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HealthDiary: Fitness and Diet Application

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List of Abbreviations

i.e.	Id est (Latin: this means)
e.g.	Exempli gratia (Latin: for example)

1 Realistic Constrains

1.1 Social, Environmental and Economic Impact

Dietary practices have the potential to increase awareness of healthy eating. Such applications are used to raise awareness and encourage users to make healthy eating and lifestyle choices, meaning they can contribute to a healthier society in general or help or control those who want to eat healthy. These apps encourage individuals to adopt healthy lifestyle habits by encouraging users to achieve their nutritional goals. In addition, diet apps offer communities where users can interact and support each other. This allows people to share their experiences, increase their motivation and support each other.

In addition, it can provide positive effects on environmental sustainability. These practices can help use resources more efficiently by encouraging users to reduce food costs or reduce industrial consumption. It can also promote sustainable agriculture and eco-friendly dietary choices. It can reduce environmental impacts by encouraging users to consume more plant-based foods. Such practices can make users aware of water consumption and help protect sustainable water resources.

In terms of economic effects, it has the potential to create economic opportunities in the healthy nutrition sector. These practices can increase the demand for healthy recipes, nutritional products and ingredients. This in turn stimulates the economic activities associated with the marketing and sale of these products. In addition, dietary practices have the potential to provide education and counseling on healthy lifestyles. While these services create new job opportunities, they also enable the employment of specialists in the field of health and nutrition.

1.2 Cost Analysis

1.2.1 Development Cost

The development process of a diet app can involve significant cost. Factors such as the salaries of the software development team, design and user experience research, testing, and software infrastructure can affect this cost. Professional software development skills are required at this stage and the cost is often high.

Based on Turkey's minimum wage (8,506 Turkish lira) and insurance premium (2,950 Turkish lira) in 2023, the monthly cost per person is 11,546 Turkish lira. Considering that two software developers are working on this project, the monthly expense is 22,912 Turkish lira and when it is a four-month project, the cost is 91,648 Turkish lira only for the software team.

1.2.2 Operating Cost

Various and necessary costs may arise during the operation of this application. This includes factors such as server and infrastructure, application updates, user support and marketing activities. Continual investment may be required to meet expectations such as user service quality, performance, and usability.

1.2.3 Data Security and Privacy Costs

For the application to be successful, users must feel secure about the security and privacy of their personal data. This requires appropriate security measures and compliance with data protection regulations. For this, it may be necessary to make an agreement with a team other than the team and perform penetration tests. This process can lead to additional costs, such as compliance audits and working with information security experts.

1.2.4 Marketing and Ad Costs

Investments may be required in marketing and advertising activities to expand the app's user base. This includes investing in digital marketing campaigns and advertising, social media strategies. These costs can increase the popularity of the application, affecting the cost of acquiring users.

If the daily budget of the created campaign is 10 Turkish lira, the maximum amount to be spent for 30 days will be 30 Turkish lira. If a cost under 10 TL occurred on some days, daily costs above 10 Turkish lira can be seen in the following days.

1.2.5 Update Cost

The application needs to be constantly updated and maintained. It includes adding new features, fixing bugs, and adapting to platform updates. This process requires constant work from software developers and support teams and affects cost.

2 Standards

2.1 Relevant NSPE Code of Ethics

Codes I.3 and I.5

These codes refer to "Issue public statements only in an objective and truthful manner." and "Avoid deceptive acts." respectively[2].

Code III.2.c

This code refers to the statement "Engineers are encouraged to extend public knowledge and appreciation of engineering and its achievements."[2]

2.2 IEEE Standards

- IEEE 2410™ - Standard for an Architectural Framework for the Internet of Things (IoT): This standard provides guidelines for designing secure and interoperable IoT systems. It can be relevant for diet applications that involve IoT devices or utilize data from connected devices.
- IEEE 11073™ - Personal Health Device (PHD) Standards: This set of standards focuses on interoperability and communication between personal health devices and systems. It ensures compatibility and seamless integration of health-related devices, which could be applicable to diet applications that involve collecting data from different devices.
- IEEE P2933™ - Standard for Ontology for Personalized Health and Wellness Information Management: This emerging standard aims to define a common ontology (a shared vocabulary) for managing personalized health and wellness information. It can provide a structured approach for representing and exchanging data in diet applications.
- IEEE 1888™ - Standard for Ubiquitous Green Community Control Network Protocol: This standard focuses on energy efficiency and sustainability in networked systems. While not directly related to diet applications, it can be relevant in terms of designing energy-efficient systems or promoting sustainable practices within the application.

3 Risk Analysis

3.1 Analysis I: Data Security

The application collects and stores users' personal information and health data. Data security breaches can pose risks such as unauthorized access, data leakage or malicious attacks. Measures such as data encryption, secure data storage methods, and correct user authorization measures can help reduce data security risk.

3.2 Analysis II: Potential for Abuse

The app provides users with health and diet information. However, there is a risk of giving false or dangerous advice or providing misleading information. Providing accurate and reliable content, using healthcare professional-approved information, and adding a clear disclaimer to alert users can help mitigate this risk.

3.3 Analysis III: User Reports

There is a risk of users going wrong or inaccurate data, wrong thinking or user interface errors. Proper input validations, error correction mechanisms, and a user-friendly interface design can help mitigate such risks.

3.4 Conclusion of Risk Analysis

The risk analysis process should be performed during the application development phase and corrective actions should be taken when vulnerabilities or risk areas are identified. Vulnerabilities must be properly addressed and constantly updated and tested. It is also important to follow the feedback and problems of the app users and take corrective actions.

References

[1] Google Ads Nedir? https://metehanyilmaz.com.tr/google-ads-nedir/

[2] NSPE Code of Ethics for Engineers. https://www.nspe.org/resources/ethics/code-ethics