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[CLASS] | Financial technology

Software Application Development

CA1: Web Application development proposal

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| 1. **App Ideas**  * (Secrets of Mystic Manor) Point and Click adventure game:   A point-and-click adventure game is an interactive story where players solve puzzles by clicking on objects. It entertains players with engaging narratives and challenges. Such games stimulate creativity, problem-solving, and critical thinking while offering an immersive escape into imaginative worlds.   * **(Temporium) Scrapbooking website:**   A scrapbooking website is an online platform for creating and sharing digital scrapbooks, preserving memories in a convenient and creative way. It helps users cherish and share important moments with friends and family.   * (Wellnest) Health tracker:   A health tracker is a tool for monitoring and managing various aspects of health, including activity, sleep, nutrition, and vital signs. This web application helps users make informed decisions about their lifestyle to improve overall well-being.   * (EduKATE) Virtual classroom:   A virtual classroom is an online platform for remote learning, providing tools for live lectures, interactive discussions, and collaborative activities in a cozy, virtual space. It expands access to education and fosters collaboration among students and educators.   * (Eventor) Event planning tool:   An event planning tool is a digital platform for efficient organization of events, managing tasks like guest lists, budgets, and vendor coordination. It simplifies the planning process and ensures successful events.   * (Sheji) Virtual design studio:   A virtual design studio web application enables users to visualize and plan interior designs online and furniture selection. It streamlines the design process and fosters collaboration between designers and clients. |
| 1. **Key Features and Functionalities**  * **Photo Import and Organization:**   Temporium allows users to directly import their photos onto the platform, eliminating the hassle of sorting through cluttered galleries. This feature streamlines the organization process, ensuring every memory finds its rightful place effortlessly.  **Create:** Users can upload new photos to their albums.  **Retrieve:** Users can view their photos and scrapbooks.  **Update:** Users can edit photo descriptions and rearrange scrapbook pages.  **Delete:** Users can delete unwanted photos and scrapbooks.   * **Filtering and Sorting Options:**   Enhancing user experience, Temporium offers robust filtering and sorting options. Users can categorize photos by date, event, location, or custom tags, facilitating swift navigation through their collections.   * **Community Sharing:**   Temporium fosters a sense of community by providing users with a dedicated space to share their memories. The community page serves as a virtual gallery where users can showcase their favorite moments, engage in interactions, and celebrate shared experiences with friends and family. |
| 1. **Database Fields**   **User** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | user\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | username | Varchar (255) |  | | email | Varchar (255) |  | | password | Varchar (255) |  | | registration\_date | Datetime |  |   **Photo** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | photo\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | user\_id | Int(11) | FOREIGN KEY | | photo\_url | Varchar (255) |  | | upload\_date | Datetime |  | | description | text |  |   **Scrapbook** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | scrapbook\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | user\_id | Int(11) | FOREIGN KEY | | title | varchar(255) |  | | creation\_date | datetime |  |   **Scrapbook\_Pages** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | page\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | scrapbook\_id | Int(11) | FOREIGN KEY | | page\_number | varchar(255) |  | | background\_url | varchar(255) |  | | creation\_date | datetime |  |   **Collaborator** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | collaboration\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | scrapbook\_id | Int(11) | FOREIGN KEY | | user\_id | Int(11) | FOREIGN KEY |   **Meta\_Info** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | Meta\_Info\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | scrapbook\_id | Int(11) | FOREIGN KEY | | user\_id | Int(11) | FOREIGN KEY | | author | Varchar (255) |  | | creation\_date | Datetime |  |   **Comments** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | comment\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | scrapbook\_page\_id | Int(11) | FOREIGN KEY | | user\_id | Int(11) | FOREIGN KEY | | comment\_text | Text |  | | comment\_date | Datetime |  |   **Contact** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | contact\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | name | Varchar(255) |  | | email | Varchar(255) |  | | message | Text |  | | submission\_date | Datetime |  |   **Login** table   |  |  |  | | --- | --- | --- | | **Fields** | **Data Type** | **Special** | | login\_id | Int(11) | AUTO\_INCREMENT PRIMARY KEY | | user\_id | Int(11) | FOREIGN KEY | | username | Varchar(255) |  | | password | Varchar(255) |  | |
| 1. **Target Audience**   The primary audience includes photography enthusiasts, individuals passionate about preserving memories, and those who enjoy sharing their creative projects with friends and family. The platform is designed for people who want a convenient and artistic way to store and share their photos online. |
| 1. **Potential Challenges**  * **Technical Issues:**   Maintaining a stable and reliable platform may present challenges such as server downtime, software bugs, or compatibility issues across different devices and browsers.  Solution: Ensuring robust testing procedures and implementing regular updates are essential to address these technical challenges.   * **Data Privacy and Security:**   Protecting users' personal information and content is important. However, challenges may arise in implementing adequate security measures to safeguard user data from unauthorized access, data breaches, or cyber threats.  Solution: Use strong encryption and regular security audits.   * **User Engagement and Retention:**   Sustaining user engagement and retaining active users over time can be challenging, especially in a competitive online landscape.  Solution: Keeping the platform content fresh, introducing new features, fostering community engagement, and soliciting user feedback are strategies to address this challenge.   * **Content Moderation:**   Managing user-generated content requires implementing effective moderation policies to prevent inappropriate or offensive material from being shared on the platform.  Solution: Developing automated content moderation tools and establishing clear community guidelines can assist in maintaining a positive user experience.   * **Monetization:**   Developing a sustainable monetization strategy can be challenging, especially for free-to-use platforms. Balancing revenue generation with user experience and value proposition requires careful consideration.  Solution: Potential monetization avenues include premium features, subscription plans, advertising, or partnerships with relevant brands.   * **Competitive Landscape:**   Competing with established platforms and attracting users' attention amidst a crowded marketplace presents a significant challenge.  Solution: Conducting thorough market research, identifying unique selling points, and effectively communicating the value proposition are essential to stand out from competitors. |
| 1. **Timeline for Development**   *Create a realistic timeline for the development of the web application, including milestones and deliverables for each stage of the project. This should cover planning, design and development launch phases.*  *E.g. (Lesson Weeks)*  *Week 2-3: Planning and Research (Project proposal)*  *Week 3-4: Website Design – Prototyping using design tools (e.g. Figma, Canva, etc)*  *Week …: ….*  Week 2-3: Planning and Research (Project Proposal)  Week 3-4: Website Design – Prototyping of key application screens using design tools (e.g., Figma, Canva)  Week 5-8: Development – Setting up development environment, implementing front-end functionalities (e.g., HTML, CSS, JS), developing back-end functionalities (e.g., CRUD operations)  Week 9-10: Testing and Quality Assurance – Comprehensive testing (e.g., functional and usability testing), address bugs or issues identified.  Week 11: Deployment and Launch – Preparing deployment to a hosting server, configuring domain settings, and conducting final checks for final launch.  Week 12: Post-Launch Support – Monitor application performance and user feedback after launch and address any issues or bugs faced.  Week 13: Ongoing maintenance and updates – Regular maintenance tasks (e.g., software updates), continue to monitor user engagement and feedbacks. |
| 1. **Additional Features for Future Iterations**   *Propose additional features or enhancements for future iterations of the application. These could include advanced functionalities, or improvements based on user feedback.*  *E.g.*  *Additional feature 1:* ***User Authentication (Login)*** *to ensure only authorised users have access to the application and its features. By requiring users to log in with unique credentials (such as a username and password), the application can verify the identity of each user before granting access to sensitive information or functionalities.*  *Additional feature X: ….*   * **Secure Authentication:**   Utilize strong authentication mechanisms such as multi-factor authentication (MFA) to verify the identity of users before granting access to their accounts.   * **Data Backup and Sync:**   Implement automatic data backup and synchronization features to ensure users' scrapbook projects are securely stored and accessible across multiple devices.   * **Community Marketplace:**   Instead of focusing on scrapbooking, the web application can offer a community marketplace where users can buy and sell their products using our scrapbooking photo features. Implement a rating and review system to ensure quality and reliability within the marketplace.   * **Collaborative Scrapbooking:**   Enhance collaboration features to allow multiple users to contribute to the same scrapbook project in real-time. Implement collaborative editing tools, version control, and commenting features for efficient teamwork.   * **Social Sharing Integration:** * Allow users to share their scrapbook pages directly to social media platforms like Facebook, Instagram, and Pinterest. * **Advanced Editing Tools:**   Expand the range of editing tools available to users, such as filters, stickers, overlays, and text effects. |