Final Year Project Proposal

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Designing And Development of Barber Shop

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Design and Development of Barber Shop:

1. Project Abstract:

This project aims to develop a fully functional, user-friendly web platform designed for Hair Salon to showcase their services and manage their billing information efficiently. The platform will cater to a wide range of services, from budget-friendly to premium options, allowing barbers to generate and display their service rates. Additionally, users can easily find, compare. Data is securely stored using cloud databases, ensuring easy access and strong protection, making it a dependable and scalable solution for managing salons.

2. Objectives:

- Create **a platform** where barbers can input their service details, including prices, styles, and availability.
- Develop **a dashboard** that will categorize and showcase barber shops from budget friendly to premium options.
- Store **data** using cloud-based storage for secure and scalable access.
- Ensure **ease of use** for both barbers and customers with a simple and intuitive interface.
- Provide **real-time data** to ensure that the information displayed is up-to-date and accurate.

Project Scope:

1. **Website Development:**

Create a web application using ASP.NET and C# for the back end, featuring a user-friendly front end for both customers and barbers. The platform will enable barbers to register and log in easily. Implement functionality for barbers to generate billing details and pricing information for their services.

1. **Database Integration:**
   Use SQL Server, complemented by cloud-based solutions and scalable data management.
2. **Dashboard Development:**
   Build a dynamic dashboard that allows users to effortlessly filter, sort, and search for barbers based on price range, location, and customer reviews.
3. **Cloud Integration:**
   Utilize cloud storage for a reliable and scalable data management solution, ensuring that barbers' information is securely stored and easily accessible.

Technology Stack:

- **Frontend:** Blazer Server App
- **Backend:** ASP.NET Core 9, C#
- **Database:** SQL Server
- **Platform:** Visual Studio Code

Literature Review:

This section will examine existing platforms that are similar to the proposed project, focusing on web applications within the service industry. We will analyze platforms that facilitate price comparisons and service listings, evaluating their features, user experiences, and overall effectiveness. Additionally, the review will delve into the technologies utilized by these platforms, particularly and cloud computing, which are essential for creating scalable and efficient systems.

Methodology:

Phase 1: Requirement Analysis:

- **Functional Requirements:**

  The system must enable barbershops to input and manage their data and pricing details. Users should have the ability to search, filter, and compare prices effectively. Additionally, the platform must store and manage data using cloud Storage.

- **Non-Functional Requirements:**

  The system must be scalable to accommodate growth, secure to protect user data, and provide quick response times for a seamless user experience. It should ensure data integrity and comply with ISO standards for data management and security**.**

Phase 2: System Design

- **User Interface:**

Create a responsive and intuitive web interface for both barbers and users. Barbers will have a dedicated dashboard to easily update their pricing and service details, ensuring a user-friendly experience.

- **Back-End Architecture:**

  Develop a robust system utilizing .NET and C# for core logic, connecting the SQL database to the front end. Implement Blazer Server App for local applications and web applications for broader accessibility.

- **Data Storage:**

  Implement cloud-based storage to ensure scalability. This approach will provide redundancy and facilitate data recovery in case of emergencies.

Phase 3: Development:

- The platform will be built using .NET, C#, and SQL for efficient data management and handling.

Phase 4: Testing and Evaluation:

- **Unit Testing:**

  Each module, including the front-end, back-end, and APIs, will undergo thorough testing to ensure individual functionality and correctness.

- **Integration Testing:**

  The interaction between cloud storage will be tested to verify data consistency, synchronization, and seamless communication.

- **User Acceptance Testing (UAT):**

A selected group of barbers and potential users will test the platform for usability, providing feedback on the user experience and functionality.

- **Performance Testing:**

  The system's performance under high load will be evaluated to ensure it can handle multiple users accessing services and data simultaneously without issues.

Expected Outcomes:

- A fully functional website where barbershops can list their prices and services in real time.
- A comprehensive city-wide database of barbers, allowing users to compare prices and receive recommendations for the best services.
- A user-friendly platform enabling customers to browse and choose barber services based on price, location, and quality.
- Scalable cloud storage integrated to ensure efficient data management and a responsive platform.
- Increased visibility and customer reach for barbershops, especially those offering competitive pricing options.

Project Timeline:

Phase	Duration
Requirement Analysis	2 Weeks
System Design	3 Weeks
Backend Development	5 Weeks
Frontend Development	4 Weeks
Integration & Testing	3 Weeks
Deployment & Finalization	2 Weeks
Total Duration	**19 Weeks**

Required Resources:

- **Development Tools:**
- Visual Studio for .NET/C# development, Vs Code for front-end work and SQL Server Management Studio for database management.

- **Hosting Services:**
- AWS for cloud infrastructure for easy deployment during the development stages.
- **Database & Storage:**
- SQL for database management for scalable cloud databases, and AWS S3 for cloud storage.

Risk Assessment:

- **Data Security Risks:**
- Mitigated by implementing secure JWT-based authentication for user sessions and enforcing HTTPS for all data transmissions.

- **Performance Issues:**
- Scalability will be ensured through cloud hosting solutions and database indexing to optimize query performance under heavy loads.
- **Development Challenges:**
- Addressed through regular peer reviews and continuous testing to identify and resolve bugs early in the development process.

Member 1: Backend Developer

Responsibilities:

- Design and implement the backend architecture using .NET and C#.
- Set up and manage the SQL database for barber data, prices, and services.
- Ensure secure handling of data and implement user authentication.

- **Deliverables:**

- Fully functional backend system.
- Scalable and secure database schema for barbershops.
- Implemented user authentication and data security measures.

Member 2: Frontend Developer

- **Responsibilities:**

- Design and develop a user-friendly interface using Blazer Server App.
- Ensure the interface is cross-browser compatible and mobile-responsive.
- Handle multimedia uploads like shop photos.

- **Deliverables:**
    - Responsive and easy-to-navigate web interface.
    - Functional price comparison tool for users.

Member 3: Full-Stack Developer/Project Manager

- **Responsibilities:**
    - Coordinate the project timeline and ensure all deliverables are completed on time.
    - Oversee frontend and backend development, ensuring seamless integration.
    - Manage testing processes, including unit, integration, and user acceptance testing.
    - Deploy the platform on a cloud-based infrastructure.
- **Deliverables:**
    - Fully deployed and live web platform.
    - Comprehensive testing reports and final project documentation.
    - Smooth integration of all system components.

Collaboration Tasks:

- **Weekly Stand-up Meetings:**
  Regular meetings to ensure all team members are aligned with project goals, discuss progress, and address any potential roadblocks.
- **Code Review Sessions:**
  Conduct sessions to review each other's code, maintaining quality control, consistency, and adherence to project standards.

- **Final Integration and Testing:**
  Collaborative effort to debug, optimize, and ensure seamless integration of all components before the final platform deployment.

Conclusion:

The proposed platform will revolutionize the way barber shops manage their services and interact with clients by providing a user-friendly interface for price and service comparison.
The integration of modern technologies and cloud storage will ensure that the system is scalable, secure, and responsive to the needs of both barbers and clients.