

Phase 2: Design Thinking Information Gathering & Analysis

Group Name: Tactic Tech

Topic: Internet of Things (IOT)

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Conclusion for interview

Responder : Owner of public washing machine shop in Angkasa UTM

In a recent interview with the owner of a public washing machine shop in Angkasa UTM, we delved into the intricacies of managing a laundromat business. The owner highlighted the challenges faced in day-to-day operations, ranging from machine scheduling to maintenance tracking. When asked about the familiarity with mobile applications for laundromat management, the owner expressed interest in exploring such technology. Our purposed application features like real-time machine availability, advanced reservations, convenient payment options and instant notifications. The owner acknowledged the potential value of these features for both themselves and their customers.

Discussing the application's impact on customer experience and business efficiency, the owner anticipated improved operational flow and enhanced convenience for patrons. In terms of implementation, they envisioned the application seamlessly integrated into daily operations and expressed openness to the proposed pricing model. Support for adopting the application and strategies for promoting its use were also key points of discussion. As the interview concluded, the owner emphasized the importance of a long-term positive impact on their business and welcomed any additional features that could further streamline operations. The interview showcased a collaborative exploration of innovative solutions, reflecting a mutual commitment to enhancing the laundromat experience.

Conclusion for survey

Aim respondents: 35 UTM students

88.6% of the respondents have been using the laundry services provided on campus. Most of them faced a payment problem because it's hard to exchange small change. Respondents prefer the solution of cashless payment and refunds in case of issues to solve the payment problem. Besides, queueing and machine hogging problems are also faced by them. In order to solve these problems, respondents prefer to have a booking function via app and notifications when a wash or dry process is completed. Beside that, respondents suggest adding more machines in each college to overcome the lack of machines. Through this suggestion, we will add a comment function and monthly machine usage statistics to the software we will develop so that this problem can be solved and to facilitate relevant responsible persons to understand user needs and upgrade machines in a timely manner.

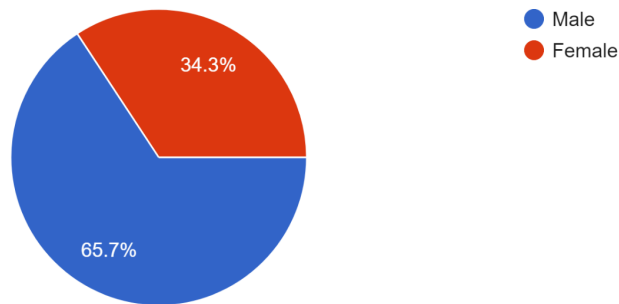
Analysis data of survey form

Demography of respondents (35 respondents total)

1. Gender

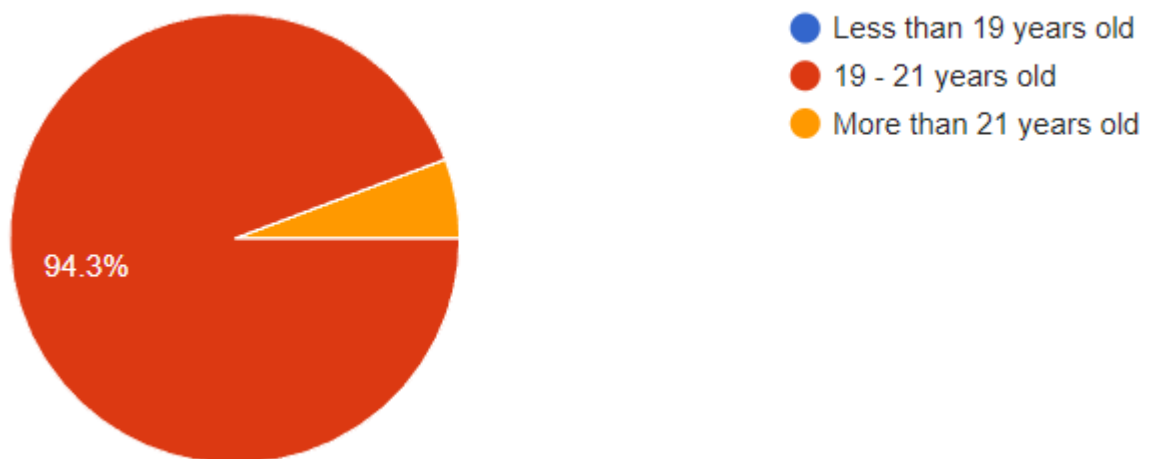
Gender

35 responses



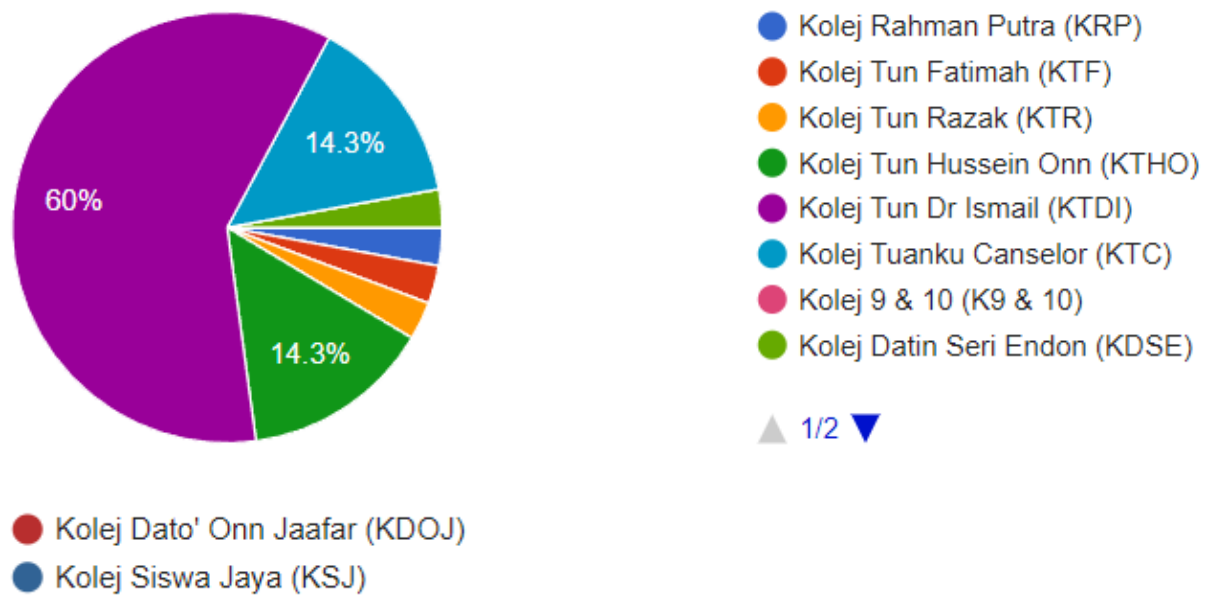
The data analyzed were contributed by a total of 35 students, which males occupied of 65.7% total respondents, and followed by females occupied 34.3% of total respondents.

2. Age



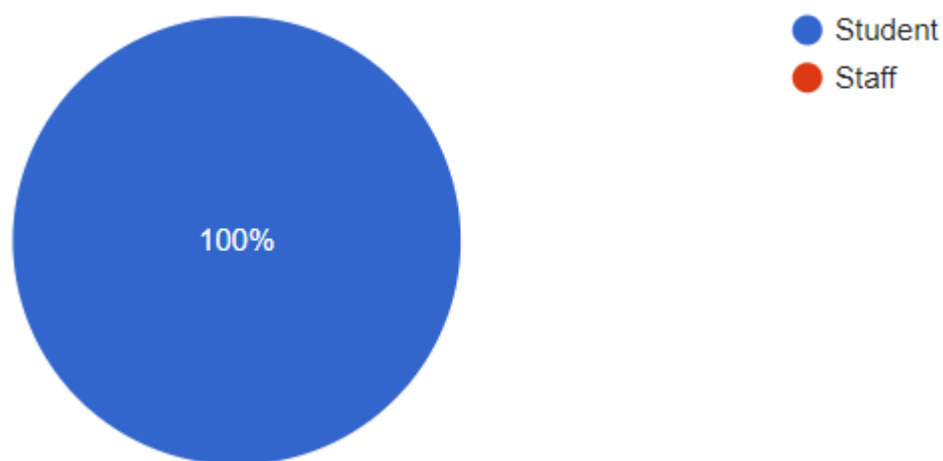
The respondents of our survey mainly consists of individuals aged between 19-21 or 33 respondents or 94.3% of the total respondents, and is followed by individuals aged more than 21 years old at a minority of 2 respondents or 5.7% of the total respondents.

3. Residential colleges



Since the survey is aimed at the students that live in the campus of UTM, all the colleges of UTM are included to collect locational and proximity data related to the aim of our survey. From the survey, we have found that the respondents are from a diverse range of colleges, of which the majority are from Kolej Tunku Dr Ismail (KTDI) at 21 respondents or 60%, followed up by Kolej Tunku Canselor(KTC) and Kolej Tun Hussein Onn(KTHO) at 5 respondents each or 14.3% and lastly, 1 respondents each from KDSE,KRP,KTF and KTR. There are no respondents from KDOJ and KSJ.

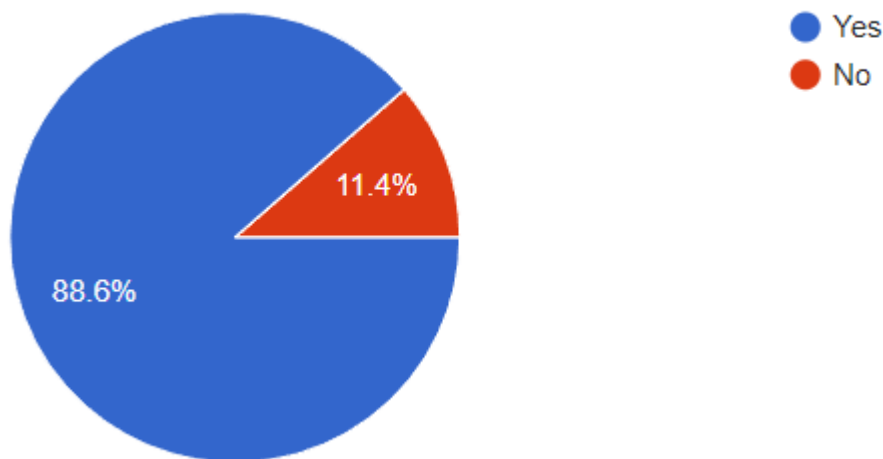
4. Occupation



All of our respondents are all students of UTM and there are no staff that took part in the survey.

Main Section of Survey

1. Do you use laundry services available inside the UTM campus?

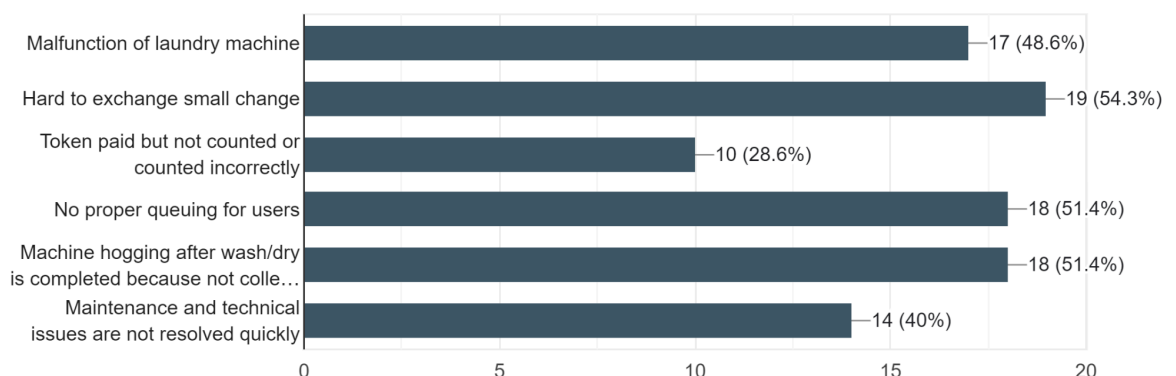


Out of the 35 respondents, 31 are users of the laundry services available inside UTM while 4 are not. We can deduce that respondents who use the laundry services inside UTM are students that cannot or do not commute back and forth from their home weekly, therefore they have to rely on the laundry services whereas the 4 respondents which answered no to the above question are likely to be able to commute home weekly or they just prefer to wash their clothes in the respective colleges to save money or the distance between colleges and laundry shop is an issue for them.

2. The common problems faced when using laundry machine.

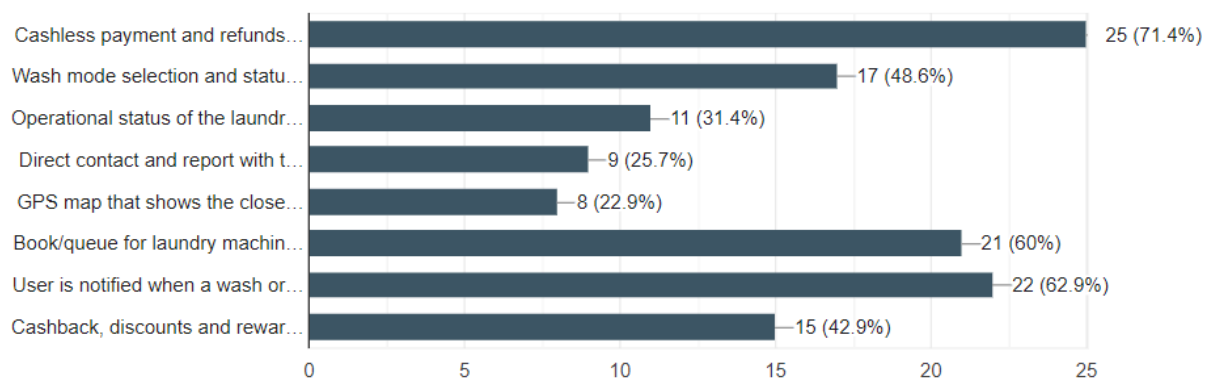
Common problems faced when using laundry machine. Please tick if you have faced these problems before.

35 responses



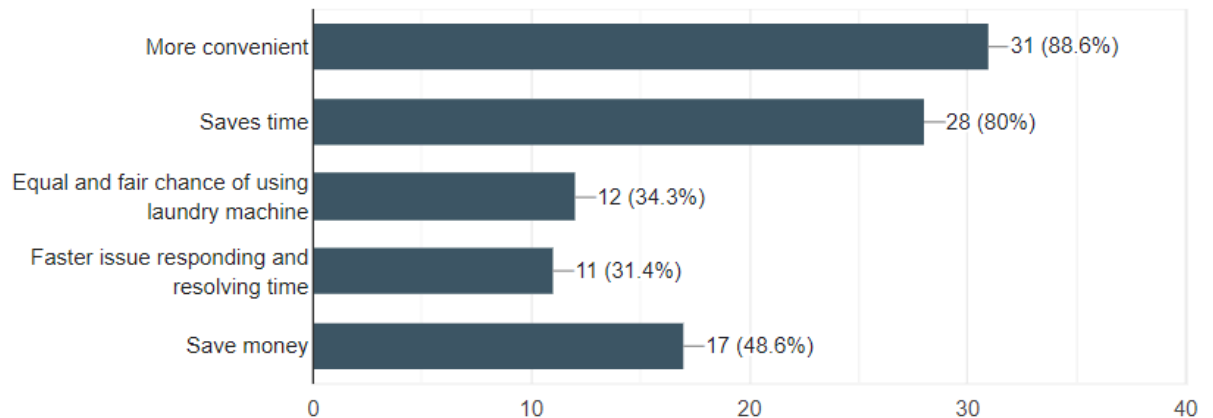
Based on the above diagram, there are a few common problems faced by the users when using the laundry machine. There are 19 respondents or 54.3% of total respondents most agree that it is hard to exchange for chump change when using the laundry machine. This is because the token machine in the laundry only accepts RM 1 or RM 5, and the users need to find an alternative way to exchange small changes in order to wash their clothes. Then it is followed up by 18 respondents or 51.4% of total respondents agree that there is no proper queuing for them and the machine is hogging after washing or drying their clothes respectively. Additionally, 17 respondents or 48.6% of total respondents admit that the malfunction of the laundry machine occurs when using the machine. 14 respondents or 40% of total respondents think that the maintenance and technical issues of laundry machines are not resolved quickly after reporting. Lastly, only 10 respondents or 28.6% of total respondents face the problem that the token is paid but not counted or counted incorrectly.

3. These are our proposed solutions and features, please tick the options that you agree with.



We have prepared a list of solutions and features to the listed problems above in hopes to address or solve the issues effectively, and the respondents are asked to tick on the options that they agree on. The feature that has the highest approval is the cashless payment and refunds feature with a total of 25 respondents or 71.4%. This is followed up with the feature of users being notified when their wash/dry is completed at 22 respondents or 62.9% and this is followed by the feature of booking/queuing system at a close 21 respondents or 60%. The other features are not as well received as the previous 3 features but are also accepted by some of the respondents as useful features/solutions to them.

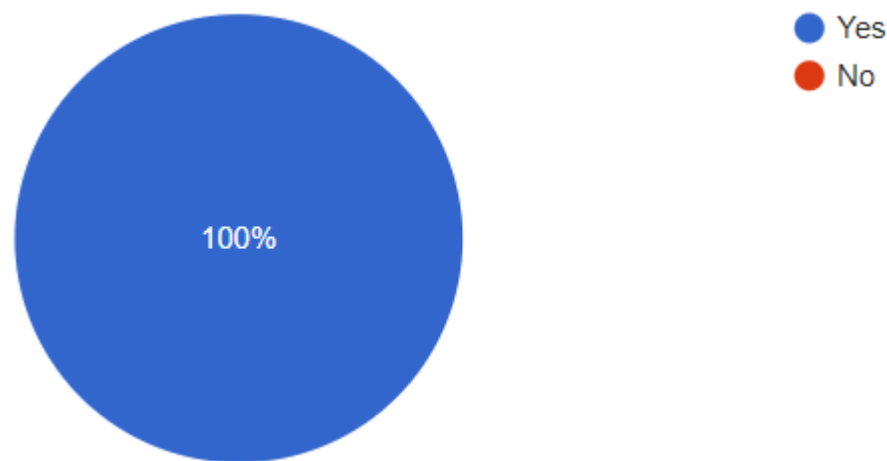
4. These are the expected benefits and advantages of the proposed solutions, which do you agree with?



We have listed a few benefits that we think that can be reaped from the previous section of proposed solutions/features and these are the responses of the respondent to them. The majority of the respondents at 31 or 88.6% think that it will be more convenient for them, followed by 28 or 80% respondents that think this will save time. Other than that, respondents also agree with other benefits of the solutions.

Respondent feedback and support

1. Does our proposed solution/features address or solve the problems that you are facing?

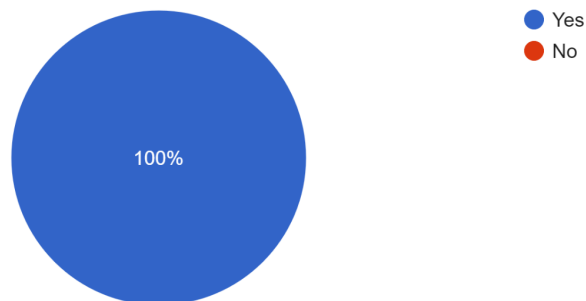


An astounding 100% of the respondents or all 35 of them have agreed that our solutions/features are effective at solving the problems that they might or have faced at laundry shops.

2. If the application is created successfully, would you use it in the future?

If the application is successfully created, would you use it in the future?

35 responses



Based on the diagram, all of the respondents would support and use our application in the future if it is invented successfully.

3. Other suggestions and feedback by the respondents.

Other suggestions and feedbacks:

16 responses

no
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More machine for students
can have a booking system
Number of washing machine not sufficient and is too little to satisfy usage of residents. Recommend to have at least one in each floor for big blocks
increase number of machine!!!
Can create an application, gathering the needed functions for all laundries in UTM
free detergent

These are the suggestions and feedback provided by our respondents. One of the effective suggestion is the number of laundry machine should been increased in order to fulfill the requirements of the users. Besides, they recommend that the laundry machine should provide free detergent to the users.