**Software Project Report**

on

**Gadget Hunter**

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**Table of Contents**

**Contents**

**1. Introduction**

1.1 Introduction

1.2 Motivation

1.3 Finance

**2. Background Study**

2.1 Introduction

2.2 Related Work

2.3 Competitive Analysis

2.4 Scope of the Problem

**3. Requirement Specification**

3.1 BPM

3.2 Use Case Model

3.3 Logical Data Model

**4. Design Specification**

4.1Front-End Design

4.2 UI

4.3 Back-End Design

**5. Conclusion**

1. **Introduction**

**1.1 Introduction**

The Gadget Hunter project aims to develop a comprehensive and user-friendly platform that allows gadget enthusiasts to search, view details, and purchase the latest gadgets. This project focuses on providing detailed information about various gadgets, enabling users to make informed purchasing decisions.

**1.2 Motivation**

The motivation behind creating Gadget Hunter stems from the need for a centralized platform where users can easily find and compare gadgets. Currently, users must visit multiple websites to gather information, read reviews, and make purchases. Gadget Hunter aims to simplify this process by consolidating everything into one platform, enhancing the user experience and saving time.

**1.3 Finance**

The financial considerations for the Gadget Hunter project include the following:

* **Initial Development Costs:** Expenses related to the design and development of the platform, including salaries for developers, designers, and project managers.
* **Hosting and Maintenance Fees:** Ongoing costs for hosting the website and maintaining the server infrastructure.
* **Marketing and Promotion:** Budget allocated for marketing campaigns to attract users to the platform.
* **Revenue Streams:** Potential revenue sources include advertisements, affiliate marketing commissions from gadget sales, and premium membership fees for enhanced features.

**2. Background Study**

**2.1 Introduction**

The background study provides an overview of existing solutions, a competitive analysis, and the identification of the problem scope. This section helps to understand the market landscape and the unique value proposition of **“Gadget Hunter”**.

**2.2 Related Work**

Several existing platforms offer gadget-related information and sales. These include:

* **Amazon:** A global e-commerce platform offering a vast range of gadgets with user reviews and ratings.
* **Best Buy:** A retail company that provides gadgets both online and in physical stores, with expert reviews and comparisons.
* **Specialized Review Sites:** Websites like CNET and TechRadar provide in-depth reviews and comparisons of the latest gadgets.

**2.3 Competitive Analysis**

A competitive analysis reveals the strengths and weaknesses of existing platforms:

* **Amazon:** Strengths include a wide range of products and customer reviews; weaknesses include information overload and sometimes inconsistent product details.
* **Best Buy:** Strengths include expert reviews and a physical store presence; weaknesses include limited product range compared to online-only platforms.
* **Specialized Review Sites:** Strengths include detailed reviews and comparisons; weaknesses include the lack of direct purchase options.

**“Gadget Hunter”** aims to combine the best features of these platforms: detailed information, user reviews, and direct purchase options, all in one user-friendly interface.

**2.4 Scope of the Problem**

The main problems identified in the current market include:

* **Fragmented Information:** Users must visit multiple websites to gather all necessary information about a gadget.
* **Complex Navigation:** Existing platforms often have complicated navigation structures, making it hard for users to find what they need.
* **Lack of Detailed Specifications:** Some platforms provide limited technical details, which are crucial for informed decision-making.

**Gadget Hunter** addresses these issues by offering a comprehensive platform with detailed gadget specifications, an intuitive navigation system, and integrated purchase options.

**3. Requirement Specification**

**3.1 BPM (Business Process Model)**

The BPM for Gadget Hunter includes the following core processes:

* **User Registration:** Users can create an account to access personalized features.
* **Gadget Search:** Users can search for gadgets using various filters such as brand, price range, and specifications.
* **Viewing Details:** Users can view detailed information about each gadget, including specifications, reviews, and ratings.
* **Placing Orders:** Users can place orders for gadgets directly through the platform.
* **Order Confirmation:** Users receive confirmation and tracking information for their orders.

**3.2 Use Case Model**

The use case model defines the primary interactions between users and the system:

* **User Registration and Login:**
* Users can create a new account or log in to an existing account.
* Users can reset their passwords if forgotten.
* **Searching for Gadgets:**
* Users can search for gadgets using a search bar or filters.
* **Viewing Gadget Details:**
* Users can view detailed information about each gadget, including images, specifications, reviews, and ratings.
* **Placing an Order:**
* Users can add gadgets to their cart and proceed to checkout.
* Users can enter shipping and payment information to complete the purchase.
* **Viewing Order Confirmation:**
* Users receive confirmation of their order along with tracking details.

**3.3 Logical Data Model**

The logical data model defines the database structure and relationships between entities:

**Users:** Stores user information such as username, email, password, and address.

**Gadgets:** Stores gadget information such as name, brand, specifications, price, and stock availability.

**Orders:** Stores order information such as order ID, user ID, gadget ID, order date, shipping address, and order status.

**Reviews:** Stores user reviews and ratings for gadgets, including user ID, gadget ID, rating, and review text.

**4. Design Specification**

**4.1 Front-End Design**

The front-end design focuses on creating a visually appealing and user-friendly interface:

* **Homepage:**
* Displays featured gadgets and a search bar for quick access.
* Includes navigation links to different gadget categories and user account options.
* **Login Page:**
* Provides a form for users to log in with their email and password.
* Includes options for password recovery and account creation.
* **Input Page:**
* Features a form for users to enter their order information, including name, email, phone number, and address.
* **Success Page:**
* Displays a confirmation message once an order is successfully placed.
* Provides a link back to the homepage for further browsing.

**4.2 UI (User Interface)**

The UI design emphasizes a clean and modern look using Tailwind CSS and DaisyUI:

* **Navigation Bar:**

Fixed at the top with dropdown menus for easy access to different sections.

* **Buttons:**

Styled for consistency and visibility, with clear call-to-action labels.

* **Forms:**

Simple and intuitive forms for user login, registration, and order placement.

* **Cards:**

Gadget information is displayed in card format for easy browsing and comparison.

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Figure 0: UI (User Interface)

**4.3 Back-End Design**

The back-end design involves the server-side logic, database management, and API integration:

* **Server-Side Logic:**
* Handles user authentication, session management, and order processing.
* Validates user input and ensures secure data handling.
* **Database Management:**
* Uses a relational database to store user information, gadget details, orders, and reviews.
* Ensures data integrity and security with proper indexing and constraints.

**API Integration:**

* Integrates external APIs for features like real-time price updates and stock availability.
* Provides RESTful APIs for the front-end to interact with the database and perform CRUD operations.

**5. Conclusion**

The Gadget Hunter project aims to provide a comprehensive and user-friendly platform for gadget enthusiasts to search, view details, and purchase the latest gadgets. The design specifications include a clear front-end and back-end structure, ensuring a smooth and engaging user experience. This report outlines the motivation, background study, requirement specifications, and design specifications, providing a detailed roadmap for the successful implementation of the project.