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TASK CHECKLIST MOBILE WEB APPLICATION

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Abstract

Managing daily tasks is essential for productivity but can often be perceived as unengaging and lacking a sense of urgency. This project aims to address these issues by developing a gamified task checklist mobile web application. Recognizing that a lack of purposeful engagement and procrastination hinder effective task management, this project aims to provide an enjoyable and motivating alternative to traditional task lists. The project goals were to design a storyboard for a task checklist web application, develop a gamified mobile web application for daily task management, and plan for an evaluation of user engagement with the app. An RAD development approach was adopted. Key gamification elements, such as points, rewards, and achievements, were implemented to enhance user motivation and task completion rates. The test findings indicate that the application has a total engagement value of 92.9% of overall average, which is sufficient proof that the application is truly engaging.

Keywords: Mobile Application; Web Application; Daily Task; Task Management; Gamification; Focus

INTRODUCTION

workdays have become intrinsically unpredictable, the issue of potentially less beneficial workdays can be addressed with greater theoretical clarity for daily work planning (Parke et al., 2018). The findings suggest that people may find it more difficult to efficiently organize and carry out their daily responsibilities as workdays become increasingly unpredictable and unclear. Many people may thus find it challenging to balance their workload and meet their daily objectives, which can cause them to feel frustrated and ineffective in their work routines.

People frequently find it difficult to prioritize their work and manage their time in today's hectic world when they have a lot of obligations. Many people find themselves overwhelmed and unable to stay focused on important goals when they don't follow a disciplined approach to daily planning and habit formation. Procrastination, inefficiency, and eventually a sense of dissatisfaction with one's productivity and progress towards goals can result from this lack of organization. There are significant negative effects of procrastination on people's life, the economy, and society at large (Stojcheski et al., 2020).

The help of gamification can help to keep user in loop by new goals and focus on modular tasks (Macdonald & Brewster, 2019). This suggests that gamification has an effect in task management to make the user engaged by providing a new goal or challenge. Gamify your learning experience Offer rewards or track progress, Fill in the blanks make it a game instead of class This strategy to help users with such encouragement will allow them to focus on the more critical and meaningful tasks that they have at hand, which should be made as a pleasant experience for all.

OBJECTIVE

The objective of this project is to encourage user to remain active in completing their daily tasks. To achieve this primary goal, the following specific objectives must be met: 1) To design a storyboard for a Task Checklist application mobile application to assist in managing daily tasks; 2) To develop a Task Checklist application mobile application for daily task management; 3) To evaluate the user engagement in task management through mobile web application.

SIGNIFICANCE

The users are mainly beneficiaries as well as contributors to its success. Providing users with a platform for task planning and prioritization their daily tasks, it can become an assist for the users in becoming more productive and skilled in time management. They are the target user for this project as well as most data will be gathered from them.

Investor is an important asset in business industry, running and planning for the upcoming business that are beneficial to them and the business owner. Their funding can helps to pay for the development modal, marketing and ongoing maintenance of the application. Contracting large outside companies to carry out research in recreating the manufacturing base Investor have been creating their own innovation policies, including new forms of risk capital and incentives for R&D (Liubkina et al., 2019). This in important aspect to maintaining the development of the project.

Digital Content Marketing (DCM) is one of the group of people to must building relationships, trust, and consumer engagement is the aim of which eventually aims to increase profits indirectly (Hollebeek & Macky, 2019). Their abitlity to strategies that effectively draw in and retain customers because the expertise in branding, market research, and customer acquisition is used to create.

METHODOLOGY

Rapid Application Development (RAD) model used in the project to connects users, tools, and development approaches to produce high-quality mobile application systems in a set period. It can resolve the problem of time constraints because the system can be developed more quickly because it. Ther are two aspects of the Rapid Application Development (RAD) methodology to building this project prototypes and iterative development. According to (Hilal et al., n.d.), one of the primary advantages is that they provide small-scale projects with easily evaluable and manageable project risks. To create the Task Checklist application using Rapid Application Development (RAD), this means dividing the development process into smaller, more manageable tasks or modules.

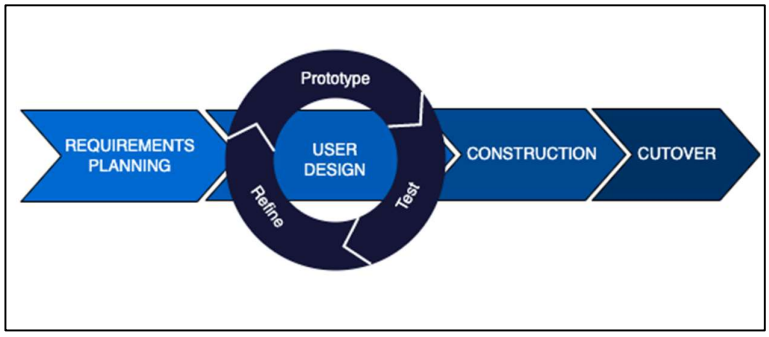

Figure 1 : Rapid Application Development (RAD)

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RESULT AND DISCUSSTION

User feedback is very important to the requirements to check whether this video game fulfills this project's objective. In this case, engagement is the aspect that is measured from this web application. The User Engagement Scale (UES) questionnaire was used as the guideline to measure engagement of this web application from all the user who participated in this project. This questionnaire divide engagement in several factor which is aesthetic engagement, perceived usability, Focused attention and novelty.

Factor	Item no.	Content
Aesthetic Engagement	AE1	The design of the application is visually appealing.
	AE2	The colours used in the application are attractive.
	AE3	The layout enhances my overall engagement with the application.
	AE4	I find the visual components of the application enjoyable.
Perceived Usability	PuS1	I found the application easy to navigate.
	PuS2	The information presented in the application was easy to understand.
	PuS3	The application responded quickly to my actions.
	PuS4	Overall, I believe the application is user-friendly. The application responded quickly to my actions.
Focused Attention	FA1	I was fully engaged while using the application.
	FA2	The application held my attention effectively.
	FA3	I had to actively concentrate to use the application.
	FA4	I lost track of time while using the application.
Novelty	NO1	The application offers features that are new and unique.
	NO2	I discovered interesting content that I hadn't seen elsewhere.
	NO3	The overall experience felt fresh and engaging.
	NO4	I was curious to explore different aspects of the application.

Table 1: User Engagement Scale (Heather O'Brien et al., 2015)

Demography respondents

Gender	Percentage
Female	42.9%
Male	57.1%

Table 2: Gender distibution

Age Range	Percentage
18 - 22	14.3%
23 - 25	14.3%
26 - 27	22.9%
28 - 30	25.7%
Above 30	22.9%

Table 3: Age range distribution

Motivation	Percentage
To improve task management skills	77.1%
To enhance focus and concentration	71.4%
To make task management more engaging	85.7%
To receive rewards or recognition for completing tasks	62.9%
To establish and maintain good productivity habits	68.6%

Table 4: primary motivation

Usage Frequency	Percentage
Yes, frequently	28.6%
Yes, occasionally	40%
Monthly	2.9%
No, but I am interested	25.7%
No, I prefer traditional methods	0%

Table 5: previous use of gamified apps

In terms of gender, the majority of respondents were male, accounting for 57.1% while females made up to 42.9% of the participants. This indicates a slightly higher interest or engagement from male users in gamified productivity tools.

For the age distribution, the largest age group were 28- 30 years old (25.7%) and above 30 (22.9%), suggesting that these tools are particularly appealing to adults who are likely balancing multiple responsibilities and seeking ways to enhance productivity. Meanwhile, younger users aged 18-22 and 23-25 each represented 14.3% showing that interest spans across age groups but is more concentrated among older demographics.

When examining primary motivation, the most cited reason was to making task management more engaging (85.7%), followed closely by to improve task management skills (77.1%). This suggests that while users are primarily focused on increasing their productivity,

they are also drawn to the engaging aspects that gamification provides. Additionally, 71.4% of respondents aimed to enhance focus and concentration, while 62.9% sought rewards or recognition for completing tasks. Lastly, 68.6% of respondents were motivated by the desire to establish and maintain good productivity habits. These results demonstrate that a combination of efficiency, engagement and recognition are key factors in the appeal of gamified productivity tools.

For gamified technology in task management application, most agreed to occasionally used gamified (40%) while 28.6% of respondents reported using such application frequently . This suggest that half of the participants have some level of experience with gamified productivity tools highlighting a strong familiarity and comfort with gamification element in task management. Meanwhile 25.7% of respondents mentioned they rarely used such application but interest to use it.

Engagement respondents

Item no.	D (%)	D (%)	N (%)	A (%)	SA (%)	Mean
AE1	0	0	0	53.1	46.9	4.47
AE2	0	0	6.3	56.3	37.5	4.31
AE3	0	0	3.1	59.4	37.5	4.34
AE4	0	0	6.3	56.3	37.5	4.31
PuS1	0	0	3.1	53.1	43.8	4.41
PuS2	0	0	3.1	56.3	40.6	4.38
PuS3	0	0	6.3	50.0	43.8	4.38
PuS4	0	0	3.1	53.1	43.8	4.41
FA1	0	6.3	9.4	53.1	31.3	4.09
FA2	0	0	9.4	56.3	34.4	4.25
FA3	0	0	18.8	56.3	25.0	4.06
FA4	0	0	15.6	56.3	28.1	4.13
NO1	0	0	9.4	50.0	40.6	4.31
NO2	0	0	9.4	53.1	37.5	4.28
NO3	0	0	9.4	50.0	40.6	4.31
NO4	0	0	6.3	53.1	40.6	4.34

Table 6: Result engagement

Table above presents the respondents overall feedback on various aspects of the application design, usability and engagement. A significant number of respondents expressed positive feedback regarding the visual and functional features of the application.

The majority of respondents strongly agreed that the application design is visually appealing with 46.9% and the 37.5% agreed the colors used are attractive. This indicates the application aesthetics successfully capture user attention. Additionally, 43.8% of respondents strongly agreed that the application is user-friendly and easy to navigate with an overall mean score of 4.41, signifying high user satisfaction in terms of usability.

In terms of engagement, 31.3% of respondents strongly agreed they were fully engaged while using the application, while another 40.6% agreed, resulting in a mean score of 4.25. This suggests that the application has been designed to hold users interest and encourage active participation.

Moreover, 34.4% of respondents strongly agree that the application held their attention effectively with 31.3% of respondents. This high level of agreement coupled with a mean of 4.13, indicates that the application successfully minimizes a distractions and keeps user focused on their task.

Interestingly, 21.9% of respondents strongly agreed that they lost track of time while using the application and 34.4% agreed, leading to a mean score of 4.06. This flow experience is a strong indicator of deep engagement, showing what the application is immersive enough to make users forget about the passage of time.

In terms of novelty, 40.6% of respondents strongly agreed that the application offers features that are new and unique while 34.4% agreed. The corresponding mean score of 4.38 suggests that innovative elements within the application play crucial role in maintaining user interest. This is further supported by the fact that 34.4% of respondents strongly agreed that they discovered interesting content they hadn’t seen elsewhere, contributing to the applications fresh and engaging feel.

Finally, curiosity is a key driver of engagement and 37.5% of respondents strongly agreed that they were curious to explore different aspects of the application with a mean score of 4.41. This indicates that the application design and content encourage exploration, which can lead to sustained user interest and prolonged usage.

CONCLUSION

This project objective is to transform task management into an enjoyable and rewarding experience, particularly for individuals who struggle to completing their daily tasks such as a student facing assignment deadlines. By integrating gamification elements into a task checklist application, this project seeks to address the common issues of low engagement and the lack of urgency in task completion making the process of managing tasks more appealing and effective. This project is devoted to developing a mobile web application with gamification to revolutionize traditional task management. Addressing both problem statement of the lack of purposeful engagement and the lack of urgency to completing tasks. The project encompasses designing a user-friendly interface, integrating gamified elements such as experience point and rewards for user engagement. While limitations exist in the scope of gamification, platform capabilities, long-term engagement and evaluation metric, this project lays the groundwork for future research.

REFERENCES (APA 7TH EDITION)

Parke, M. R., Weinhardt, J. M., Brodsky, A., Tangirala, S., & DeVoe, S. E. (2018). When daily planning improves employee performance: The importance of planning type, engagement, and interruptions. Journal of Applied Psychology, 103(3), 300–312. https://doi.org/10.1037/apl0000278

Stojcheski, J., Felso, V., & Lieder, F. (2020). Optimal to-do list gamification.

http://arxiv.org/abs/2008.05228

Macdonald, S. A., & Brewster, S. (2019, May 2). Gamification of a to-do list with emotional reinforcement. Conference on Human Factors in Computing Systems - Proceedings. https://doi.org/10.1145/3290607.3313060

Liubkina, O., Murovana, T., Magomedova, A., Siskos, E., & Akimova, L. (2019). Financial Instruments of Stimulating Innovative Activities of Enterprises and Their

Improvements. Marketing and Management of Innovations, 4, 336–352. https://doi.org/10.21272/mmi.2019.4-26

Hollebeek, L. D., & Macky, K. (2019). Digital Content Marketing's Role in Fostering Consumer Engagement, Trust, and Value: Framework, Fundamental Propositions, and Implications. Journal of Interactive Marketing, 45, 27–41. https://doi.org/10.1016/j.intmar.2018.07.003

Hilal, M., Rubaiey, A., & Saqib, M. (n.d.). Systematic Process of Smart Mobile Application. www.JSR.org