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FitQuest: A Fitness Mobile Application for Gym Enthusiasts

Raineir Jun I. Luces*, Rodney C. Ormeo, Duane G. Gemino***, Ronnie C. Fortaleza****, & Jeffric S. Pisuena*****

*&*****State University of Northern Negros, Philippines*
*** &*** I-Tech College, Philippines*
*******University of Antique, Philippines*

ABSTRACT

The use of mobile technology has grown over the period of time and it has penetrated almost every industry: these markets as part of the healthcare and fitness market segment was also highlighted. The current research is situational in nature and seeks to establish the effects, growth, construction, launch, and usage of Mobile Apps in fitness for the purpose of promoting health, exercise, and wellness. This research plan will use concurrent data collection where both qualitative and quantitative data will be gathered and used as analysis in order to explore engagement and behavioral changes associated with their use in fitness. The literature review conducted unveils the newer forms of fitness apps and its applicability for encouraging people in different age groups to engage in physical activities. It also examines the features that contribute to the utility of the apps, such as implementation of game design dimensions, detail feedback section, and social relatedness aspects, among others. The data was gathered through surveys and interviews of fitness app users and consisted of app usage data and statistics. The findings showed that the rate at which the identified subject engages the application positively impacts their physical activity, the enhancement of fitness and motivation. Further, the findings show that many users specifically stated that options for goals setting, monitoring progress, or belonging to a virtual community should be most helpful to ensure their commitment towards fitness regimes.

Lastly, the study also reveals several imperfection and issue in the usage of fitness apps including: concern of privacy and security of data generated by the app during its usage and the risk of users quickly getting bored and demotivated to continue employing the applications. recommendations to the developers of the apps include offering enhanced analytical options that could allow the provision of users with tailor-made solutions, trying to work on more sophisticated data security measures to be adopted and lastly there should be provision of long-term engagement strategy.

Therefore, fitness mobile applications appear as a promising tool to facilitate the improvement in the standards of living and the increase in the level of individuals' physical activity.

INTRODUCTION

Mobile fitness applications have seen a significant growth to promote more active lifestyles by following different approaches. However, it is yet unclear which design strategies and

methodologies provide the best results when it comes to keep people motivated in their workouts. (Raquel Catalina Vaquero, &, Rodolfo Morales López, 2016).

As Kelly Semsem & Jonar T. Martin (2022) has shown, computers and smartphones are seen to be essential factors that may change people's attitudes toward physical fitness. Higgins reported that smartphone applications could be helpful tools for people who desire to increase their physical activity and monitor their fitness levels to improve their health and well-being. These turn out to be innovations since they promote interaction; at the same time, they increase the users' interest, and give the interface they have or the nature of the application itself.

The author claims that "The aim of this thesis is firstly to find out and define what it means to live healthily in terms of diet and physical activity." (Żabińska, Maria, 2020)

This information is vital for beginners as inappropriate technique of exercising may cause serious body injury. Among the basic information needed are; i) the appropriateness of a workout technique, ii) the frequency of the required workout technique and iii) the right postures in preventing body injuries. On top of that, a beginner with no past experience in performing specific exercising technique can lead to a low outcome. It has to noted that, given the stamina level of a beginner, the of intensity of the exercise routine needs to be different as compared to that of an advance exercising routine. A better outcome can be obtained if beginners are provided with a more detailed basic information and specific exercise techniques suiting them. The use of modern technology such as the usage of mobile applications is one of the suggested ways in order for beginners to better achieve their outcome. (Mohamed Imran Mohamed Ariff, Nabil Farhan Roslan, Khairulliza Ahmad Salleh, & Masurah Mohamad, 2021)

Research has shown that the most effective behavior change related to fitness and health occurs through behavior interventions. Mobile technology such as mobile applications (apps) have been found to be a very useful intervention tool for increasing physical activity because through their unique features these apps motivate individuals to achieve their fitness goals. Fitness apps are becoming increasingly popular both around the world and in Saudi Arabia. Smartphones and their apps have seen an exponential growth in their usage in Saudi Arabia in recent times. (Ryan Alturki & Valerie Gay, 2017)

Combining the popularity of mobile devices with the on-going search for fitness, thousands of fitness applications are available for free or low cost. Apps allow users to set fitness goals, track activity, gather workout ideas, and share progress on social media. Characteristics such as a user-friendly interface, automatic tracking, and security are desired app characteristics among fitness app users. (Lynn Katherine Herrman & Jinsook Kim, 2017)

In the modern era there has been an increasing amount of interest in physical fitness and health with the most people, there are people who have a full desire for that, but it may force them time or place conditions on the sometimes unsteadiness on a specific date for the exercise. Based on that project provided a mobile application for the exercise of fitness in every place and at any time, thus facilitated a lot trouble discipline on a specific place or a specific time in the day and helped them to calculate calories that are burned through sport exercise and eat healthy food. There are lot of applications that are interested in health, fitness and nutrition, but the user needs one application combines between them to facilitate

the deal and the user does not distract from more than one application and give its own total exact results. (Abeer Younis Saidam & Yasmeen Talal AbuKwiak, 2016)

The development of information technology leads to changes in various industries. In particular, the health care industry is more influenced so that it is focused on. With the widening of the health care market, the market of smart device based personal health care also draws attention. But although an amount of use of mobile fitness applications increases, it fails to lead to a sustained use. It is necessary to find and understand what matters for mobile fitness application users. (Lee, So-Hyun, Kim, Jinsol, Yoon, Sang-Hyeak, & Kim, Hee-Woong, 2020)

OBJECTIVES

FitQuest is a mobile app that aims to improve communication at a gym and create a lively sports and fitness community within the application. Presenting a place for gym-goers to mingle, compare notes, compete in challenges and cheer each other on in their fitness journey. FitQuest strives to develop an inspirational user-friendly community which applies to the principle that shared experiences, a few high-fives, and "likes" go a long way in creating a motivated, responsible, socially engaged population in the gym.

METHODOLOGY

This study uses a developmental method using the Rapid Application Development Model (RAD). To build a system quickly, one can utilize the Rapid Application Development (RAD) method. RAD is a model that allows non-experts to benefit from high-performance computing, while allowing expert programmers to take full advantage of the underlying hardware. This enables rapid prototyping, retargeting, and reuse of existing software, while allowing hardware-specific optimization if needed. The RAD system emphasizes the fast development cycle that is designed and high-quality results from other methods such as waterfall, agile, scrum and others. (Nalendra, A. K., 2021).

Figure 1. Rapid Application Development Model

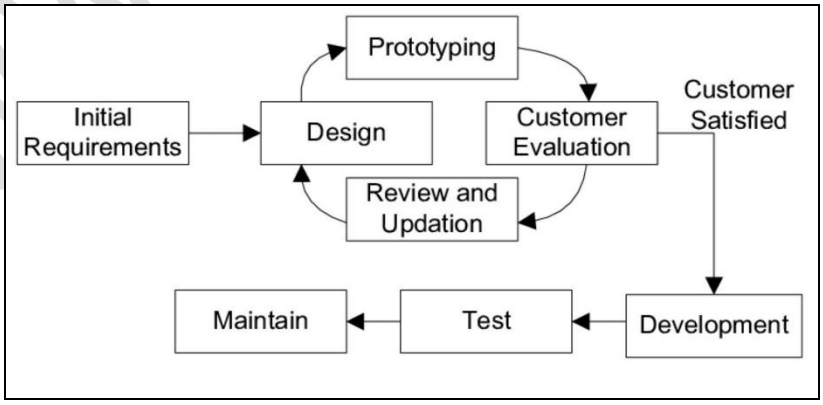

Figure 1. *Shows the Rapid Application Development Model (RAD) that presents the different processes to be observe throughout the development of the application.*

Requirement Gathering and Analysis

At the beginning of the study, the researcher sought to interview people who usually go for gym often. End-users submitted questionnaires with assurance that all their answers provided during, as well as in the future, would remain anonymous and safe. From the data which the researcher collected, the next 2 steps were fulfilled: having determined the goals which a respondent mentioned while discussing the problems and having formulated the requirements, the researcher drew conclusions.

Iterative Design and Prototyping

The researcher formally designs the application by drawing simple visuals or even graphics, which may include sketches, wire frames, prototypes or mockups of the application based on an iterative design process. Design a prototype and experiment to see whether this functionality is suitable to implement, and always get user and stakeholder feedback during the different stages.

User Feedback Integration

Even technical developing processes have feedback cycles in which a researcher is able to get the necessary insights and validations of the chosen decisions. This will need to use analytical techniques combined with survey and user testing processes to identify the destination and usage patterns of the users.

For the design framework, the researcher uses User-Centered Design (UCD) is a multidisciplinary design approach based on the active involvement of users to improve the understanding of user and task requirements, and the iteration of design and evaluation. The technique to measure perceived usefulness and technology usage intent of the users with respect to a particular mobile application based on Technology Acceptance Model (TAM).

Figure 2. User-Centered Design

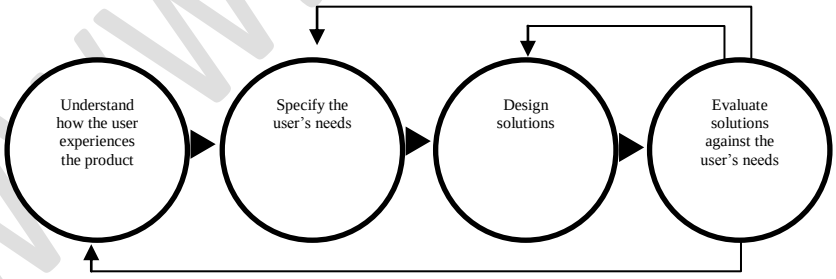

Figure 2. *Shows the User-Centered Design Framework*

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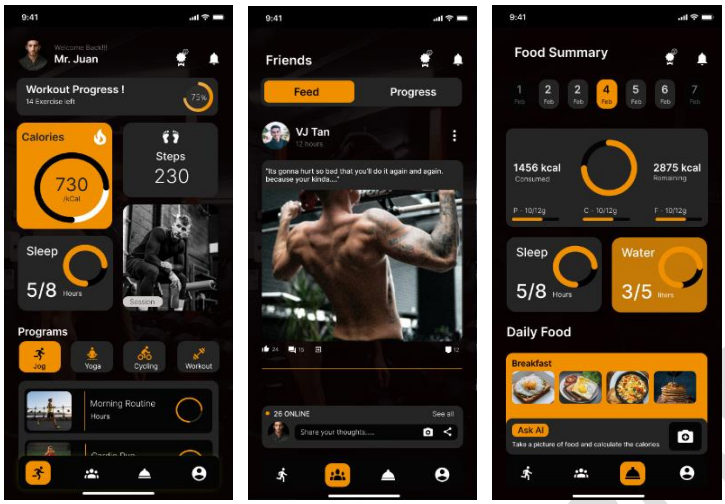

Figure 3. *Shows the initial prototype model presented to the respondents.*

RESULTS AND DISCUSSION

Mobility and applications for fitness generated the expected outcome, and stands as a testimony to the benefits of the fitness mobile application in the individual interest of the users, satisfaction, and fitness-related experience. This section explains and interprets the findings in relation to the identification of major trends and insights for continued growth of the application and improvement of its users' experience.

Table 1. Demographics Information

Gender	Count
Male	38
Female	20
Other	2
Prefer not to say	0

Age Group	Count
Under 18	5
18-24	30
25-34	18
35-44	7

Occupation	Count
Student	13
Employed	43
Others	4

Table 1. *Signifies the gender distribution as the majority of the respondents were males while the age distribution was mostly between the 18–24-year age bracket.*

Table 2. Perceived Usefulness (PU)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Using this mobile app would improve my performance in completing tasks	2	8	15	25	10
This mobile app will enhance	1	1	13	30	10

my productivity					
Using this mobile app will make it easier to do my tasks	2	6	12	27	13
This mobile app will be useful in my daily life	1	5	19	29	6

Table 2. (PU) *Indicates that the number of people who would find the mobile app to be helpful and that it will enhance their performance.*

Table 3. Perceived Ease of Use (PEoU)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Learning to operate this mobile app would be easy for me	1	3	15	32	9
I would find it easy to get the mobile app to do what I want it to do	2	2	7	39	10
My interaction with the mobile app would be clear and understandable	1	3	10	34	12
I would find the mobile app to be flexible to interact with	2	6	8	30	14
It would be easy for me to become skillful at using the mobile app	2	5	11	32	10
I would find the mobile app easy to use	1	2	10	30	17

Table 3. (PEoU) *Test results demonstrate that a large number of respondents consider the app be easily navigable and easy to interact with.*

CONCLUSION

The fact that these results are received at the pre-launch stage of the mobile application indicates a general acceptance of the mobile application by users, denotes that the mobile app is well accepted by its initial user base.

Therefore, outlining the case and features of the fitness mobile application, the latter's capacity to affect the improvement of user interest, satisfaction, as well as health and fitness levels, can be determined. The following challenges and opportunities for improvement define the potential for future development and further evolution of the considered application as the unique source of the digital fitness coaching and comprehensive support of personalized wellness needs.

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