Feasibility Report: Calorie Click

Executive Summary

This feasibility report assesses the viability of developing a web application that enables users to log their meals by taking images of their food and provides nutritional information such as calorie count and other nutrients. The proposed web app aims to promote healthier eating habits by making meal tracking more convenient and informative. This report evaluates various aspects of the project, including technical, financial, and market feasibility.

1. Technical Feasibility

1.1. Technology Stack

Developing the web app requires web development, image recognition, and nutrition database integration expertise. The technical team must have experience with technologies such as:

- Frontend: HTML, CSS, JavaScript, and a JavaScript framework.
- Backend: Node.js for server-side logic.
- Image Recognition: Integration with machine learning libraries or APIs (Pytorch, HuggingFace).
- Nutrition Database: Access a reliable nutrition database or API (e.g., USDA Food Database).

1.2. Image Recognition

Developing a robust image recognition system capable of accurately identifying various types of food is a significant technical challenge. Consideration should be given to leveraging pre-trained models and continuously improving the model's accuracy over time.

1.3. User Authentication

Implementing secure user authentication to protect user data is crucial. This requires encryption, secure password storage, and user account management features.

1.4. Database Management

A database is needed to store user accounts, food images, and nutritional information. Choosing the appropriate database system and architecture is essential for scalability and data security.

1.5. Mobile Compatibility

To increase user accessibility, the web app should be mobile-responsive and ideally have a dedicated view for iOS and Android smartphones.

2. Financial Feasibility

2.1. Development Costs

Estimate the costs associated with software development, including personnel, software licenses, hosting, and infrastructure.
In this specific case we face little development cost, most of which will be hosting the main website as well as any ML model APIs will also need GPU processing power.

2.2. Operating Costs

Calculate ongoing expenses for server maintenance, database management, and potential third-party API costs.
Given the small nature of our initial beta testing, we will require little operating budget. Training of the ML model may be an expensive process.

2.3. Revenue Streams

Need to investigate potential revenue sources, such as subscription fees, in-app advertising, or partnerships with nutrition companies.

2.4. Monetization Strategy

Develop a clear monetization strategy that outlines how the project will generate revenue and when it is expected to become profitable. This will require reiterating our revenue streams until we reach a point where the revenue from users crosses our development and operating costs.

3. Market Feasibility

3.1. Market Research

Although there are apps that can enable users to scan an image for food, none of them are specific made for Indian foods. These apps are also expensive for the services they provide. We plan to undercut them by creating a lower cost software for the end user.

3.2. Target Audience

Our target audience is mostly teenagers and adults in their mid-20s and 30s who are key on their health and calorie count. As we improve the accuracy of the model that we use, more customers of this demography will be attracted to our product.

4. Legal and Ethical Considerations

4.1. Privacy and Data Security

Comply with data protection regulations and ensure user data privacy and security. Develop a clear privacy policy for the same.

4.2. Intellectual Property

Ensure that the image recognition technology does not infringe on patents or intellectual property rights.

5. Conclusion

Developing a food image logging web application is technically feasible but requires careful consideration of image recognition accuracy, user authentication, and database management. Financial feasibility will depend on development and operating costs balanced against revenue streams. Market feasibility is promising, given the growing interest in health and fitness. Legal and ethical considerations are critical to protect user data and avoid legal issues.

Before proceeding, conducting a comprehensive feasibility study, including prototype development and user testing, is advisable to validate the concept and assess potential challenges in real-world scenarios. If successful, this web app could serve as a valuable tool for individuals seeking to make informed dietary choices and improve their overall health.