56	2024-05-14 18:03:56
<input type="checkbox"/>				3487	275	navbar	0	2024-05-14 18:07:38	2024-05-14 18:07:38
<input type="checkbox"/>				3488	275	features	1	2024-05-14 18:07:38	2024-05-14 18:07:38
<input type="checkbox"/>				3489	275	demos	2	2024-05-14 18:07:38	2024-05-14 18:07:38
<input type="checkbox"/>				3490	275	demos	3	2024-05-14 18:07:38	2024-05-14 18:07:38

Figure 4.9 components table

4.8 Tables Schema.

	<input type="button" value="← T →"/>	<input type="button" value="▼"/>	<input type="button" value="id"/>	<input type="button" value="component_id"/>	<input type="button" value="attribute_type"/>	<input type="button" value="attribute_name"/>	<input type="button" value="attribute_value"/>	<input type="button" value="created_at"/>	<input type="button" value="updated_at"/>	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20349	3298	string	name	navbar	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20350	3298	boolean	visible	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20351	3298	string	navbar_title	google dogs.com	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20352	3298	array	navbar_menulinks	[{"title": "Home", "link": "\\\\" .vhome.php"}, {"title": "F..."}]	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20353	3298	string	title	Ubold is a fully featured premium admin template	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20354	3298	string	details	Ubold is a fully featured premium admin template b...	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20355	3298	NULL	background_image	NULL	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20356	3298	NULL	background_color	NULL	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20357	3298	array	sub_images	[]	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20358	3298	boolean	auto_generate	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20359	3298	array	urls	[]	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20360	3299	string	name	features	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20361	3299	boolean	visible	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20362	3299	string	title	The admin is fully responsive and easy to customiz...	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20363	3299	string	details	The clean and well commented code allows easy cust...	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20364	3299	array	items	[{"icon_url": "\\\\" .Vtheme\images\icons\layers.png", ...}	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20365	3300	string	name	demos	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20366	3300	boolean	more_demos_button_visible	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20367	3300	string	more_demos_button_url	/demos	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20368	3300	boolean	visible	1	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20369	3300	string	title	Available dogs Place	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20370	3300	string	details	Available dogs Places in our small systme for rent...	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20371	3300	array	demos	[{"title": "light Place z-1", "image_url": "\\\\" .Vstorag..."}]	2024-05-14 17:18:42	2024-05-14 17:18:42
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20372	3301	string	name	demos	2024-05-14 17:18:43	2024-05-14 17:18:43
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	20373	3301	boolean	more_demos_button_visible	1	2024-05-14 17:18:43	2024-05-14 17:18:43

Figure 4.9 attributes table

4.8 Tables Schema.

	<input type="text"/> T <input type="button" value="→"/>	<input type="button" value="▼"/> id	name	details	user_id	theme_name	status	image_url	type	created_at	updated_at
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	live6646a461144f0	test portfolio	Give brief about your idea	1	METRONIC	3	/storage/images/7frwOpsjY0175YdZ0kExu5gNcvoUJS4VZQ...	portfolio	2024-05-17 00:27:13	2024-05-17 01:12:14

Figure 4.8 Projects table using phpmyadmin

	<input type="text"/> T <input type="button" value="→"/>	<input type="button" value="▼"/> id	tokenable_type	tokenable_id	name	token	abilities	last_used_at	expires_at	created_at	updated_at
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	1	App\Models\User	1	jwt	c9b26123e5186f23dc5187cb158d331d5e4cb0d3d5fc3dbb15...	[{"*"}]	NULL	NULL	2024-05-15 16:08:18	2024-05-15 16:08:18

Figure 4.9 personal_access_tokens table

	<input type="text"/> ← T →	<input type="button" value="▼"/> id	user_id	paid	currency	projects	created_at	updated_at
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	1	1	8	USD	30	2024-02-28 02:42:20	2024-02-28 02:42:20
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	2	1	4	USD	10	2024-02-28 07:28:21	2024-02-28 07:28:21
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	3	1	8	USD	30	2024-02-28 07:58:57	2024-02-28 07:58:57
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	4	1	8	USD	30	2024-04-29 09:36:56	2024-04-29 09:36:56
<input type="checkbox"/>	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	5	1	8	USD	30	2024-05-19 17:51:34	2024-05-19 17:51:34

Figure 4.9 Payments table

<input type="button" value="email"/> <input type="button" value="token"/> <input type="button" value="created_at"/>
<input type="button" value="Query results operations"/>

Figure 4.9 Password_resets table

Chapter 5

System Implementation

5.1 Design

It was used adobe xd to build the web and application design and made more than 20 frames consisting of animations and prototype.

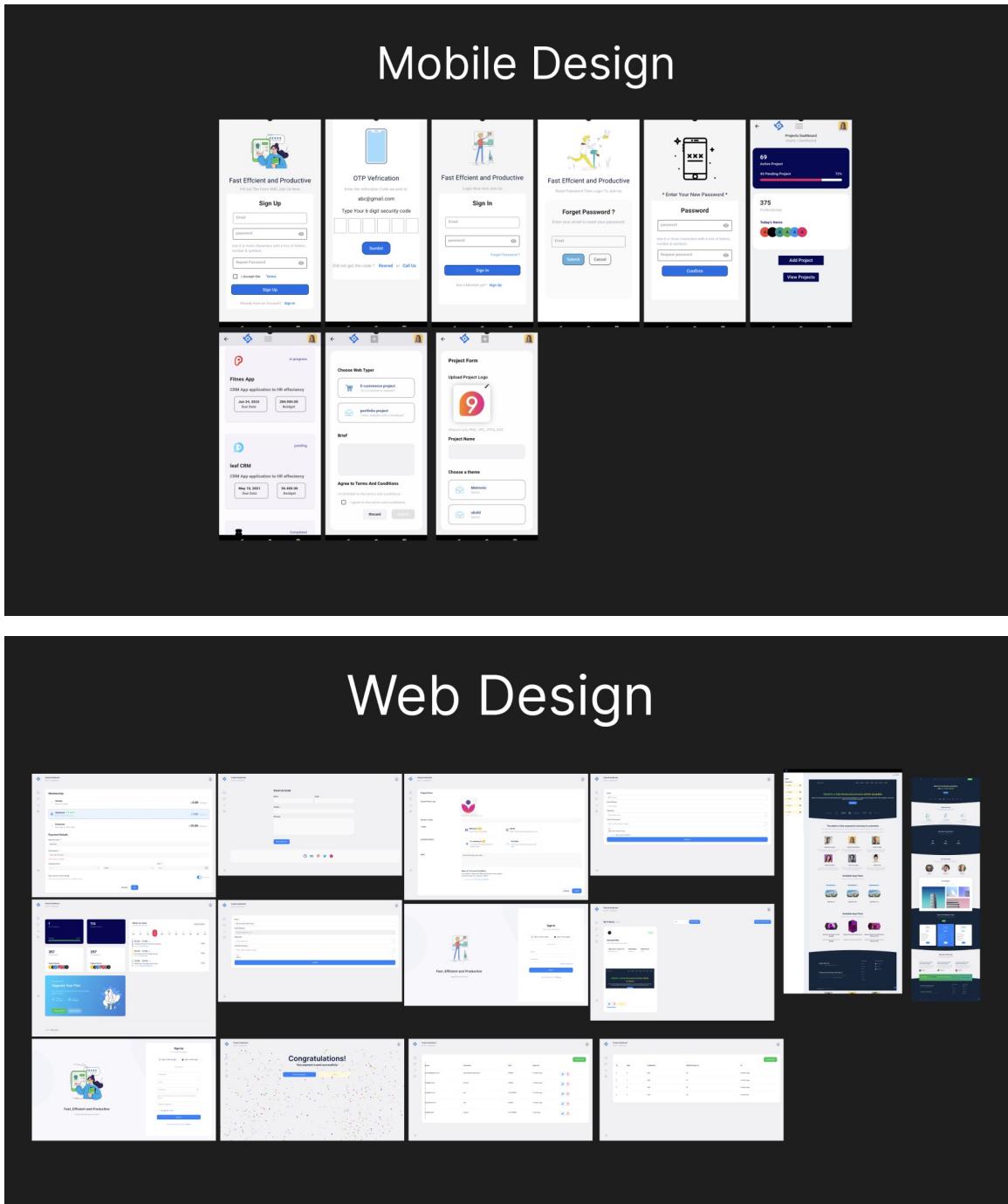


Figure 5.1 Frames of design

5.1.1 Web Design

The user can sign up or log in by filling these forms and if one of the fields is empty or wrong, an alert is displayed to notify the user.

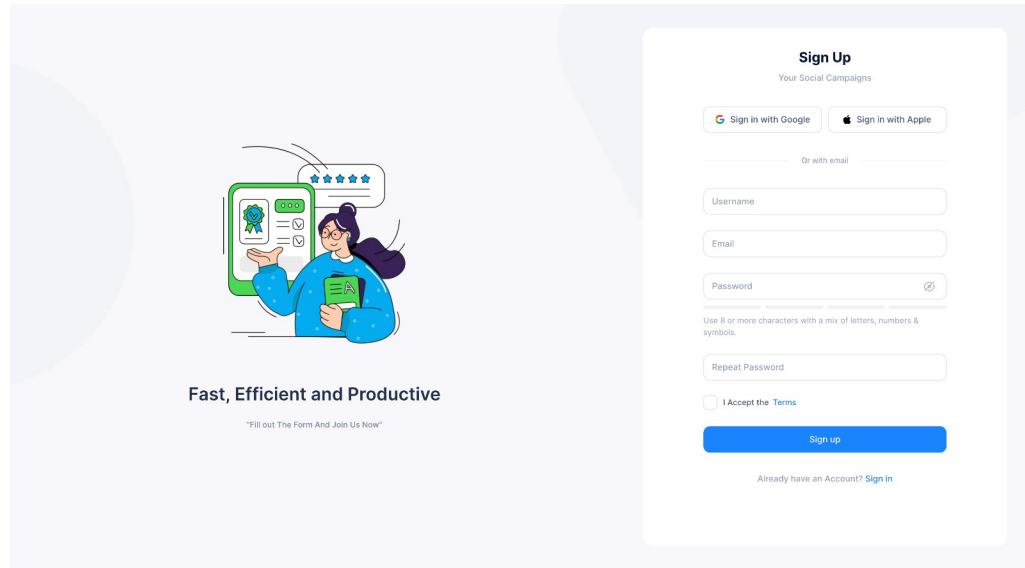


Figure 5.2 Sign up page design for web

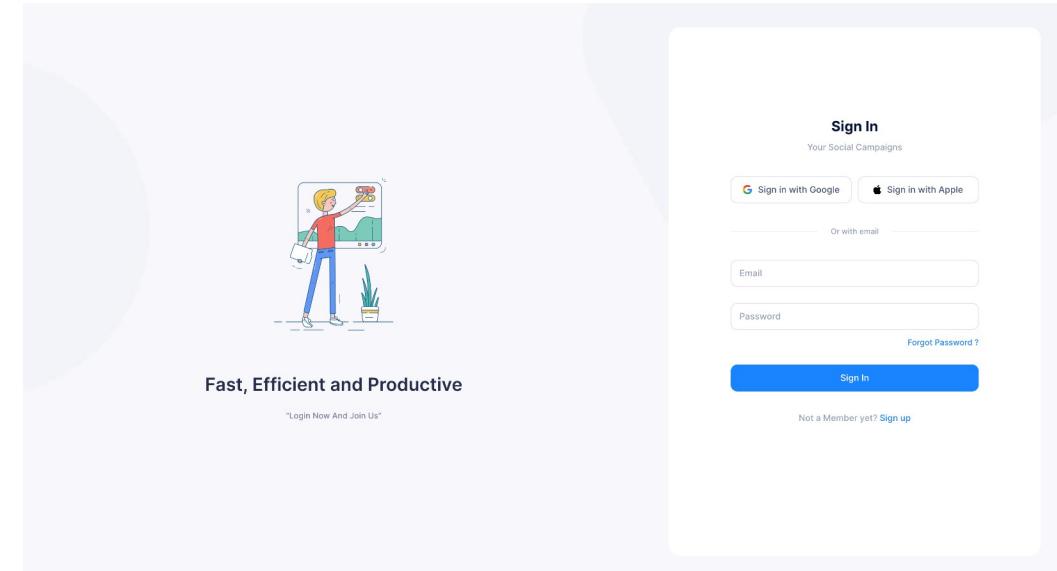


Figure 5.3 Sign In page design for web

The home page of the site, which presents an overview of it and its advantages.

Build An Outstanding websites with The Web Hybrid

How can I use

Solve thousands to millions of blocks by using single tool to build your website powered by three steps

1 Your first step
Plan the idea of your website and what it does to serve your organization

2 The second step
Visit our website www.WebHybrid.com and provide us with a summary of your idea

3 The third step
Create your website and customize it as you wish by using single tool

We Make Things Better

Save thousands to millions of blocks by using single tool for different smazing and great useful admin

- 700+ Keen integrations
- 80K+ Startup Projects
- 35M+ Social Payments

Our Great Team

It's no doubt that when a development takes longer to complete, additional costs to integrate and install each extra feature creeps up and hours load of us.

Paul Mies
Development Lead

Melissa Marcus
Creative Director

David Nilson
Python Expert

Our Projects

Clear Pricing Makes it Easy

Save thousands to millions of blocks by using single tool for different smazing and outstanding cool and great useful admin

Startup	Business	Enterprise
\$ 99 / Year	\$ 199 / Year	\$ 999 / Month
Up to 10 Active Users	Up to 100 Active Users	Up to 1000 Active Users
Up to 30 Project Integrations	Up to 100 Project Integrations	Up to 300 Project Integrations
Keen Analytics Platform	Keen Analytics Platform	Keen Analytics Platform
Targets Timelines & Risks	Targets Timelines & Risks	Targets Timelines & Risks
Unlimited Projects	Unlimited Projects	Unlimited Projects

What Our Clients Say

This is by far the cleanest template and the most well structured

This theme is the cleanest template I have ever used. The codes are up to standard. The css styles are very clean. In fact the cleanest and the most up to standard I have ever seen.

Paul Mies
Development Lead

This is by far the cleanest template and the most well structured

This theme is the cleanest template I have ever used. The codes are up to standard. The css styles are very clean. In fact the cleanest and the most up to standard I have ever seen.

Jerry Cleart
Creative Director

This is by far the cleanest template and the most well structured

This theme is the cleanest template I have ever used. The codes are up to standard. The css styles are very clean. In fact the cleanest and the most up to standard I have ever seen.

Stearne Brown
Python Expert

Start With The Web Hybrid, Speed Up Development!

Join over 100,000 Professionals Community to Stay Ahead

Would you need a Custom License?

E-mail : support@webyard.com

More for Meironic

- FAQ
- Documentation
- Video Tuts
- Changelog

Stay Connected

- Facebook
- Github
- Twitter
- LinkedIn

design for web

About Us describes the Team

The screenshot shows a website's 'About Us' page. At the top, there's a navigation bar with icons for cloud storage, file management, and other services. Below the navigation is a large image of five diverse people in a modern office setting, engaged in a group discussion. The title 'About Us' is centered above the image. Below the image, there's a brief welcome message: 'Welcome to Web Hybrid! At Web Hybrid, we specialize in providing individuals and businesses with the tools they need to create stunning websites effortlessly. Whether you're a seasoned professional or a complete beginner, our platform is designed to streamline the website creation process, allowing you to bring your vision to life with ease.' A mission statement follows: 'Our mission is to empower individuals and businesses to establish their online presence quickly and effectively. We understand the importance of having a professional and engaging website in today's digital age, and we're committed to making the process accessible to everyone, regardless of their technical expertise.' A note about the user-friendly interface: 'User-Friendly Interface: We believe that creating a website should be a straightforward and enjoyable experience. That's why our platform features an intuitive interface that guides you through every step of the process.' It also mentions 'Customization Options', 'Responsive Support', and 'Creating a website with Web Hybrid is simple:'. Below this, there are three circular icons with statistics: '350+ Businesses', '40K+ portfolio Projects', and '18 M+ E-commerce Project'. The section is titled 'Our Great Team' and features three team member profiles with their names and titles: 'Abdelmeseh mohesen Frontend Developer', 'Qandil Abdel Fadil Software engineer', and 'Hamed Hamdy Python Expert'. Below the team section is a social media sharing bar with icons for Facebook, Instagram, LinkedIn, Behance, Pinterest, Twitter, and YouTube. The footer contains the copyright notice '2024 © Web Hybrid' and a small blue speech bubble icon.

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Dashboard View in Web

Projects Dashboard
Home / Dashboard

1 Active Projects
1 Ready 100%

114 Available Projects

357 Professionals
Today's Heroes A S P +42

357 Professionals
Today's Heroes A S P +42

What's up Today
Total 424,567 deliveries

Fr 20 Sa 21 Su 22 Tu 23 We 25 Th 26 Fri 27 Sa 28 Su 29 Mo 30

10:20 - 11:00 AM
9 Degree Project Estimation Meeting
Lead by Peter Marcus View

16:30 - 17:00 PM
Dashboard UI/UX Design Review
Lead by Bob View

12:00 - 13:40 AM
Marketing Campaign Discussion
Lead by Mark Morris View

Get best offer
Upgrade Your Plan
Flat cartoonish and illustrations with vivid unblended purple hair lady

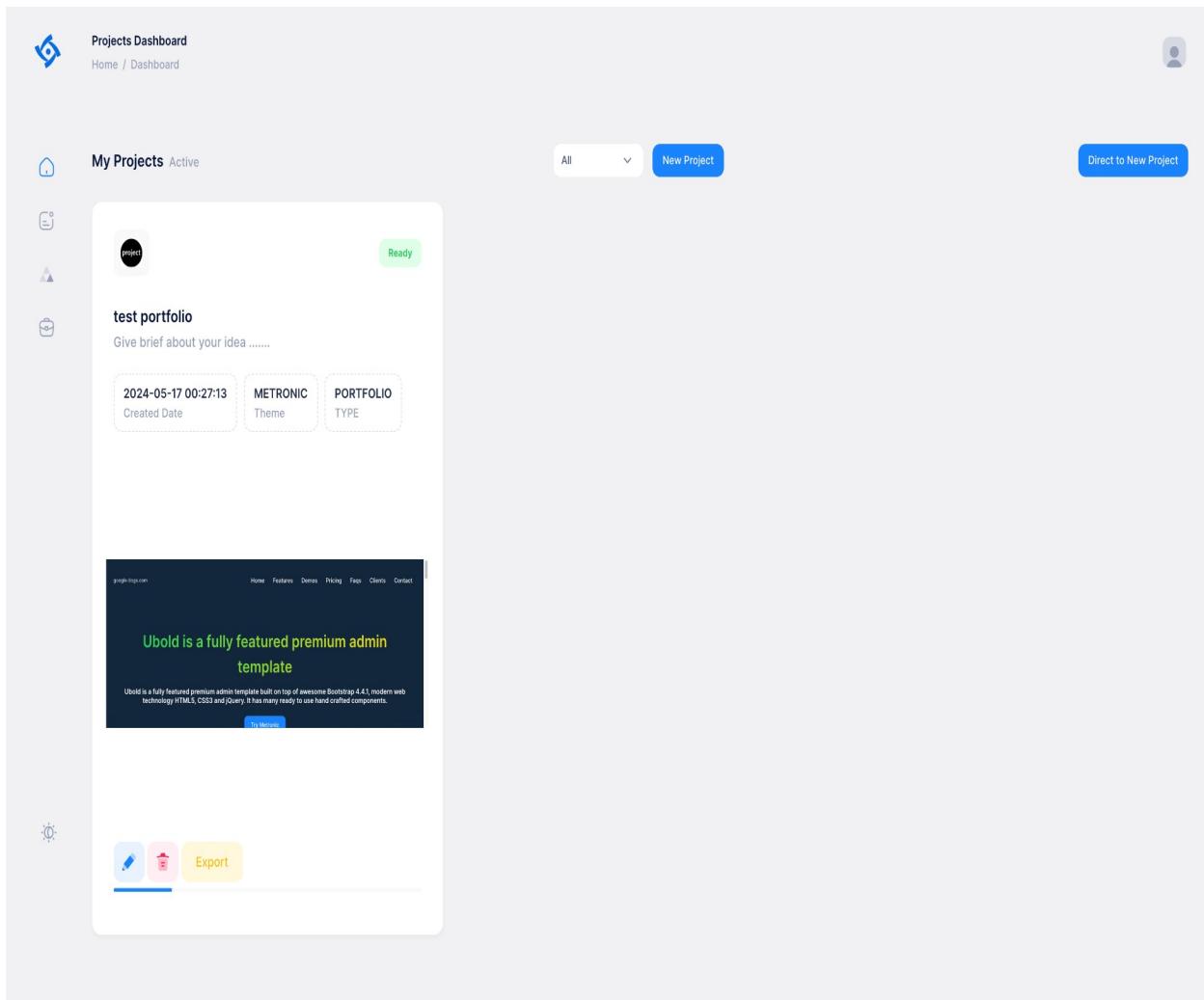
Projects Up to 500 Tasks Unlimited

Upgrade Plan Read Guides

2024 © Web hybrid

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Here we can browser all Projects we created



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Studio Page that can do your changes for the website and can edit the attributes

The screenshot displays a web-based studio page interface for editing website designs. On the left, a sidebar titled 'HOME' contains a 'Components' section with various category icons like 'header', 'Footer', 'Section', 'Image', 'Text', 'Form', 'Table', and 'Grid'. The main content area shows a dark-themed admin template with a header bar featuring navigation links: Home, Features, Demos, Pricing, Page, Clients, Contact, and a 'Rebuild' button. Below the header is a banner with the text 'Ubold is a fully featured premium admin template' and a subtext: 'Ubold is a fully featured premium admin template built on top of awesome Bootstrap 4.4.1, modern web technology HTML5, CSS3 and jQuery. It has many ready to use hand crafted components.' A large blue 'Get Started' button is centered below the banner. At the bottom of the template, there's a footer with the Fujifilm logo and several social media icons.

The admin is fully responsive and easy to customize

The clean and well commented code allows easy customization of the theme it's designed for describing your app, agency or business.

The clean and well commented code allows easy customization of the theme it's designed for describing your app, agency or business.

Available dogs Place

Available dogs Places in our small system for rent.

Back View of a Person in a Pink Spotlight

People Performing a Chemical Test

Woman in Black Shirt and Red Pants Sitting on Floor

More Links

- Home
- Features
- Demos
- Pricing
- Page
- Clients
- Contact

Stay Connected

- Facebook
- Twitter
- Instagram

A Responsive Bootstrap 4 Web App Kit

Ubold is a fully featured premium admin template built on top of awesome Bootstrap 4.4.1, modern web technology HTML5, CSS3 and jQuery. Click to Get a Quote

google.dogs.com
Email us to support@webhybrid.com

2014 Web Hybrid

User can

- 1- View all page that exists in the design
- 2- View all attributes that able to edit in the design
- 3- Able to rebuild the whole design
- 4- Uploading Images and changesUrls
- 5- delete/add Lists/Texts/Images

design for web

Payment Page

The screenshot shows a payment page for a service called "Projects Dashboard". At the top, there's a navigation bar with a logo, the text "Projects Dashboard", and a "Home / Dashboard" link. On the right side of the header is a user profile icon.

The main content area is titled "Membership" and displays three plan options:

- Startup**: Best for startups. Price: \$3.99 / 10 Projects.
- Advanced** (highlighted with a blue border): Most popular. Best for 100+ team size. Price: \$7.99 / 30 Projects.
- Enterprise**: Best value for 1000+ team. Price: \$10.99 / 50 Projects.

Below the membership section is a "Payment Details" form:

- Name On Card ***: Max Doe
- Card Number ***: 4111 1111 1111 1111
- Card member is required**
- Expiration Date ***: 1 / 2024
- CVV ***: CVV
- Save Card** (with a blue save icon)

At the bottom of the form are "Discard" and "Pay" buttons.

User can

- 1- Choice Membership Type
- 2- Do Checkout

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Create Project

The screenshot shows the 'Project Form' page within a 'Projects Dashboard'. The sidebar on the left includes icons for Home, Dashboard, Projects, Tasks, and Profile.

Project Form Fields:

- Upload Project Logo:** A placeholder image of a stylized flower or leaf design. Allowed file types: png, jpg, jpeg.
- PROJECT NAME:** A text input field.
- THEME:** A section showing two theme options:
 - Metronic** (Star icon) - Top #1 Theme in Worldwide
 - Ubold** (Star icon) - Simple Theme build on Bootstrap structure
- BUSINESS MODEL:** A section showing two model options:
 - E-commerce** (Cart icon) - e-commerce that deliver physical or digital project
 - Portfolio** (Briefcase icon) - Online space that showcases your best work
- BRIEF:** A text area for describing the project idea.
- Agree to Terms and Conditions:** A section containing a checkbox and a link.

I am entitled to display the Web Hybrid logo on every project created through the company's website

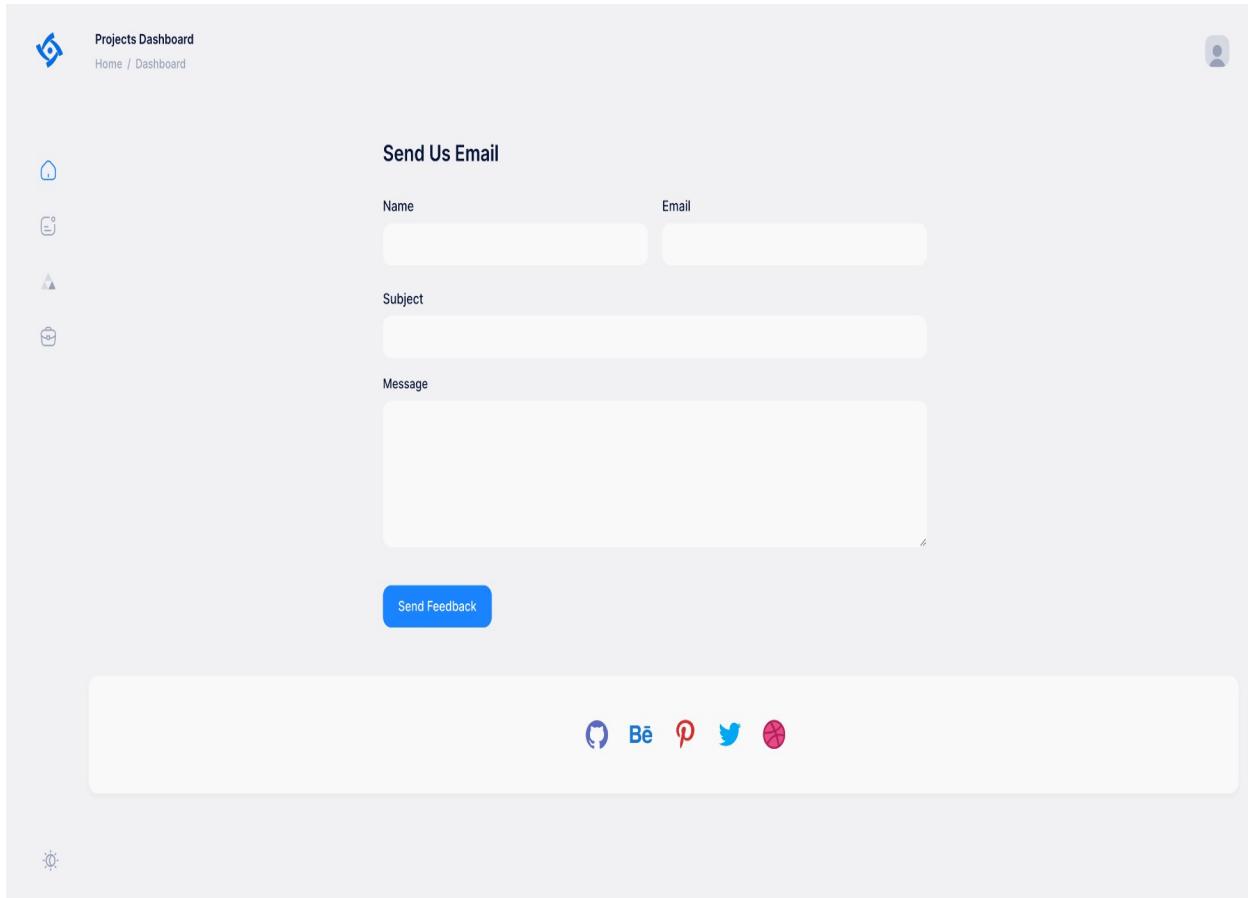
I agree to the [Terms and Conditions](#)
- Buttons:** Discard (gray) and Create (blue)

User can

- 1- Upload Project Icon
- 2- User can fill Project Name
- 3- Choice Theme (Design Changes depend on that Themes)
- 4- Choice Bussness Model (Available: e-commerce, personal portfolio)
- 5- Add Brief About the Project (Ai Help to make that possible, Thanks AI @HAMED)
- 6- Accept Terms and Conditions

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Contact Us Page, Help customers to talk with admins



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For Admin: View Users Page

Email	Username	Role	joined at	
qandilafa@gmail.com	Qandil abdel fatih awayn	ADMIN	5 months ago	
test@test.com	test123	ADMIN	2 months ago	
test@444.com	test	CUSTOMER	2 months ago	
test@4443.com	test	ADMIN	2 months ago	
test@fw.dew	werewr	CUSTOMER	3 days ago	

Admin can
1- Create new User
2- Edit User Data
3- Delete User
4- Block the User

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For Admin: Create New User Page

The screenshot shows a user registration form titled "Projects Dashboard" located at "Home / Dashboard". The form includes fields for Name, Email Address, Password, Confirm Password, Role (a dropdown menu), and a checkbox for accepting Terms and Conditions. A "Register" button is at the bottom. On the left, there are icons for a house, a person, a mail, a triangle, and a gear.

Projects Dashboard
Home / Dashboard

Name
Enter name

Email Address
Enter email

Password
Enter password

Confirm Password
Enter same password again

Role
Open this select menu

I accept! Terms and Conditions

Register

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For Admin: Edit User Page

The screenshot shows a user edit form on a 'Projects Dashboard'. The top navigation bar includes a logo, the title 'Projects Dashboard', and a 'Home / Dashboard' link. On the right side of the header is a user profile icon. The main form area contains the following fields:

- Name:** Qandil abdel fadil awayn
- Email Address:** qandilafa@gmail.com
- Password:** Enter password
- Confirm Password:** Enter same password again
- Role:** Admin

A large blue 'Update' button is positioned at the bottom of the form.

design for web

For Admin: View Payment Transactions

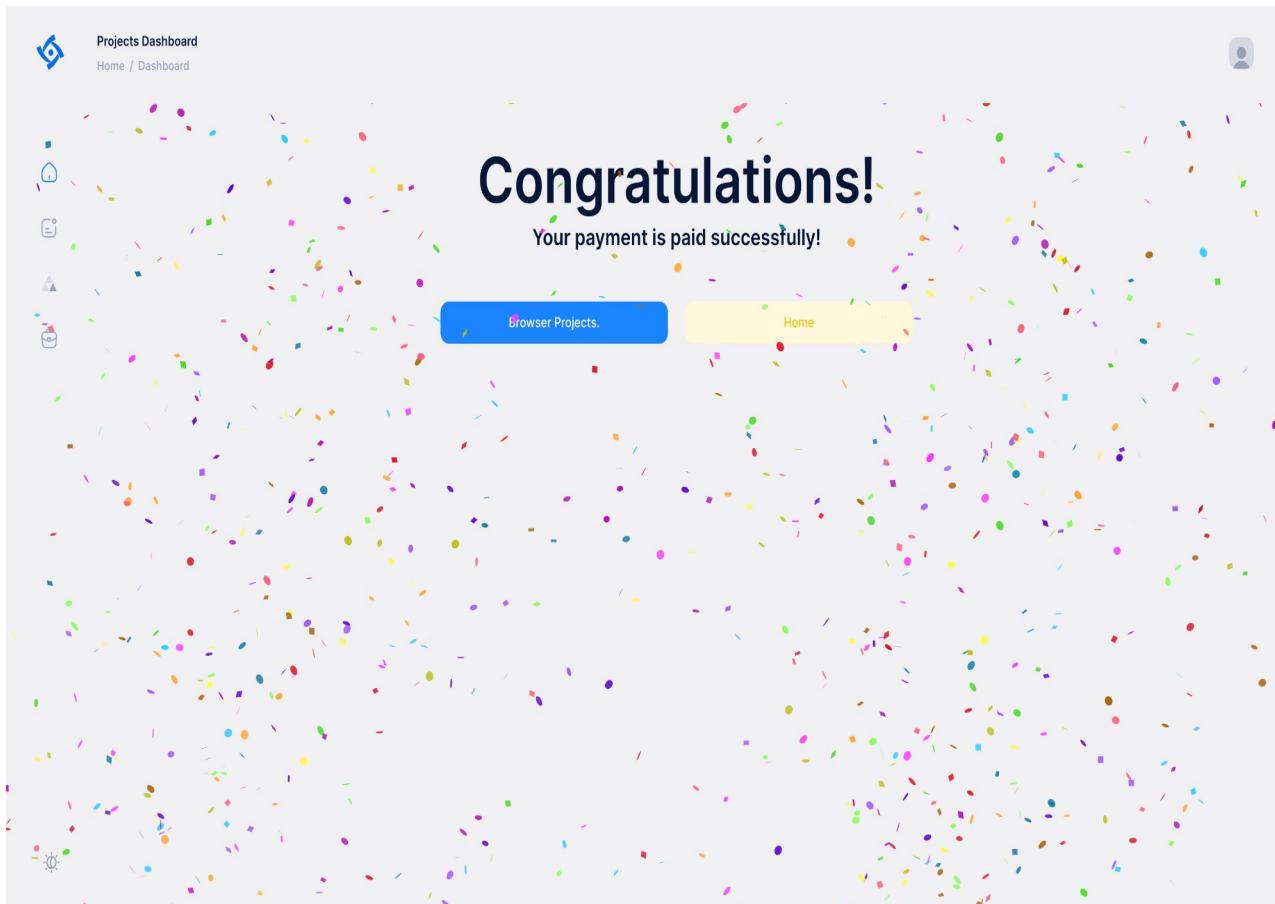
The screenshot shows a web-based application interface for managing payment transactions. At the top left is a blue icon resembling a gear or wrench. To its right, the text "Projects Dashboard" is displayed, followed by "Home / Dashboard". On the far right is a user profile icon. Below the header, there is a sidebar on the left containing five icons: a house (blue), a document with a dollar sign (grey), a triangle (light blue), a briefcase (brown), and a circular progress bar (grey). To the right of the sidebar is a large white rectangular area containing a table. The table has a header row with columns labeled "ID", "PAID", "CURRENCY", "OPEN PROJECTS", and "AT". There are four data rows below the header:

ID	PAID	CURRENCY	OPEN PROJECTS	AT
1	8	USD	30	2 months ago
2	4	USD	10	2 months ago
3	8	USD	30	2 months ago
4	8	USD	30	2 weeks ago

In the top right corner of the main content area, there is a green button with the text "Create user". At the bottom left of the main content area, there is a small grey icon of a person with a gear.

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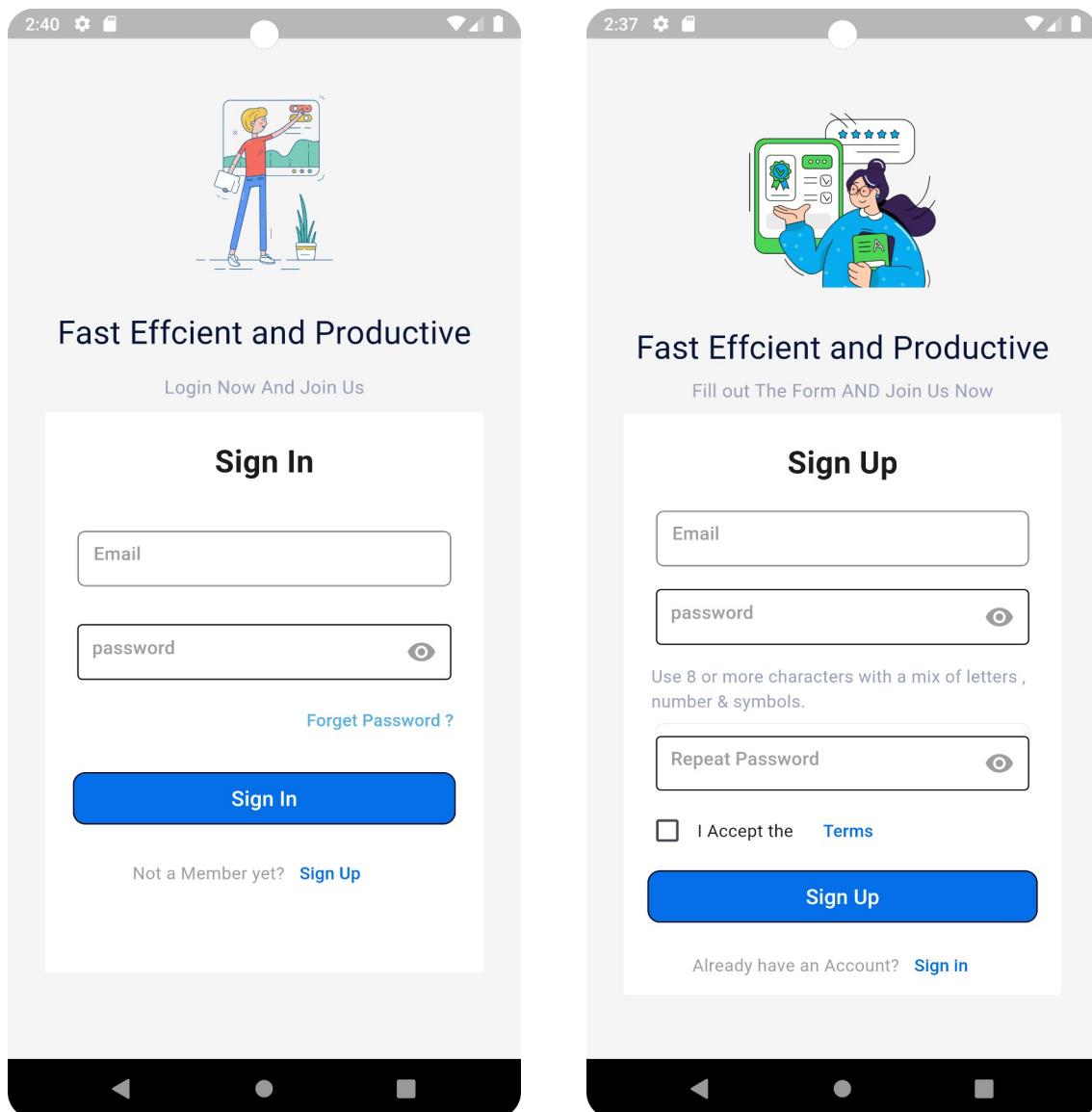
Success Page



design for web

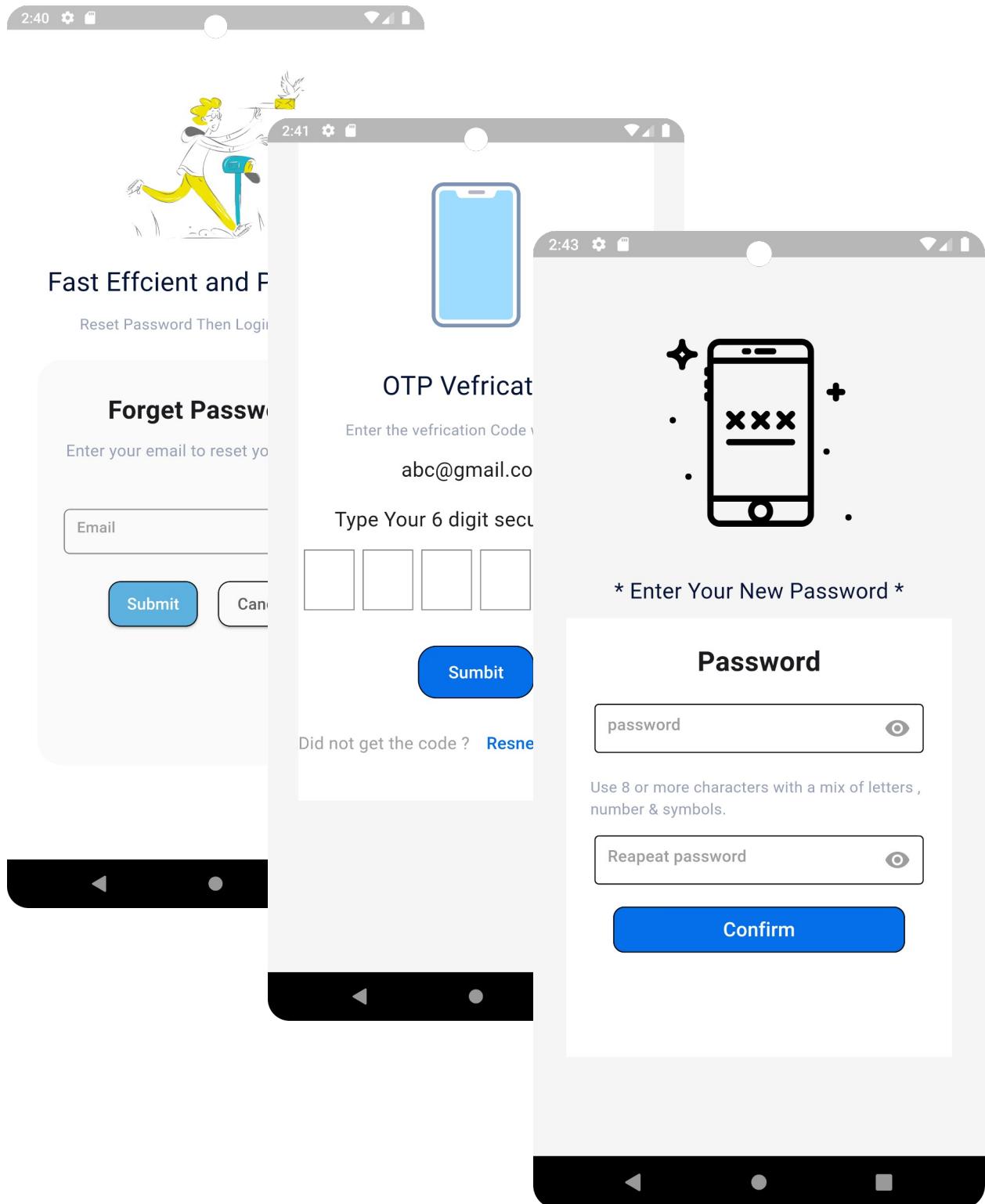
5.1.2 Mobile App Design

The user can register or login to their account through these forms.



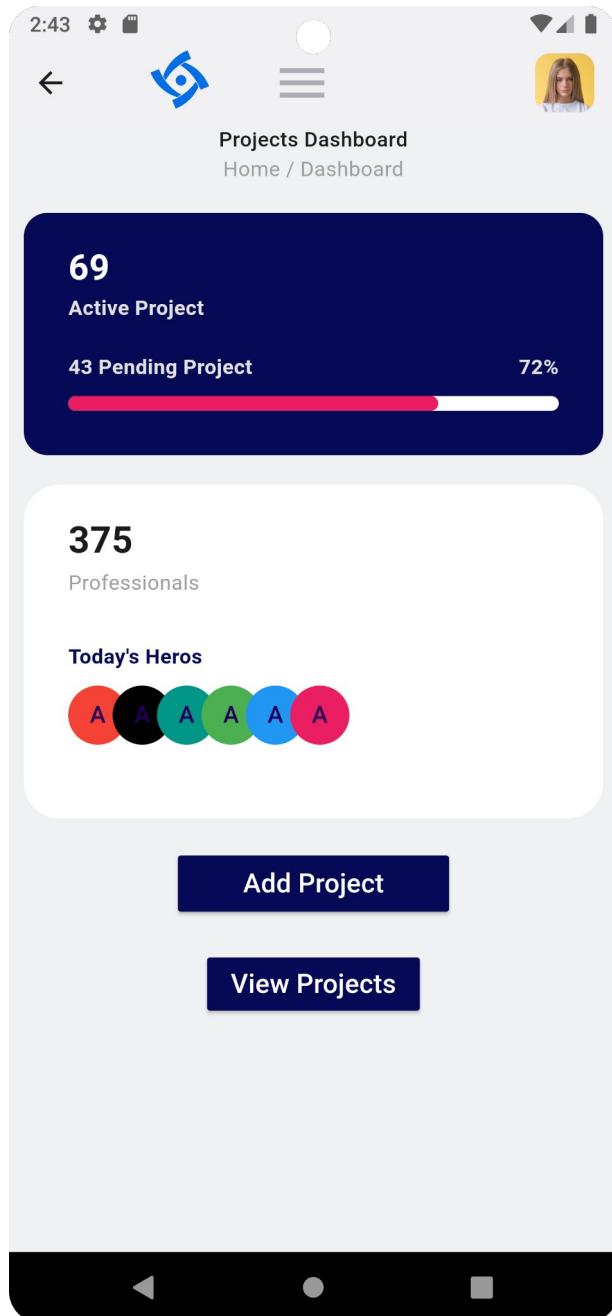
Sign up & sign in page design for app

User Forget Password Page & OTP Page & new Password Page



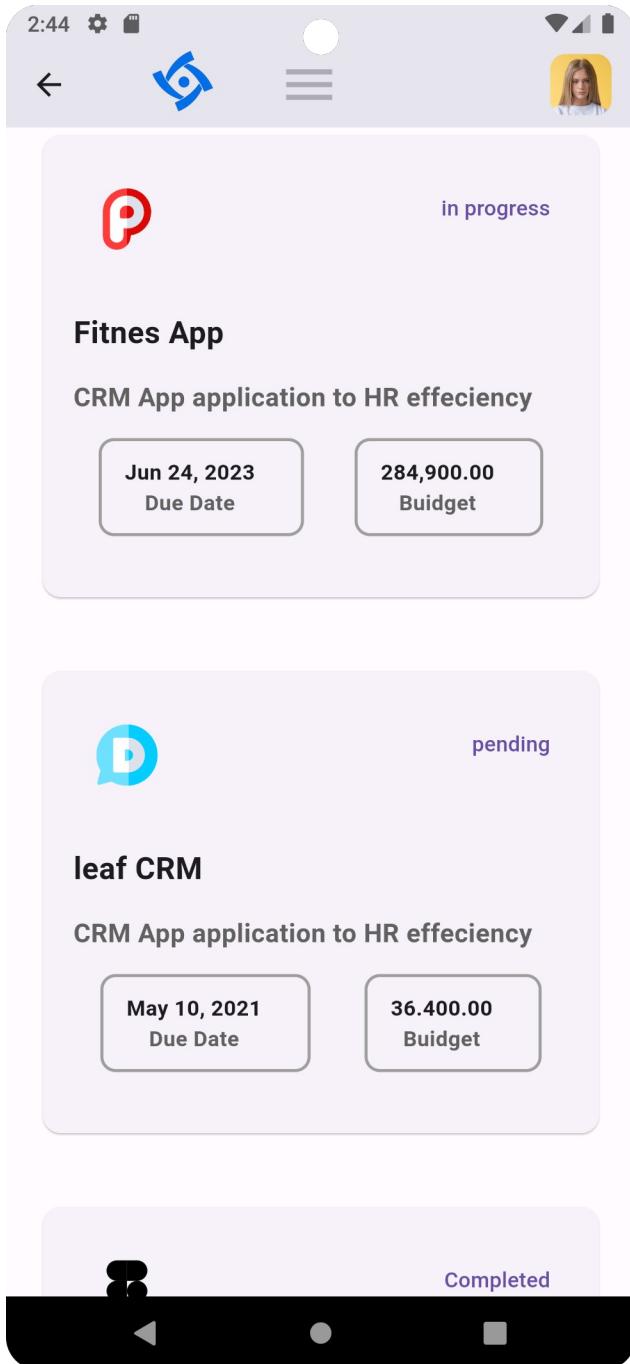
design for app

User Dashboard

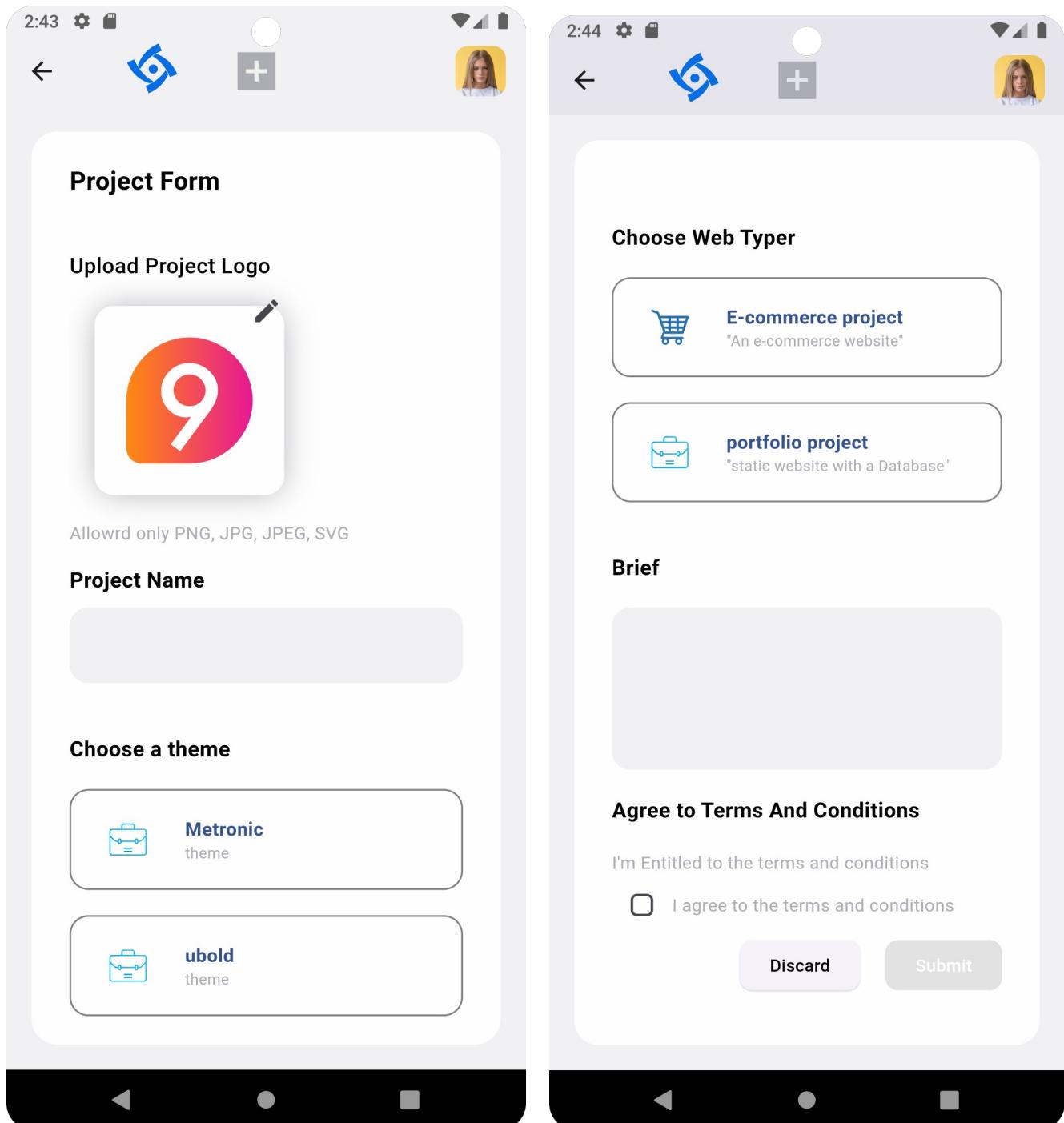


design for app

Projects Page



Create Project Page



design for app

Project Overview

The envisioned system is a sophisticated platform designed to empower users to create comprehensive websites with minimal technical knowledge. By leveraging advanced AI capabilities, the platform guides users from project inception through to the final deployment, ensuring that each website is not only visually appealing but also functionally robust and tailored to the user's specific business needs.

Key Features and Workflow

User Initiation and Information Gathering

1. Project Creation

- Upon creating a new project, the user provides essential details such as the project name, logo, business brief, and business model (e.g., portfolio or eCommerce).

2. Business Model Selection

- The backend system evaluates the provided information and selects an appropriate business model schema. This schema serves as a foundational blueprint, detailing all necessary components and their configurations.

3. AI-Assisted Schema Generation

- The core system interprets the selected schema and translates it into actionable AI components. These components encompass pages, which in turn contain various elements such as images, text, and interactive features.

4. Component Customization

- Each component within a page is meticulously defined, specifying attributes such as layout, color schemes, background images, and structural hierarchy. This detailed breakdown ensures a cohesive and visually consistent user interface.

5. Automated JSON Conversion

- The AI system processes the user-provided brief and generates a corresponding JSON schema. This schema encapsulates all the necessary details in a format that the core system can understand and execute.

6. Core System Processing

- The core system receives the JSON schema, integrates it with pre-existing schemas, and generates a complete set of project files. These files include HTML, CSS, JavaScript, and other assets required to render the website accurately.

Backend Functionality

1. Page and Component Generation

- The core system creates individual components and assigns them the appropriate styles and functionalities. This modular approach ensures that each part of the website works seamlessly with others.

2. Asset Management

- The generated project files are organized into separate folders, containing all necessary assets such as themes, images, and backend scripts.

3. Database Integration

- The system sets up database tables to store information such as images, texts, user data, product details, and orders. This database supports dynamic content management and facilitates backend operations via AJAX.

4. Admin Dashboard

- An intuitive dashboard provides users with comprehensive control over their website. From managing products and orders to handling user interactions and viewing contact tickets, the dashboard offers a user-friendly interface for all administrative tasks.

AI-Driven User Assistance

1. Simplified Website Creation

- Users can input their website requirements in natural language, allowing the AI system to interpret and translate these requirements into a structured JSON schema. This significantly lowers the barrier to entry for non-technical users.

2. Real-Time Editing

- A studio page within the platform offers extensive tools for on-the-fly editing. Users can modify texts, images, and other elements without needing to write any code.

3. Export and Deployment

- Users can export their completed websites as a ZIP file containing all necessary files. This package is ready to deploy on any server, ensuring the website functions independently as it did within the system.

4. Open Source Flexibility

- The exported files are open source, enabling users to further customize and enhance their websites beyond the capabilities of the initial system. Advanced users can add new features, optimize code, and tailor the website to their specific needs.

Detailed Breakdown of Components and Features

Business Model Schemes

Each business model scheme is a comprehensive template that includes pre-defined pages and components, tailored to the specific needs of different types of websites. For instance:

- Portfolio Model

- **Home Page:** Introduction, featured projects, testimonials.
- **About Page:** Personal or company history, team members.
- **Projects Page:** Detailed showcase of past work.
- **Contact Page:** Contact form, social media links, location map.

- eCommerce Model

- **Home Page:** Featured products, special offers.
- **Product Pages:** Detailed product descriptions, images, reviews.
- **Cart and Checkout Pages:** User-friendly purchasing process.
- **User Account Pages:** Order history, profile settings.

Each page within these models is constructed from a series of components, such as headers, footers, galleries, and forms, all designed to work together harmoniously.

Component Attributes

Components are the building blocks of each page and include a range of attributes that define their appearance and functionality. Key attributes include:

- Layout and Structure

- **Positioning:** Where the component appears on the page.
- **Size and Spacing:** Width, height, margins, and padding.

- Styling

- **Colors:** Background, text, and border colors.
- **Typography:** Font size, style, and weight.

- Content

- **Text:** Static or dynamic content that can be edited by the user.
- **Images:** Source, alt text, and styling options.

- Behavior

- **Interactivity:** Hover effects, animations, and links.
- **Data Binding:** Connection to backend data sources for dynamic content.

Core System Capabilities

The core system is the engine that drives the entire platform, transforming JSON schemas into fully functional websites. Key capabilities include:

- **Component Rendering**

- Efficiently generates HTML, CSS, and JavaScript for each component.
- Ensures components are responsive and compatible across different devices.

- **Styling and Theming**

- Applies global styles and themes to maintain visual consistency.
- Allows for customization of themes to match user branding.

- **Backend Integration**

- Generates server-side scripts for handling data requests and updates.
- Sets up RESTful APIs for seamless communication between the frontend and backend.

- **File Organization**

- Structures project files in a logical and accessible manner.
- Separates concerns by organizing assets, scripts, and styles into distinct folders.

User-Friendly Dashboard

The admin dashboard is designed to give users complete control over their website with minimal technical knowledge. Features include:

- **Product Management**

- Add, edit, and delete products.
- Manage inventory, pricing, and categorization.

- **Order Management**

- View and process orders.
- Track order statuses and manage customer communications.

- **User Management**

- Manage user accounts and permissions.
- Handle user interactions and support tickets.

- **Content Management**

- Update site content, including text, images, and media.
- Schedule posts and manage blog entries.

AI Integration

The AI system plays a crucial role in bridging the gap between user input and technical execution. By interpreting user-provided briefs and generating detailed JSON schemas, the AI ensures that the final product aligns closely with the user's vision.

- **Natural Language Processing**

- Understands user requirements expressed in natural language.
- Converts these requirements into structured data for the core system.

- **Automated Design Suggestions**

- Provides design recommendations based on industry standards and best practices.
- Suggests layout adjustments and style improvements to enhance user experience.

- **Real-Time Feedback**

- Offers immediate feedback on design changes and content updates.
- Ensures that users can see the impact of their modifications instantly.

Export and Deployment

The ability to export and deploy websites as open-source packages provides users with unparalleled flexibility and control. Key benefits include:

- **Ready-to-Deploy Packages**

- Generates a ZIP file containing all necessary files and assets.
- Ensures that the exported site functions independently on any server.

- **Open Source Code**

- Allows advanced users to modify and extend their websites.
- Supports custom development for unique business needs.

- **Scalability**

- Facilitates the growth of the website as the business expands.
- Supports integration with additional tools and platforms.

Conclusion

This platform is designed to democratize website creation, making it accessible to users of all skill levels. By leveraging AI to automate complex tasks and provide intuitive tools for customization, the system enables users to create professional, high-quality websites that meet their specific business needs. Whether building a portfolio, launching an eCommerce site, or managing a dynamic content-driven platform, users can rely on this system to deliver a seamless and efficient website creation experience.

Chapter 6

Conclusions & Future Work

6.1 Conclusion

The development of the Web Generator project marks a significant step forward in democratizing web development and empowering users of all technical backgrounds to establish a robust online presence. By integrating intuitive design tools, comprehensive features, cross-platform compatibility, robust security measures, continuous support, and affordability, the Web Generator addresses the complex challenges individuals and businesses face in creating and managing websites and e-commerce platforms.

The use of powerful Python libraries such as Pandas, NumPy, NLTK, re, scikit-learn, metrics, pairwise, cosine similarity, and NetworkX enriches the Web Generator with advanced capabilities in data manipulation, numerical computation, natural language processing, machine learning, and network analysis. These libraries collectively enhance the functionality, performance, and user experience of the application, making it a versatile and reliable tool for various web development needs.

The Web Generator project provides significant educational benefits, offering hands-on experience with state-of-the-art technologies and methodologies. By engaging with this project, we have deepened our understanding of both front-end and back-end development processes, enhanced our problem-solving skills, and gained valuable insights into the practical application of theoretical knowledge. This experience prepares us for future professional endeavors in the rapidly evolving tech industry.

Moreover, the project holds substantial economic potential by lowering the barriers to entry for online business ventures. Small businesses and entrepreneurs can leverage the Web Generator to create cost-effective, professional websites and e-commerce platforms, stimulating economic activity and fostering innovation. By making web development more accessible, the Web Generator contributes to a more digitally inclusive society, where individuals and businesses can thrive in the digital economy.

In summary, the Web Generator project not only equips users with the tools they need to succeed online but also promotes technological literacy, economic growth, and digital inclusion. It exemplifies the power of combining user-centric design with advanced technology, resulting in a solution that is both practical and impactful. Through continuous innovation and user feedback, the Web Generator has the potential to become a cornerstone in the landscape of web development and e-commerce solutions, driving progress and enabling success for its diverse user base.

6.2 Future Work

The Web Generator project, while already robust and user-friendly, is poised for several strategic enhancements that will significantly elevate its functionality, user experience, and market reach.

These future developments aim to keep pace with evolving user needs and technological advancements, ensuring that the Web Generator remains a cutting-edge tool for web development.

Expansion of Theme Library: One of our primary goals is to continuously expand the theme library. By introducing a wide array of new, professionally designed themes, we will provide users with an extensive selection of templates that cater to diverse industries and personal preferences. Each theme will be customizable, ensuring that users can create unique, visually appealing websites that perfectly align with their brand identity. This expansion will attract a broader audience, from individual bloggers and freelancers to large businesses seeking tailored solutions.

Enhanced Design Studio: Improving the design studio interface is another crucial aspect of our future work. We plan to refine the user interface to make it even more intuitive and user-friendly. Enhancements will include better organization of design elements, advanced customization options, and more streamlined workflows. By implementing these improvements, users will find it easier to navigate the platform, allowing for more creative freedom and efficient website construction. This will also include adding new tools and features that enhance the overall design capabilities of the studio.

Mobile Platform Integration: Recognizing the growing importance of mobile accessibility, we aim to make the Web Generator native for both Android and iOS platforms using React Native. This will enable users to design, edit, and manage their websites directly from their mobile devices. A native mobile application will offer a seamless and optimized user experience, allowing users to work on their websites anytime and anywhere. This flexibility is particularly beneficial for small business owners and freelancers who need to manage their online presence on the go.

AI-Driven Assistant: Incorporating a smarter AI-driven assistant within the Web Generator is a key focus area. This advanced AI will utilize cutting-edge natural language processing to interpret user commands and convert text inputs into actionable design tasks. For instance, users could describe their desired website features or layout in natural language, and the AI will automatically implement these changes. This will significantly streamline the website creation process, making it faster and more intuitive. The AI assistant will also provide personalized suggestions and optimizations, enhancing the overall user experience and ensuring that even novice users can create professional-quality websites with ease.

Structural Enhancements: Finally, we plan to improve the overall structure of the output websites. This includes optimizing the underlying code for better performance, faster loading times, and enhanced SEO. By focusing on these technical aspects, we aim to deliver websites that not only look great but also perform exceptionally well, providing users with a competitive edge in the digital landscape.

By focusing on these future enhancements, the Web Generator will continue to evolve, offering a powerful, innovative, and user-centric solution for website creation. These developments will ensure that the Web Generator remains a leader in the web development space, meeting the dynamic needs of its diverse user base and enabling success in the digital world.

Figure 5.32 Face recognition output

To perform face recognition in video streams we using:

-

libraries: (dlib, OpenCV, face_recognition)

Dlib is a C++ library for computer vision and machine learning. It includes a permissive license, support for deep learning, and a wide range of applications such as robotic programing, medical imaging, and computer games, among many others.

Dlib is a C++ library for computer vision and machine learning. It includes a permissive license, support for deep learning, and a wide range of applications such as robotic programing, medical imaging, and computer games, among many others.

Though Dlib is a general purpose library, it is often used for computer vision analysis (which includes tasks such as facial expression recognition and face detection) use the OpenCV library of functions, operating in a Python environment.

Facial Detection and Recognition With Dlib | Width.ai

Maintained by Mattia Cereda, the library contains our implementation of “deep metric learning” which is used to construct cross-platform, cross-device embeddings used for the actual recognition process. Facial Detection and Recognition | Width.ai

The `face_recognition` library:

Created by Alireza Shafiee, wraps around dlib’s facial recognition functionality, making it easier to work with. Face Recognition · PyPI

References

1. Software Life Cycle available from:
 - https://relevantsoftware.blog/agile-software-development-lifecycle-phases-explained/#Why_Agile [Online] [Cited: 5 18, 2022.]
 - mdn.[Online] [Cited: 4 3, 2022.] <https://developer.mozilla.org/en-US>
 - Stackoverflow.[Online] [Cited: 5 20, 2022.] <https://stackoverflow.com>
 - W3school [Online] [Cited: 4 3, 2022.]. <https://www.w3schools.com>
 - flutter.[Online] <https://flutter.dev/docs/development/ui/widgets-intro>
 - <https://api.flutter.dev/flutter/widgets/widgets-library.html> [Cited: 4 22, 2022.]
[https://en.wikipedia.org/wiki/Flutter_\(software\)](https://en.wikipedia.org/wiki/Flutter_(software))
 - Php.[Online] <https://www.php.net.com>
 - Laravel.[Online] <https://laravel.com/>

References

2. AI tools available from:

- Pandas: Data manipulation and analysis.

"<https://pandas.pydata.org/pandas-docs/stable/>"

- NumPy: Numerical computations and arrays.

"<https://numpy.org/doc/stable/>"

- NLTK: Natural language processing tools.

"<https://www.nltk.org/>"

- re: Regular expression operations.

"<https://docs.python.org/3/library/re.html>"

- Scikit-learn (sklearn): Machine learning library.

"<https://scikit-learn.org/stable/documentation.html>"

- Metrics: Model evaluation metrics.

"https://scikit-learn.org/stable/modules/model_evaluation.html"

- Pairwise: Pairwise distance computations.

"<https://scikit-learn.org/stable/modules/metrics.html#metrics>"

- Cosine Similarity: Similarity measure between vectors.

"https://scikit-learn.org/stable/modules/generated/sklearn.metrics.pairwise.cosine_similarity.html"

- NetworkX: Complex network analysis.

"<https://networkx.github.io/documentation/stable/>"