NATIONAL ENGITECH DIGEST

VOL. 1 ISSUE 1

e-ISSN: 3030-5969

# DEVELOPMENT OF WELLNESS HUB MOBILE APPLICATION BASED ON ADDIE MODEL

**Nor Anisah Mohd Saad[1], Haarsheni Perumal [2], Pavitra Thillai Nadaraj[3], Farisya Amalia Balqis Muhammad Zamarin[4]**

Jabatan Teknologi Maklumat & Komunikasi, Politeknik Ungku Omar, Jalan Raja Musa Mahadi Ipoh Perak

anisaad@puo.edu.my[1], haarsheni3011@gmail.com[2], thillainadarajpavitra@gmail.com[3], isyaqis3@gmail.com[4]

## Abstract:

Wellness Hub is an integrated wellness and task management mobile application that aims to help users to manage stress, anxiety, burnout and maintain their healthy lifestyle. The inefficiency in managing time and tasks affects both personal and professional productivity and leads to more frustration and unbalanced feelings among users. This application combines various features that cater to users' physical, mental, and emotional well-being, as well as their work or study needs. Users can access task management tools and reminders, find wellness sections, have conversations with AI chatbot and other latest technology features. This application also provides a user-friendly interface with personalisation options to enhance user experience and satisfaction. Utilising the ADDIE model for its development, this application aims to enhance users' physical, mental, and emotional well-being, while improving their productivity and performance. Through a survey on the user acceptance testing from 55 respondents, 33 respondents (60%) prefer to use health info, and 48 respondents (87.3%) prefer to recommend this app to their family members to manage their stress. AI chatbot also helps users to communicate and find advice on emotional and mental support. Wellness Hub is a comprehensive and innovative solution that applies the power of technology to improve users' quality of healthy lifestyle.

***Key words**: Wellness, Healthy lifestyle, Chatbot*

## 1.0 Introduction

### 1.1 Research Background

The rapid advancement of technology has brought many benefits to society, such as increased connectivity, convenience, and efficiency. However, it has also created new challenges and pressures for individuals, especially in the domains of work and education. Many people face high expectations and demands from their employers, teachers, peers, and themselves, which can result in stress, anxiety, and burnout. Moreover, the COVID-19 pandemic has raised these issues, as people must cope with social isolation, health risks, and economic uncertainty. These factors can negatively affect people's physical, mental, and emotional well-being, as well as their productivity and performance. Therefore, there is a need for a solution that can help people to achieve a balanced and healthy lifestyle, while also providing them with a sense of connection and enjoyment. Such a solution should address the various aspects of well-being and productivity and make use of the power of technology to enhance user experience and satisfaction.

Wellness Hub is an integrated wellness and productivity application that aims to address this need. The application combines various features that cater to users' physical, mental, and emotional well-being, as well as their work or study efficiency. Users can access task management tools and reminders, conversational chatbot, wellness sections and other features of latest technology. The application also provides a user-friendly interface with personalisation options to enhance user experience and satisfaction. Wellness Hub is a comprehensive and innovative solution that applies the power of technology to improve users' quality of life.

### 1.2 Problem Statement

Effectively managing time and tasks is a common challenge for many users. Various factors can cause this struggle, such as too many responsibilities, poor prioritisation skills, inaccurate estimation of the task duration, and insufficient organisational techniques. Moreover, the task management process becomes more difficult due to the digital distractions, such as social media, emails, and notifications, which reduce productivity and increase stress levels. Besides, some individuals may face issues such as delays, hesitation, and unattainable goal setting, which worsen the problem. As a result, this inefficiency in managing time and tasks affects both personal and professional productivity and leads to more overwhelm and frustration among users.

A healthy lifestyle is hard to achieve for many users because of different obstacles. Some of these are because of not having enough healthy food options, not having enough time to exercise regularly, and living a life without activities that is worsened by long hours of screen time and sitting at work. Also, there is a lot of confusing and weird advice on what to eat and how to exercise, which makes people feel lost and unsure about what works best. Furthermore, society often encourages unhealthy habits such as eating too much processed food or relying on fast

and easy meals. Psychological factors such as stress and emotional eating also make the problem worse, creating a vicious cycle of unhealthy behaviours that are hard to stop. As a result, many users struggle to balance work, personal obligations, and self-care, and fail to keep up the healthy lifestyle that they desire. Many users experience significant challenges with stress, anxiety, and depression, often caused by various factors within their lives. Stress can arise from overwhelming workloads, tight deadlines, financial pressures, or strained personal relationships. Anxiety frequently manifests due to uncertainties about the future, fear of failure, or social pressures. Depression may develop from raised feelings of hopelessness, loneliness, or insecurity, worsened by societal expectations. These mental health issues not only affect one's emotional well-being but also impact physical health and overall quality of life. Furthermore, in today's digital age, factors such as social media comparison, information overload, and constant connectivity contribute to heightened stress and anxiety levels among users, highlighting the complicated interaction between technology and mental health.

### 1.3 Objectives

The objectives of Wellness Hub development are:

i. To develop mobile application for task management
ii. To provide information and guidelines about health and wellness
iii. To provide a conversational AI chatbot for emotional and mental support

### 1.4 Literature Review

Wellness awareness plays a crucial role in public health initiatives, as highlighted in various research papers. Studies emphasise the importance of health awareness campaigns in promoting preventive strategies and improving individuals' knowledge and behaviour [W., M., Bugshan, 2022]. Additionally, research on primary school students shows the need for expanding health-preserving knowledge among younger populations to cultivate a healthy lifestyle from an early age [Bohdan, Korolchuk, 2022]. Furthermore, efforts to increase public awareness about greening and healthy lifestyles have been shown to positively impact environmental preservation and health status, especially during challenging times like the COVID-19 pandemic [Shereen, 2022]. Wellness awareness using mobile applications plays a crucial role in promoting behaviour change and healthy lifestyles among users [Oliver, 2023]. These apps utilise various features like automatic data recording, personalised recommendations, and monitoring of nutrition, physical activity, and sleep quality to motivate individuals to adopt healthier habits [Rajesh, 2019].

The development of a Wellness Hub with an AI chatbot involves leveraging the advancements in Artificial Intelligence (AI) and chatbot technologies to provide users with comprehensive wellbeing assistance. Chatbots have been widely utilised in various sectors, including healthcare, to offer rapid solutions and improve customer service [Sunil, 2023]. These AI-powered chatbots, such as Chat Generative Pretrained Transformer (ChatGPT), have shown potential for self-diagnosis and health-related purposes, highlighting the importance of understanding user perceptions and decision-making processes for safe integration into healthcare settings [Armando, 2023]. Our project is different from these apps in that it combines the best of both worlds: it provides users with wellness activities that involve nature and physical exercise, as well as productivity features that enhance their efficiency and time management. Our project also provides users with guidance, feedback, support, and motivation to help them achieve their goals and improve their well-being. Our project is designed to be interactive and personalised for each user.

## 2.0 Research Methodology

The methodology for developing the Wellness Hub mobile application is based on the ADDIE model, which is a systematic and iterative approach for instructional design and development. The ADDIE model consists of five phases: Analysis, Design, Development, Implementation, and Evaluation. Each phase has its own objectives, activities, and deliverables, as described below.

### Phase 1: Analysis

The analysis phase aims to identify the needs, goals, and requirements of the mobile application, as well as the characteristics and preferences of the target users. The main activities in this phase are:

- Conducting a literature review on the existing mobile applications related to wellness and productivity, as well as the best practices and standards for mobile app development.
- Conducting a survey and interview with potential users to gather their feedback, expectations, and suggestions for the mobile application.
- Defining the scope, objectives, and specifications of the mobile application, such as the features, functions, content, and interface.
- Developing a project plan and timeline for the mobile app development process.

NATIONAL ENGITECH DIGEST

VOL. 1 ISSUE 1

e-ISSN: 3030-5969

**Phase 2: Design**

The design phase aims to create a blueprint for the mobile application, based on the analysis results and the user feedback. The main activities in this phase are:

- Developing the learning outcomes and objectives for each feature of the mobile application, such as the to- do feature, the alarm clock and reminders, the chatbot, the wellness feature, the latest technology features, the user-friendly interface, and the personalization.
- Designing the content, structure and user interface and user experience of the mobile application, such as the layout, color scheme, icons, fonts, and interactions.
- Designing the technical architecture and system requirements of the mobile application, such as the flowchart and ER Diagram for the project.

**Phase 3: Development**

The development phase aims to transform the design into a functional and usable mobile application, using the appropriate tools and technologies. The main activities in this phase are:

- Coding and programming the mobile application, using the selected platform, language, framework, and library.
- Integrating the content, media, and resources into the mobile application, such as the text, images, audio, video.
- Testing and debugging the mobile application, using various methods and tools, such as unit testing, integration testing, system testing, usability testing, and debugging tools.
- Reviewing and revising the mobile application, based on the feedback from the testers, users, and experts.

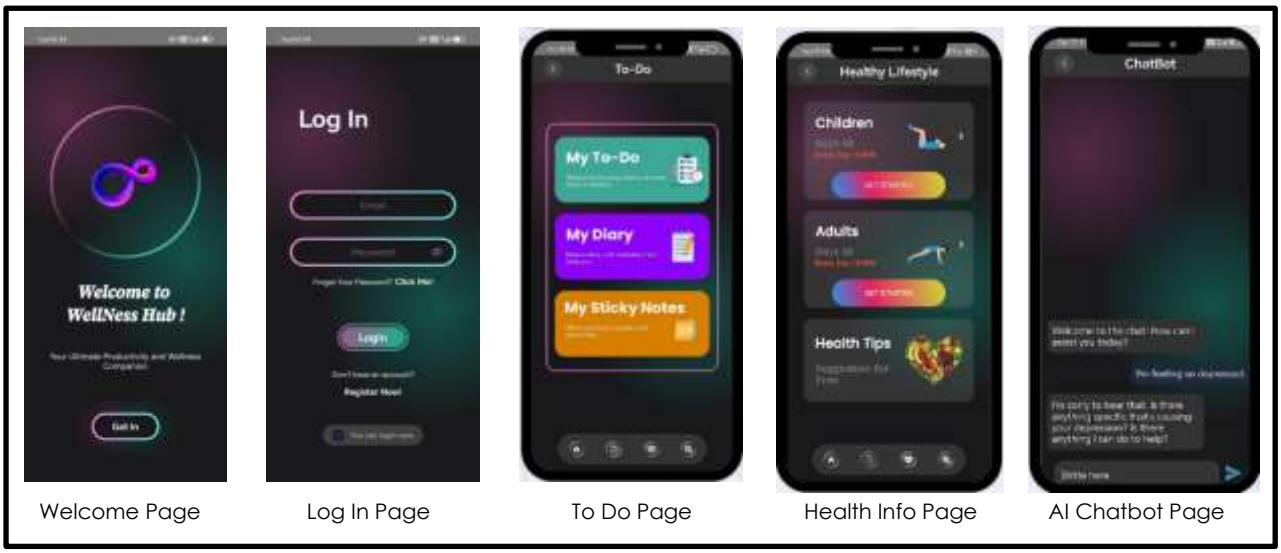


Figure 1.0: Mobile Application Interface and Design

**Phase 4: Implementation**

The implementation phase aims to deploy and distribute the mobile application to the target users, as well as to provide the necessary support and guidance for using the mobile application. The main activities in this phase are:

- Publishing and launching the mobile application on the selected distribution channels, such as the app store, the website, or the QR code.
- Promoting and marketing mobile applications to potential users, using various strategies and media, such as social media, email, flyers, and posters.

**Phase 5: Evaluation**

The evaluation phase aims to assess and evaluate the effectiveness and efficiency of the mobile application, as well as to identify the strengths, weaknesses, and areas for improvement. The main activities in this phase are:

- Conducting formative and summative evaluation of the mobile application, using various methods and instruments, such as observation, interview, focus group, questionnaire, and analytics.
- Analysing and interpreting the evaluation data, using various techniques and tools, such as descriptive statistics, inferential statistics, and data visualisation.
- Reporting and presenting the evaluation findings and recommendations, using various formats and media, such as report, presentation, infographic, and video.

NATIONAL ENGITECH DIGEST

VOL. 1 ISSUE 1

e-ISSN: 3030-5969

## 3.0 Analysis and Discussion

User feedback indicates that the app is popular among students, professionals, homemakers, and retirees, with students forming the majority. Many users access the app daily or a few times a week, primarily using features like the To-Do feature, Guided Fitness Exercises, Mental & Physical Health Resources, Diet Plans, and Nutrition Tips. The app's interface generally receives high ratings, with many users giving it a 5 out of 5.

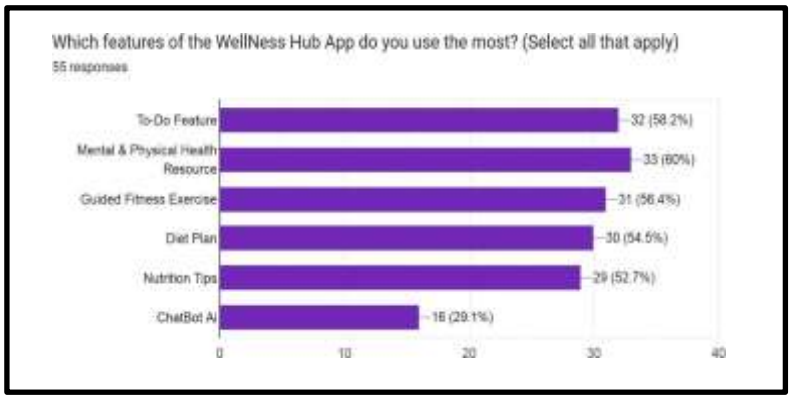


Figure 3.1: Statistic for Most Used Features

There is a strong demand for additional features, such as more fitness programs, expanded diet plans, enhanced mental health resources, and improved community features. Users are also interested in exploring more on chatbot because they insist on using Artificial Intelligence (AI) features through this app. Integration with other health apps and devices is also a common suggestion.

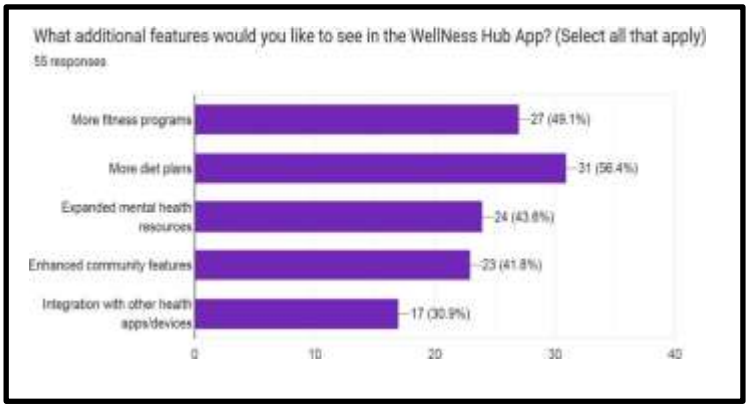


Figure 3.2: Statistic for Additional Features

A survey of 55 users of the app revealed that 33 respondents (60%) prefer using the health information features, and 48 respondents (87.3%) are willing to recommend the app to their family members to help manage stress.

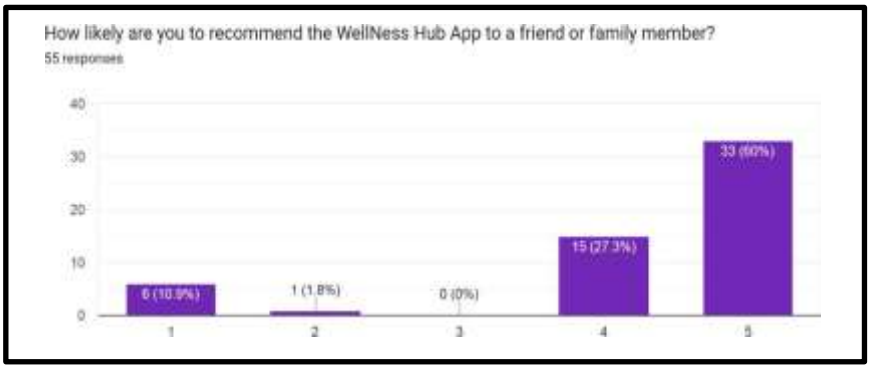


Figure 3.3: Statistic for App Recommendation

Considering the comprehensive approach taken in developing the Wellness Hub app, it's crucial to emphasise continuous user engagement and feedback integration. Establishing channels for users to provide feedback and suggestions will facilitate ongoing improvement and ensure that the app remains relevant and effective in addressing their evolving needs. Regular updates and feature enhancements based on user input will not only foster a sense of ownership and investment among users but also demonstrate a commitment to their well-being. Moreover, considering the sensitive nature of mental health and wellness features within the app, prioritising user privacy and data security is paramount. Implementing robust data protection measures and adhering to industry best practices will instil trust and confidence among users, encouraging greater adoption and engagement with the app's wellness features. Transparency regarding data handling practices and providing users with control over their personal information will further reinforce this trust.

## 4.0 Conclusion and Recommendation

The project is original in its concept and design, as it offers a unique combination of features that are not commonly found in existing applications. The project also explored the use of the latest technologies to enhance the user experience and functionality of the application. The project is relevant to the current needs and challenges of society which has increased the levels of stress, anxiety, and isolation among many people. This project helped users cope with these issues by providing them with wellness activities, and friendly interactions. The project also helped users improve their productivity and time management, which are essential skills for work and study in the digital era. It has a positive impact on the society and culture, by promoting a culture of wellness and productivity among the users and the public. It also raised awareness and understanding of the importance of achieving a balanced and healthy lifestyle, and the benefits it can bring to the individual and the community.

Lastly, to maximise this mobile application's reach and impact, strategic partnerships with healthcare providers, wellness experts, and educational institutions can be explored. Collaborating with professionals in the fields of mental health, nutrition, and fitness can enrich the app's content and resources, ensuring that it remains a trusted source of information and support for users seeking to improve their overall well-being. By leveraging these partnerships, the Wellness Hub app can position itself as a valuable ally in promoting holistic health and empowering users to lead healthier, more fulfilling lives.

## 5.0 References

Rajesh, R., Pai., Sreejith, Alathur. (2019). Assessing awareness and use of mobile phone technology for health and wellness: Insights from India. Health policy and technology, doi: 10.1016/J.HLPT.2019.05.011.

Olivier, Lumbroso. (2023). A Wellness Mobile Application for Smart Health. doi: 10.4018/978-1-6684-8582-8.ch002.

Shereen, Aprillia., Jolene, Budiono., M., Wijaya. (2022). Educational Efforts to Improve Public Awareness about Greening and Healthy Lifestyle in Urban Areas. Mitra: Jurnal Pemberdayaan Masyarakat, doi: 10.25170/mitra.v6i1.2947.

Bohdan, Korolchuk. (2022). Awareness of junior schoolchildren about aspects of healthy lifestyle. Naukovij časopis Nacìonal'nogo pedagogìčnogo unìversitetu ìmenì M.P. Dragomanova, doi: 10.31392/npu-nc.series15.2022.2(146).15.

W., M., Bugshan., Saad, Jarallah, Al, Qahtani., Nayel, Ayidh, Alwagdani., Majed, Safar, Alharthi., Abdullah, Mohammed, Alqarni., Hani, Muteb, Alsuat., Naif, Hadi, Alqahtani., Mohammed, Thaar, Alshammari., Rashed, Aqeel, Albaqami., Ahmed, Hammad, Almotairi. (2022). Role of Health Awareness Campaigns in Improving Public Health:A Systematic Review. International journal of life science and pharma research, doi: 10.22376/ijpbs/lpr.2022.12.6.l29-35.

Sunil, K., Sheoran., Divyajyoti, Shrivastava. (2023). Well Being Assistance Chat Application. International Research Journal on Advanced Science Hub, doi: 10.47392/irjash.2023.s066.

Armando, Nieto, Vélez. (2023). Automated Healthcare System Using AI Based Chatbot. doi: 10.1007/978-981-99-0071-8_15.

Gupta, M., & Sharman, R. (2023). Modernizing enterprise IT audit governance and management practices. IGI Global. https://asana.com/resources/agile-methodology.

Nisar, M. K. D. H. (2021). INCREASING ROLE OF NEW SOCIAL MEDIA NETWORKING IN THE DEVELOPMENT OF GLOBALIZATION AND CHANGING GLOBAL PATTERNS https://www.mobileappdaily.com/products/best-health-and- wellness-apps.

Blake, H., Bermingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. International Journal of Environmental Research and Public Health/International Journal of Environmental Research and Public Health, 17(9), 2997 https://www.atlassian.com/agile