

## EXPLORING USER NEEDS AND DESIGN REQUIREMENTS FOR MUSLIM WOMEN MENSTRUAL TRACK MOBILE APPS

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### ABSTRACT

This study investigates the requirements for the design and development of a mobile application purposely to support Muslim women in managing menstrual cycles and ritual purity in alignment with Islamic rulings. Specifically, the research seeks to (i) profile the demographic characteristics and technology usage patterns of Muslim women, (ii) explore their current practices and challenges in menstrual and purity management, (iii) analyse needs, expectations, and trust factors influencing the acceptance of mobile applications, and (iv) identify essential design considerations for a technology-enhanced solution. A survey method was employed to gather data from respondents using structured questionnaires with Likert-scale items. Descriptive statistical analysis was conducted to examine usage patterns and key requirements. The findings reveal that while Muslim women actively utilize digital tools for health tracking, there remains a gap in applications that integrate both physiological monitoring and Islamic jurisprudential guidance. Trustworthiness, accuracy, and religious compliance emerged as critical factors influencing acceptance. The study highlights the necessity of incorporating cultural and religious features into the design of mobile health solutions. The proposed *Taharah Track* framework contributes to the field of technology-enhanced health applications by bridging health management with faith-based practices, offering relevant approach to supporting Muslim women's daily lives.

## Introduction

The menstrual cycle is a natural biological process experienced by women worldwide, yet its management takes on additional significance for Muslim women due to the integration of health considerations with religious obligations. In Islamic law, accurate determination of *haid* (menstruation), *istihadhah* (non-menstrual bleeding), and the timing of *ghusl* (ritual purification) is essential for maintaining ritual purity and ensuring the validity of worship practices, such as prayer and fasting (Alam, 2019). Despite its importance, many Muslim women encounter difficulties in correctly distinguishing these states, leading to uncertainty and stress in fulfilling religious duties (Abdullah & Yusof, 2021).

With the rise of mobile health (mHealth) applications, women increasingly rely on digital tools for menstrual tracking, fertility prediction, and health monitoring. However, existing applications largely adopt a biomedical perspective and lack integration with Islamic law rulings (Ali et al., 2020). This gap results in limited accessibility of accurate religious guidance, leaving Muslim women dependent on traditional consultation with scholars or personal interpretation, which may not always be readily available.

In response to this challenge, this research focus on exploring user needs and design requirements for Muslim women menstrual track mobile apps, named with *Taharah Track*. The application is proposed to support Muslim women in identifying valid *haid* days, monitoring states of purity, and accessing relevant Islamic guidance. By bridging the intersection of health monitoring and religious observance, this study aims to enhance Muslim women's confidence in managing menstrual cycles while ensuring compliance with Islamic practices.

## Literature Review

### *Menstrual Health and Digital Tracking*

Mobile health technologies have transformed the management of women's reproductive health, with numerous applications offering features such as period prediction, fertility windows, and cycle irregularity detection (Chen et al., 2019). These digital tools provide convenience and autonomy in health monitoring; however, their focus remains primarily clinical and biomedical. Research indicates that while these apps are widely adopted, they do not sufficiently address cultural and religious contexts that may influence women's health management (Hussain & Feroz, 2020).

### *The Concept of Menstruation in Islam*

According to Islamic Sharia, Haidh (menstruation) is a natural discharge of blood from the vagina of a healthy woman for a certain time. Meanwhile, Istihada (irregular period) is an irregular discharge of blood that comes from the lowest vein located under the uterus, which is known as العاذل. Istihada usually comes after the longest period of the normal menstruation cycle, postpartum bleeding, or blood discharges continuously after the normal menstruation cycle.

According to the Mufti of the Federal Territory's Office, Istihadha is:

- a) Blood discharges two times with a gap of pure that is less than 15 days
- b) Blood discharge after the longest period of 15 normal menstrual days.
- c) Blood discharges that are less than 24 hours.
- d) Blood discharge from someone under 9 years old.
- e) Blood discharge after 60 postpartum days.

There is a method to count the period of pure which is the gap between one cycle of haidh. The minimum period of pure is 15 days. This is based on the research by Imam al-Shafie following the longest period of a cycle. The normal cycle for a woman is 23 days, considering the normal period of menstruation, which is 7 days. There are some cases where women whose menstruation a month is only a day and a night, which is 24 and there are those whose menstruation is once every six months, making the maximum period of pure is limitless as in the Figure 1 below:

Duration of the first menstruation															Duration of purity		Second menstruation	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Minimum: 15 days	Common: 23 days		Maximum: unlimited
Maximum haid 15 days															Bleeding after maximum duration of haid OR bleeding occurs twice separated by a purity period of 15 days or the bleeding lasts less than 24 hours.			
Common haid 7 days																		
24 hours																		

**Figure 1: Haid and Istihadhah Cycle**

Within Islam, menstruation is not merely a biological process but also a matter governed by detailed jurisprudential rulings. Differentiating between *haid* and *istihadhah* is critical, as it directly impacts a woman’s ability to perform acts of worship such as prayer, fasting, and entering the mosque (Al-Qaradawi, 2018). Classical fiqh scholars have developed various guidelines for these distinctions, but their practical application in modern contexts remains complex (Kamaruddin & Ismail, 2021). Muslim women often face uncertainty in determining ritual purity, resulting in inconsistencies in religious practice.

**Technology Usage in Religious Concept of Menstruation**

The integration of digital technology into religious practices has gained traction in recent years, with applications designed for Quran recitation, prayer time reminders, and zakat calculation (Rahman & Bakar, 2022). These innovations demonstrate the potential of technology in supporting religious adherence. However, literature on applications that combine health tracking with Islamic rulings is limited. A few studies have highlighted the potential benefits of digital tools in promoting both health and spiritual well-being (Mahmood et al., 2020).

**Flo Cycle & Period Tracker**



**Figure 2: Flo Cycle & Period Tracker Mobile Apps**

Refer to Figure 2, Flo is the most popular women’s health app with about 380 million downloads and rated 4.8 stars from 3.88M reviews. This app was founded in April 2015 by a London-based company, Flo Health, Inc. The application size is 170 MB and was last updated on October 25, 2024. The elements of media used are text, images, video, and audio.

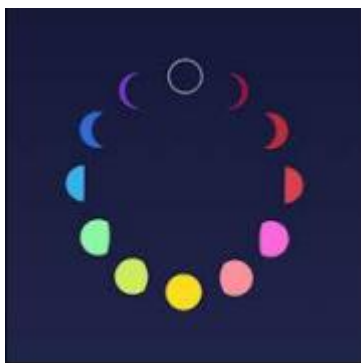
Before the user enters the home page, the user will be asked questions regarding their period to help the app calculating the cycle for each user perfectly. But for the previous user, they can just log in, and it will sync the information from the user account. This is also where the user can input their menstrual cycle, edit menstrual dates, and log their menstrual symptoms. Based on user menstrual cycle, this app will provide some related informative articles. Moreover, there are also symptom checks where users can check for PCOS or Polycystic Ovary Syndrome, as up to 70% of people don’t know for sure if they have

the symptom. Next, there is also a section where the apps will tell the user whether their cycle is normal or not. After that, there is a cycle history part where user can check their previous cycle and log their cycles.

The insight page is where users can find knowledge about menstruation and other things regarding the reproductive system. It is like a blog where users can find blogs and articles on tips as well as the answers to frequently asked questions about the reproductive organs. Yet, users will need to sign up for a premium plan to access everything on the insight page. On this page, users can connect with other users. This will help the user to ask questions more confidently about anything regarding woman health. From irregular cycles, medical care, mental health, and many more. User can select their interest to get started. Users may also follow any topic that they like, to receive updates regarding the topics, save any discussions, and comments.

The message page is provided by a Flo Health Assistant. It is a friendly interactive tool that the user can chat with. This chatbot's responses are automated and do not come from a real person. The user can ask about cramps, headaches, acne, and mental health. Users can discuss the causes and tips for relief. Lastly, the partner page allow user to share their cycle insights with their partner. It is suitable for married woman who want to get pregnant. The user can link their application with their partner so that they can understand the user's cycle better. One of the key strengths of this application is its straightforward user interface (UI). Everything is laid out naturally, so users can quickly find what they need without getting lost or frustrated. The interface is clean and straightforward, making it easy for anyone to jump right in, no matter their tech skills, and making cycle tracking easy and stress-free. Besides that, there are also some disadvantages regarding the application which as the free version gives frequent reminders about the paid subscription option, making clicking around on the free version a bit of a hassle. It is not beginner friendly as it asks too many questions upon downloading it, but you can skip most of the questions if you prefer. It is also taking up more storage than the other application. Finally, based on the review left on the Google Play Store about the application, the new design seems cluttered with the new features (insight section). Moreover, there is also a lot of information provided in the application, but users need to pay a premium to access it. There isn't much to do for the free version user.

### ***Stardust: Period & Pregnancy***



**Figure 3:** Stardust Mobile Apps

As in Figure 3, Stardust is a unique period, pregnancy, and hormone tracker that combines science, ancient wisdom, and astronomy. This application was developed by Stardust App Inc. and was published in August 2023. This women-founded application size is about 80.37 MB. The application applied two elements of media, which are image and text.

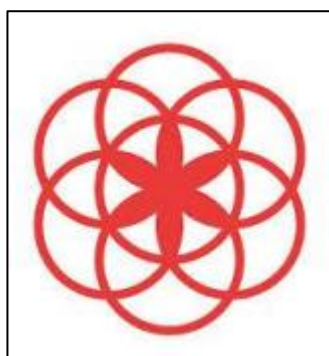
The first thing the user can see after opening the application is the moon phase design, which represents their period cycle. User may adjust their cycle. There is also a current phase section where this app provides the user with the information of woman body. Next, there is a crystal ball section where user can log in with their symptom. These two 21 sections, the current phase and the crystal ball, are paid content, so free users cannot use them.

The second page contains a calendar, where the application predicts the future cycles for the user based on their previous cycle. User can also adjust their period and ovulation according to their own cycles. There is a plus button where user can log their period, symptoms, body temperature, and input a journal. The symptoms include feelings, cravings, gut health, flow, cervical mucus, activities, altered states, cycle disruptors, birth control, tests, and notes. This will help the user to track their symptoms. Additionally, there is a page where user can share their cycle with their friends. The user can link with other people via the code provided.

Lastly, the cycle summary page, where the application concludes everything based on the user's cycles. The output from the summary is like cycle type, cycle insights, and past cycles. In the cycle insights, the application will provide the user with their usual period and will conclude and output if it is longer or shorter than usual. Still, there are also some disadvantages of the application, such as the app being too glitchy. Based on the review on the Play Store, someone wrote about their experience with the application being unable to save their period and miscalculating their cycle. This happens especially toward some that had an irregular period cycle, causing bugs in the application itself.

Finally, this application uses words that are unfamiliar to non-native English-speaking users. Words such as wispy, luminescence, and luteal are not often used by a non-native speaker. It is also not suitable for Muslims, as we cannot believe in astronomy because it conflicts with our religious beliefs.

### *Clue Period, Ovulation Tracker*



**Figure 4:** Clue Period, Ovulation Tracker Mobile Apps

This award-winning menstrual health app was founded in 2012 but was launched on Android in 2014 named Clue Period, Ovulation Tracker Mobile Apps as in Figure 4. This Berlin-based app, developed by BioWink, has a file size of 38.82 MB. The application has two types of media elements: images and text. The figure above shows the official logo for the application.

The cycle page is where the user can see their current menstrual cycles. There is also a section where the user can input how they feel. They can record and track their feeling daily to notice any changes during the cycles. The app includes a calendar page, like Stardust, where users can view predictions for future menstrual cycles and access their cycle history. Additionally, as shown There is a tracking page in this apps where users can log detailed information about various aspects of their health and cycle. This includes cycle-specific details, such as period flow (light, medium, or heavy), spotting, feelings, pain levels, and PMS symptoms.

Users can also track general health and lifestyle factors like sleep quality, energy levels, social interactions, cravings, discharge, skin and hair condition, weight, digestion, stool quality, and basal body temperature (BBT). The app accommodates wellness activities, including exercise, meditation, and leisure, as well as medical information, such as tests, appointments, medications, and specific ailments. For birth control, users can note their use of pills, IUDs, shots, implants, patches, rings, and other supplements. Additionally, the app allows tracking of metrics like urine quality and other relevant health details, helping users gain a comprehensive view of their cycle and well-being over time.

This apps also provide a statistic of menstrual cycle, from the user's last 6 cycles. The user can see the cycle length, variation, and period flow. Just like the other two applications, it also provided an insight into period cramps, Basal body temperature, and feelings. Moreover, there is also a cycle history that shows the user's previous cycle, such as period, ovulation, fertile windows, and PMS. There are also some other things, but the user needs to subscribe to the premium plan to see them.

In the last page of this apps, there is an informative page where Clue provides its users with educational content from menstrual health to fertility. Unlike Flo, this content is free to access for every user, which is better. A major advantage of this application is easy navigation, making it accessible for users to find information about their cycle phases quickly. Just like Stardust, it also uses the calendar feature for cycle patterns, which enables users to view past cycles and identify recurring patterns that can help with tracking health trends over time. This app also allows users to log medication and set up a push notification. This will be useful for both medication and vitamins. The cons for this application are that although the premium version is affordable, some users don't find any significant added value if compared with the free version. Some users also experience technical issues. Based on the review on Rebecca Louise Blogs, the app eventually crashed, making it inaccessible for two weeks, which led the reviewer to switch to another app.

**Identified Research Gap**

Although mobile applications for menstrual health are widely available and digital tools supporting Islamic practices are increasingly developing, the integration of both domains remains limited, there remains a lack of integrated platforms specifically addressing menstrual tracking in accordance with Islamic law especially on istihadhah. Addressing this gap requires a design that balances biomedical accuracy with fiqh-based rulings, ensuring both health and religious needs are met. A period tracker application is specifically designed to help women track their menstrual cycle. These apps offer a range of features to help track the menstrual cycle, ovulation, and pregnancy to better understand one's body. Some of the characteristics of a period tracking app is helps track symptoms, make predictions about the cycle, show cycle history, and many more.

**Methodology**

Agile Methodology is a project management framework that is divided into many dynamic stages called sprints. It is an iterative process. Teams will evaluate their performance at the end of each sprint to know what should be done better so they can modify their approach for the next sprint. Agile Methodologies are a group of software development methods that are based on iterative and incremental development (Gaurav Kumar, 2012). Agile Methodology contains 6 simple stages, which are planning, designing, developing, testing, deploying, and reviewing as in Figure 6. In planning phase basically goal, user need, user requirement and scope of the project will be identified. The next phase is design where the design of database and user interface will be focused on. Then, this research will move to develop phase where the development of the system will be started. There are two types of tests will be done in testing phase which are beta and alpha testing. Once satisfied, then the system will deploy on the required server. Lastly, the system will be review back after some duration time as agreed.



**Figure 5:** Phases of Agile Methodology

This paper will be focusing on first stage of Agile Methodology which is planning or gathering requirements. A quantitative approach has been conducted with distribution of questionnaire to 32 respondents with information technology background to gather design requirement. According to the Burns and Groove, 2005, pilot testing of the questionnaire is recommended for 15 to 30 subjects. This pilot testing is necessary before further examination utilizing a bigger sample size or phase II evaluation, or the psychometric properties evaluation, to ensure the construct validity and reliability of the instrument as mentioned by Joko Gunawan et.al, 2021. The objective of this survey is as follows:

1. To profile the demographic characteristics and technology usage patterns of Muslim women relevant to menstrual and ritual purity tracking.
2. To explore the current practices and challenges faced by Muslim women in managing menstrual cycles and maintaining ritual purity in accordance with Islamic rulings.
3. To analyse the needs, expectations, and trust factors that influence Muslim women’s acceptance of mobile applications for menstrual and purity tracking.
4. To identify essential requirements and design considerations for the development of a technology-enhanced solution (Muslim Women Menstrual Track) that integrates health tracking with Islamic jurisprudence.

This survey has been divided into 4 sections which are Section A: Demographic & Technology Profile, Section B: Current Practices & Challenges, Section C: User Needs, Expectations & Trust Factors and Section D: Feature & Design Requirements. The details of questions for each section as in Table 1 below:

**Table 1:** Mapping of Objective, Section and Question

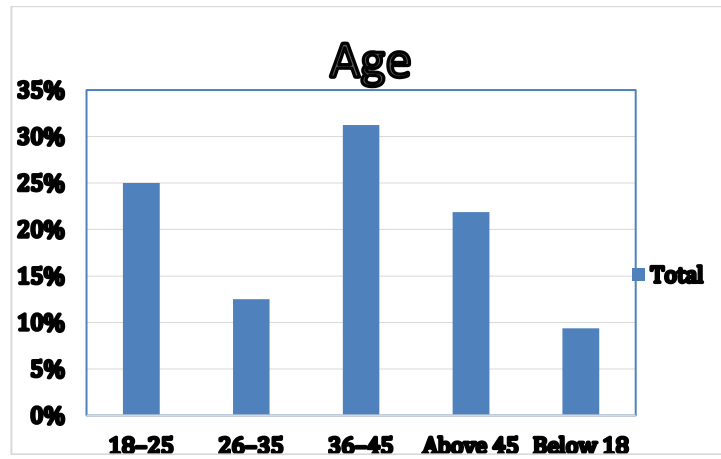
OBJECTIVE	SECTION	QUESTIONS
1	A	Q1: Age
		Q2: Education level
		Q3: Occupation
		Q4: Smartphone usage per day
		Q5: Which of the following apps do you commonly use? (Select all that apply)
2	B	Q6: I regularly track my menstrual cycle.
		Q7: I use manual methods (calendar, notebook, etc.) to record my menstrual cycle.
		Q8 : I use mobile applications to track my cycle.
		Q9 : I find it difficult to maintain a consistent record of my menstrual cycle.
		Q10: I face challenges in distinguishing between <i>haid</i> (menstruation) and <i>istihadhah</i> (non-menstrual bleeding).
		Q11: I often feel uncertain about when to perform <i>ghusl</i> (ritual purification-mandi wajib).
		Q12: I sometimes feel unsure about my state of ritual purity and its effect on my prayers/fasting.
3	C	Q13 : I am comfortable using mobile apps for health tracking.
		Q14: I am comfortable using mobile apps for religious guidance.
		Q15 : I would prefer a mobile app that integrates both health tracking and Islamic rulings.
		Q16 : I believe a mobile app can reduce mistakes in menstrual and purity (mandi wajib) tracking.
		Q17 : I would be more confident using such an app if it is endorsed by Islamic scholars.
		Q18 : I believe technology can help improve my understanding of fiqh rulings related to menstruation and ghusl(mandi wajib).
4	D	Q19 : Ability to log menstrual cycle start and end dates.

		Q20: Notifications/reminders for expected menstruation or <i>ghusl</i> .
		Q21: Guidance on distinguishing between <i>haid</i> and <i>istihadhah</i> .
		Q22: Access to fiqh references and rulings.
		Q23: Simple and easy-to-use interface.
		Q24: Educational content on women’s health and Islamic jurisprudence.

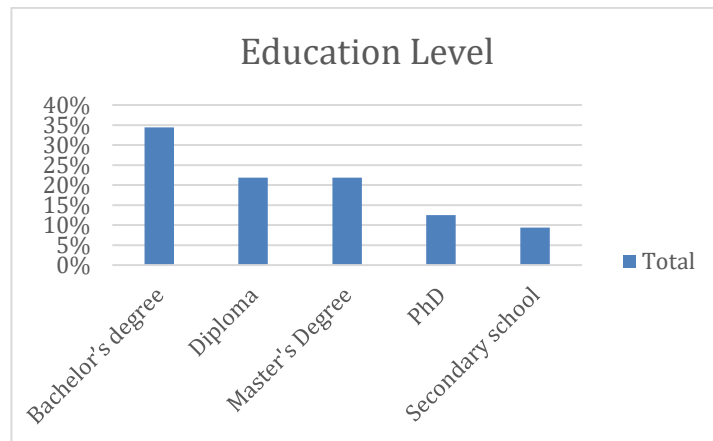
**Results and Findings**

The provided bar in Figure 6 presents a demographic breakdown of population by age group, with the percentage of the total population on the y-axis. The data reveals the following distribution:

- a) 18–25 years: This group accounts for 25% of the population, making it the second-largest segment.
- b) 26–35 years: This cohort represents 12.5% of the total, the second-smallest group.
- c) 36–45 years: The largest age group, making up 31.25% of the population. This represents the peak demographic.
- d) Above 45 years: This group constitutes 21.875% of the population.
- e) Below 18 years: The smallest group, comprising 9.375% of the total.



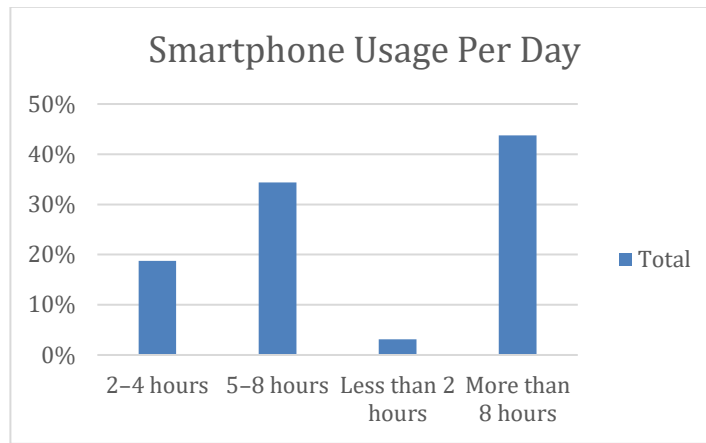
**Figure 6:** Distribution of Respondents Age



**Figure 7:** Distribution of Education Level

The bar chart below in Figure 7 illustrates the distribution of educational level. The data is presented as percentages of the total, revealing the following key findings:

- a) Bachelor's degree holders constitute the largest group, accounting for 35% of the population.
- b) Diploma and master’s degree holders represent the next largest segments, both at 22.5% each.
- c) Individuals with a PhD make up 12.5% of the population.
- d) The smallest group is those with a Secondary school education, representing only 10%.



**Figure 8:** Smartphone Usage Per Day

The bar in Figure 8 presents a survey of daily smartphone usage, categorized into four-time intervals. The data, expressed in percentages, highlights the following usage patterns:

- a) The largest group, representing 44% of the population, uses their smartphone for more than 8 hours per day.
- b) The second largest group, at 34%, uses their smartphone for 5–8 hours daily.
- c) A smaller segment, 19%, reports using their device for 2–4 hours.
- d) The smallest group, making up only 3%, uses their smartphone for less than 2 hours per day.

**Table 2:** Mean, Standard Deviation, Min and Max of Question

Question	Mean	Std Dev	Min	Max
Q6	3.72	1.17	1	5
Q7	3.74	1.18	1	5
Q8	3.73	1.20	1	5
Q9	3.83	1.10	1	5
Q10	3.86	1.11	1	5
Q11	3.85	1.13	1	5
Q12	3.88	1.14	1	5
Q13	3.88	1.17	1	5
Q14	3.96	1.12	1	5
Q15	3.96	1.15	1	5
Q16	3.91	1.15	1	5
Q17	3.90	1.18	1	5
Q18	3.85	1.18	1	5
Q19	3.89	1.20	1	5
Q20	3.83	1.20	1	5
Q21	3.76	1.20	1	5
Q22	3.94	1.00	2	5
Q23	3.93	1.03	2	5
Q24	3.93	1.07	2	5

**Descriptive Analysis**

According to Boone et. al (2012) and Sullivan et al (2013), they both stress the importance of reporting both mean and variability when analysing Likert responses. Rule thumb of Mean Interpretation as follows in Table 3:

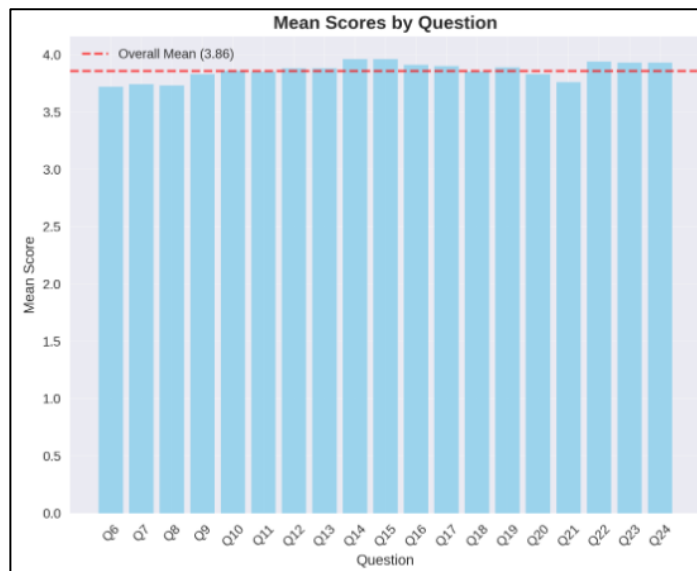
**Table 3: Mean Interpretation**

On a 1–5 scale (1 = Strongly Disagree → 5 = Strongly Agree):	
Mean Value	Interpretation
1.0 – 1.8	Strongly Disagree
1.9 – 2.6	Disagree
2.7 – 3.4	Neutral / Mixed
3.5 – 4.2	Agree
4.3 – 5.0	Strongly Agree

The guidance of standard deviation (SD) interpretation as Table 4, Strong consensus means that most respondents answered similarly for SD range 0 to 0.7. For SD range 0.8-1.2, it is moderate variability where the respondents have some mixed opinions. Lastly if SD greater than or equal to 1.3 it is a high variability where respondents are divided.

**Table 4: Standard Deviation (SD) Interpretation**

Std Dev	Interpretation
0 – 0.7	Strong consensus (most respondents answered similarly)
0.8 – 1.2	Moderate variability (some mixed opinions)
≥ 1.3	High variability (respondents are divided)



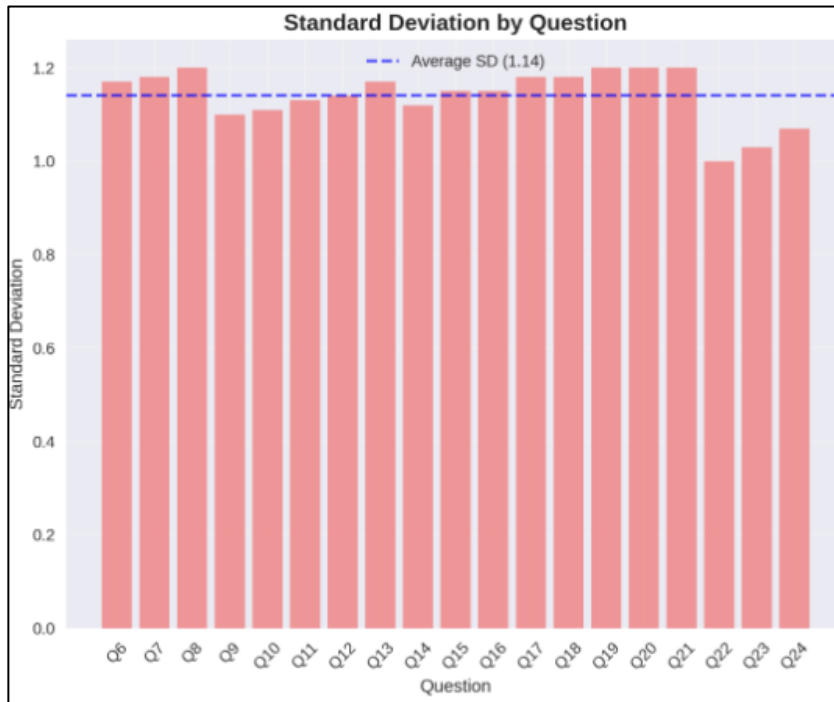
**Figure 9: Mean Scores by Questions**

Refer to the Figure 9 above, the descriptive analysis of user requirement items (Q6–Q24) revealed mean scores ranging from 3.72 to 3.96, indicating overall agreement among respondents. The overall mean score across all items was 3.86, suggesting that respondents generally expressed agreement with the proposed features of the Taharah Track application. This finding indicates a positive inclination toward integrating technology to support menstrual and ritual purity tracking.

The mean scores for individual items ranged from 3.72 to 3.96, reflecting a narrow dispersion and highlighting relatively consistent levels of agreement across the statements. The lowest mean values were

observed for Q6 ( $M = 3.72$ ), Q7 ( $M = 3.74$ ), and Q8 ( $M = 3.73$ ), which fall slightly below the overall mean. This suggests that while respondents acknowledged these aspects, they were perceived as relatively less critical compared to other requirements. In contrast, the highest mean scores were reported for Q14 ( $M = 3.96$ ), Q15 ( $M = 3.96$ ), and Q22 ( $M = 3.94$ ), indicating stronger agreement and greater importance assigned to these features.

The small variation in mean scores and the high level of consistency across items indicate a stable and uniform response pattern. This suggests that respondents generally agreed with the statements provided, while still demonstrating slight preferences for specific items. Overall, the results show that all items were viewed as relevant by participants, with Q14, Q15, and Q22 receiving the highest levels of endorsement. This result can guide the prioritization of key features and requirements in future development of Taharah Track apps.



**Figure 10:** Standard Deviation by Question

Standard deviation values ranged from 1.00 to 1.20, suggesting moderate variability in opinions as in Figure 10. The highest mean was observed in Q14 and Q15 ( $M = 3.96$ ,  $SD \approx 1.12-1.15$ ), while the lowest mean appeared in Q6 ( $M = 3.72$ ,  $SD = 1.17$ ). Items Q22 and Q23 showed more consistent responses ( $SD = 1.00-1.03$ ), whereas Q8, Q19, Q20, and Q21 exhibited more diverse views ( $SD = 1.20$ ). These results suggest that while participants generally agree on the requirements, some features elicited mixed perceptions that warrant closer consideration in system design.

The narrow range of mean values, coupled with moderate standard deviations (1.00–1.20), demonstrates that responses were generally uniform, with no extreme divergence in opinion. This consistency underscores that the majority of respondents recognized the relevance of the requirements, while some variability reflects minor differences in prioritization.

Overall, these results highlight that users regard all proposed requirements as relevant, with certain features (e.g., those in Q14, Q15, and Q22) emerging as higher priorities for system development. The findings provide a solid foundation for refining and prioritizing functional specifications in the design phase of the Taharah Track application.

## Discussion

Demographic Analysis shows that the population is mostly in the 36–45 age bracket. The 18–25 age group is also a significant segment, while individuals under 18 and those in the 26–35 age range are the least represented cohorts. The population is heavily concentrated in the higher education brackets, with bachelor's degrees being the most common qualification. The proportion of individuals with a secondary school education is notably low compared to those with a university-level degree. Most of the population surveyed are heavy smartphone users, with 78% (the combined total of the 5-8 hours and more than 8 hours groups) spending at least five hours on their device each day.

Based on the provided descriptive statistics, the survey results indicate a generally positive and consistent response pattern across all questions (Q6-Q24). The mean scores for all questions fall within a narrow range of 3.72 to 3.96, suggesting that respondents, on average, tended to agree or slightly agree with the statements, given the 1-5 Likert scale.

The standard deviation (Std Dev) values, ranging from 1.00 to 1.20, show a relatively low level of dispersion around the mean, implying that respondent answers were not highly varied and were generally clustered near the average. This low variability indicates a high degree of consensus among participants.

The consistent minimum (Min) and maximum (Max) values of 1 and 5, respectively (with a few exceptions), confirm that the full range of the Likert scale was utilized by at least some respondents for most questions, even though the central tendency was toward the higher end. The exceptions, where the minimum score was 2 (Q22, Q23, Q24), suggest that no respondents completely disagreed with these specific statements.

In conclusion, the data consistently reflects a moderate to high level of agreement with the survey statements. The low standard deviation further reinforces that this agreement is widespread and not a result of a few extreme positive scores. This consistency and generally positive sentiment across all measured variables provide robust evidence for the central findings of the study.

## Conclusion

This study explored the user needs and design requirements for developing a menstrual and ritual purity tracking mobile application tailored specifically for Muslim women. Through profiling demographic characteristics and technology usage patterns, the findings reveal that most Muslim women actively engage with mobile technologies and are open to digital solutions that support both health management and religious obligations. However, despite widespread use of menstrual tracking apps, current tools fail to address the unique fiqh-related requirements essential for determining *haid*, *istihadhah*, and *ghusl* with confidence.

The exploration of current practices and challenges shows that many Muslim women struggle with inconsistent cycle patterns, insufficient knowledge of Islamic rulings, and confusion in distinguishing different types of bleeding. These gaps often lead to uncertainty in performing acts of worship, highlighting a clear need for a trustworthy and context-sensitive technological aid. The analysis of user expectations indicates that acceptance of such applications is strongly shaped by three main factors: perceived accuracy, religious reliability, and privacy protection. Users express a high level of trust in applications that incorporate validated fiqh guidance, transparent algorithmic logic, and secure data management.

Based on these academic findings, several requirements and design were identified to propose Muslim Women Menstrual Track. These include embedding Islamic jurisprudence into the tracking logic, providing personalized cycle analytics, offering multilingual and culturally sensitive interfaces, and ensuring seamless usability for women of varying technological proficiency. Additionally, collaboration with Islamic scholars is needed to ensure the credibility and acceptability of the system.

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