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## **System Request Proposal for Wallify**

**A background image application with a vast collection of excellent photos covering many genres and subjects, customers can quickly locate the ideal background for their gadgets. The app's smooth search feature makes it easy for users to find the wallpapers they like, and the favorite feature lets them easily construct a personalized portfolio. Strong user authentication guarantees dependability and security.**

### **Business Reasons**

- Establishing the app as a destination for high-quality wallpapers and creative expression can enhance brand recognition and reputation.
- By allowing users to post their own artwork the app can foster a sense of community and engagement.
- Users may spend more time on the app browsing through content, interacting with other users, and customizing their wallpapers.

### **System's Expected Value**

- Building a strong brand reputation as a reliable source for wallpapers, leading to increased trust and loyalty among users.

### **Project Key Elements**

- Intuitive UI for easy navigation and customization
- User Authentication
- Access to High quality images via custom search
- Users can save images and upload their own
- Compatible Cross-platform
- Image Source - User uploads and Pexels API

## **Feasibility analysis & Risk Assessment**

### **Market Analysis**

- **Competitor** : Lots of existing wallpaper apps with a variety of styles, but these competitors lack features like artist profiles.
- **Target Audience** : Individuals aged 18 - 60 that want to personalize their devices with unique high quality wallpapers.

### **Technical Analysis**

- **App Development Complexity** : Moderate complexity with existing wallpaper gallery and user-generated content sections.
- **Costs** : Projects to be around \$30,000 - \$50,000
- **Maintenance and Updates** : Monthly updates with new wallpapers, bug fixes, and occasional features.

### **Economic feasibility**

- **Monetization Strategy** : Free version will have limited selection of wallpapers, Paid version will get unlimited access to everything.
- **Cost Structure** : Development, marketing, server costs, and transaction fees are estimated to be \$3,000 per month.
- **Financial Projections** : We expect profits within 12 months, with project revenue reaching \$15,000 per month within 24 months.

### **Organizational feasibility**

- **Team and resources** : Two experienced developers and design , and one marketing specialist.
- **Marketing strategy** : Will utilize majority in social media marketing through Facebook, Tiktok, Instagram, Youtube, and Twitter.
- **Legal and regulatory considerations** : We will comply with data privacy regulations and copyright laws for user-generated content.

- The feasibility of the app appears promising. However, addressing the weaknesses identified above and conducting further research will strengthen the overall business case.
  - Conduct user testing and gather feedback on app features and monetization strategy before launch.
  - Develop a detailed marketing plan with specific goals, targeted channels, and budget allocation.
  - Refine financial projections based on thorough market research and competitor analysis.
  - Consider outsourcing tasks to optimize resource allocation.
  - Partner with legal professionals to ensure compliance with data privacy and copyright regulations.
  - Monitor market trends, user feedback, and app performance to adapt strategies as needed.
- Feasibility will be reassessed when conducting user testing, launching new features, or reaching growth targets.

### **Risk Assessment**

#### **Content & Curation**

- **Low-quality Images**
  - **Likelihood: 1**
  - **Impact: 3**
  - **Risk Score: 3**
  - **Mitigation:** Images can be searched by resolution and our 3rd party api already only contains higher quality images.
- **Lack of variety or user interest in content**
  - **Likelihood: 2**
  - **Impact: 3**
  - **Risk Score: 6**
  - **Mitigation:** Users can search for whatever type of images they desire, this will guarantee interest.
- **Difficulty obtaining high-quality images**
  - **Likelihood: 3**

- **Impact: 3**
- **Risk Score: 9**
- **Mitigation:** API contains only high quality images for all resolution types, when users upload images the resolution will be stored and included in the search

### **Functionality & Features**

- **Bugs or crashes affecting user experience**
  - **Likelihood: 3**
  - **Impact: 3**
  - **Risk Score: 9**
  - **Mitigation:** Conduct Testing before each release
- **Difficulty integrating desired features**
  - **Likelihood: 1**
  - **Impact: 1**
  - **Risk Score: 3**
  - **Mitigation:** Prioritize feature requirements and conduct feasibility studies early in the development cycle.
- **Performance issues on different devices**
  - **Likelihood: 1**
  - **Impact: 2**
  - **Risk Score: 2**
  - **Mitigation:** Application will be coded with mobile users in mind and Utilize responsive design principles including optimization for various device specifications

### **User Experience & Design**

- **Unintuitive or confusing interface**
  - **Likelihood: 1**
  - **Impact: 2**
  - **Risk Score: 2**

- **Mitigation:** Conduct user testing and iterate on interface designs based on feedback. Implement intuitive navigation and clear labeling to enhance usability.
- **Unattractive or outdated design**
  - **Likelihood: 1**
  - **Impact: 3**
  - **Risk Score: 3**
  - **Mitigation:** Aware of good current design principles and using the latest versions of bootstrap or tailwind for most up to date design

### Technical Considerations

- **Security vulnerabilities leading to data breaches**
  - **Likelihood: 3**
  - **Impact: 3**
  - **Risk Score: 9**
  - **Mitigation:** Implement regular security audits, penetration testing, and code reviews. Stay updated on security patches and best practices
- **Reliance on specific technologies with potential future obsolescence**
  - **Likelihood: 2**
  - **Impact: 3**
  - **Risk Score: 6**
  - **Mitigation:** Utilizing widely supported and maintained technologies. Allowing for easy migration or adaptation to new technologies
- **External API integrations causing downtime or instability**
  - **Likelihood: 3**
  - **Impact: 3**
  - **Risk Score: 9**
  - **Mitigation:** Keeping an eye on the functionality and dependability of APIs, and making contact with API providers to quickly resolve any concerns.

## **Functional Requirements**

### **1 User Authentication**

#### **Description**

This feature involves users creating their accounts and entering their username and password, which the system then verifies against a database. If successful, the user is granted access; if unsuccessful, the system displays error messages and prompts the user to re-enter their credentials. User accounts play a crucial role in storing user data and preferences, making them an essential component.

### **2 Image Search**

#### **Description**

This feature enables users to search for images or artwork that they are looking for based on their search keywords.

### **3 AI Image Generation**

#### **Description**

This feature enables users to generate images using their imagination. The system utilizes advanced AI algorithms to generate high-quality images based on user input. Once generated, users can download, share or upload as desired.

### **4 User Image Upload**

#### **Description**

This feature enables users to upload their own images or custom artwork. These images can be added to our database and accessible via search for other users.

### **5 Search Results Analytics**

#### **Description**

We will store data and statistics for popular searches and users. Using this information we can recommend our most popular searches and users to everyone.

## **Nonfunctional Requirements**

### **1 Performance Requirements**

Performance requirements for the Wallify app are very important to ensure a satisfactory user experience and functionality. The app should respond to user inputs within 1 second for each interaction. Loading times image uploads should not exceed 4 seconds. AI image generation will not exceed 10-15 seconds. The app should be able to support 250,000 concurrent users, and the database of user information should be able to hold 1,000,000 users.

### **2 Security Requirements**

Implementation of end-to-end encryption for all user data, both in transit and at rest. This ensures that data is secure during transmission and while stored on servers. Access to user data should only be available to authorized personnel. We encourage our users to create strong, unique passwords and regularly update them. To protect these passwords we will utilize the hashing algorithm, well regarded for its incorporation of salting and computational intricacy. We will conduct regular security audits and penetration testing to identify and address vulnerabilities, ensuring that password protection and data privacy measures are continuously strengthened. And the app will comply with up to date privacy regulations to protect user privacy.

### **3 Usability Requirements**

Our interface is designed to prioritize user-friendly navigation. Users can expect to traverse the interface with minimal clicks to get where they want. All

different aspects of the application will be easily found and clearly named/marked.

#### **4 Reliability Requirements**

The Wallify app should be available at least 99% of the time. The mean time between failures should be at least 10,000 hours. The mean time to repair should be 6 hours within the event of a system failure. Updates and patches will be deployable without disrupting the user experience. This seamless integration of improvements and maintenance ensures that users can continue to benefit from the app's enhanced features and reliability while encountering minimal downtime.