**Project Description:**

Trisakay is a tricycle riding app that allows both drivers and passengers to have a more convenient experience when it comes to commuting. For drivers, the app should allow them to more easily locate potential passengers along their chosen route. For passengers, the app should allow them to quickly identify drivers in their area that are along their chosen route so that they can more easily catch a ride. Overall, it should improve local commuting experiences for both drivers and passengers in subdivisions that have available tricycle riders in them.

**Requirements Summary:**

|  |  |  |
| --- | --- | --- |
| **MINIMUM REQUIREMENTS** | Processor Cores | Single Core |
| OS | Android 4.4 (KitKat) |
| RAM | 2 GB |
| **RECOMMENDED REQUIREMENTS** | Processor Cores | Quad Core |
| OS | Android 8.0(Oreo) |
| RAM | 4 GB |
| **OTHER REQUIREMENTS** | Permissions | Notifications and Storage |

Table 1. System Requirements

To cater to low-end android models, the application will have at most a minimum of 1 Core, 2 GB worth or RAM, and Android version 4.4 or KitKat as its OS. The app itself is not at all demanding, hence our team has settled on lower requirement specs.

# Overview:

For the sake of convenience, as well as assurance that sufficient data has been gathered, the team has decided to conduct surveys via Google Forms and send out said forms to willing participants and fellow classmates to gather sufficient data regarding the prototype and to ensure that no designer bias can be seen in the results. The survey will include both a quantitative and qualitative means of gathering data, with the survey being split into two parts, the first being a quantitative section and the second a qualitative section.

With that said, the Evaluation plan is split into two separate parts: the Heuristics Evaluation and Participant Survey and Feedback. Below is a table describing each technique.

|  |  |
| --- | --- |
| **Technique** | **Description** |
| Heuristics Evaluation | Heuristics Evaluation will evaluate the UX design of the Prototype in an industrial-standard usability principle. This technique is chosen to provide a quick and approachable way to assess the validity of the Prototype’s Design when time or resources are less. Also, the Heuristics Evaluation will be included in the following technique to ensure that participants do not need to evaluate the prototype. |
| Participant Survey and Feedback | A survey will be provided to participants after conducting the prototype. The survey will contain quantitative questions based on the previously mentioned technique that are interpreted into a 5-point Likert Scale as well as qualitative questions in the form of feedback. |

So as can be seen above, the evaluation methods are split into two (2) tasks: the Heuristics Evaluation and the Participant Survey and Feedback. Both tasks can be found in the questionnaires sent out to participants willing to review the prototype. For the Heuristics Evaluation, a 5-point Likert Scale was employed to determine the participants’ satisfaction with the design, and the following criteria were asked of them based on the Heuristics Evaluation:

1. **Visibility of System Status**
2. **Match between the System and the Real World**
3. **User Control and Freedom**
4. **Consistency and Standards**
5. **Error Prevention**
6. **Help Users Recognize, Diagnose and Recover from errors**
7. **Recognition rather than Recall**
8. **Flexibility and Efficiency of Use**
9. **Aesthetic and Minimalist Design**
10. **Help and Documentation**

As for the Participant Survey and Feedback, the Heuristics Evaluation was used as the basis for the quantitative survey, while the following questions were used for qualitative feedback:

1. **What is your experience with viewing the prototype flow? Has it achieved the desired system flow?**
2. **What impressions do you have of the prototype's user interface as you** **viewed the navigation flow?**
3. **Please feel free to comment or suggest anything about the prototype.**

# Data Presentation

**Data Analysis: Heuristic Evaluation**

The TriSakay prototype will be evaluated within each type of Heuristic Evaluation stated below.

*Visibility of System Status*

* The system design provides appropriate feedback like message prompts in response to user actions.
* The message prompts are clear, visible and understandable.

## Match Between System and Real World

* Used words, phrases and concepts according to users’ language rather than system-oriented words and computer jargon.

## User control and Freedom

* The system design provides ways of allowing users to easily “get in” and “get out” if they find themselves in unfamiliar parts of the system.

## Consistency and Standards

* The colors, text, labels, buttons and other elements in the design are uniform from start to finish**.**
* Text and icons are not too small or too big.
* Menus and other features of the system are arranged and positioned in a consistent way. (For ex. If your website has navigation buttons on the top under the page title on one page, the users will automatically look there for the same features on other pages.

## Error Prevention

## The system design provides automatic detection of errors and prevents them from occurring in the first place.

* Idiot proofing mechanisms are applied

## Help Users Recognize, Diagnose, and Recover from Errors

* Error messages and the terms used are recognizable, familiar and understandable for the users.

## Recognition rather than recall

## Objects, icons, actions and options are visible for the user.

## Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do.

## Flexibility and Efficiency of Use

* The system design provides easy to navigate menus.
* The system does not waste time of system resources.

## Aesthetic and Minimalist Design

* The graphics and animations used are not difficult to look at and do not clutter (mess) up the screen.
* The information provided is relevant and needed for the system design.

## Help and Documentation

* The system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed.

### Heuristics Conclusion

Overall, the Prototype was able to comply with a strongly agree on all the said evaluations; nevertheless, there were still certain problems that required attention improvement and have left some room for additional future developments.

## Participant Survey and Feedback

**Results**

|  |  |  |  |
| --- | --- | --- | --- |
| **SECTION 1** |  | |  |
| Question | Mean | Interpretation | Remarks |
| 1. **Visibility of System Status**  * - The system design provides appropriate feedback like message prompts in response to user actions.   - The message prompts are clear, visible and understandable. | 4.25  3.88 | Good  Good | Successful |
| 1. **Match between the system and the real world**   - Used words, phrases and concepts according to users’ language rather than system-oriented words and computer jargons. | 4.75 | Very Good | Successful |
| 1. **User control and freedom**   - The system design provides ways of allowing users to easily “get in” and “get out” if they find themselves in unfamiliar parts of the system. | 4.88 | Very Good | Successful |
| 1. **Consistency and Standards**  * - The colors, text, labels, buttons and other elements in the design are uniform from start to finish.   - Text and icons are not too small or too big.  - Menus and other features of the system are arranged and positioned in a consistent way. (For ex. If your website has navigation buttons on the top under the page title on one page, the users will automatically look there for the same features on other pages. | 4.25  4.25  4.38 | Good  Good  Good | Successful  Successful  Successful |
| 1. **Error Prevention**   - The system design provides automatic detection of errors and prevents them from occurring in the first place.  - Idiot proofing mechanisms are applied | 3.88  4.38 | Good  Good | Successful  Successful |
| 1. **Help users recognize, diagnose and recover from errors**   - Error messages and the terms used are recognizable, familiar and understandable for the users. | 4.5 | Very Good | Successful |
| G. **Recognition rather than recall**  - Objects, icons, actions and options are visible for the user.  - Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do. | 4.13 | Good | Successful |
| H. **Flexibility and efficiency of use**  - The system design provides easy to navigate menus.  - The system does not waste time of system resources. | 4.5  4.25 | Very Good  Good | Successful  Successful |
| 1. **Aesthetic and minimalist design**   - Graphics and animations used are not difficult to look at and do not clutter (mess) up the screen.  - Information provided is relevant and needed for the system design. | 3.88  4.38 | Good  Good | Successful  Successful |
| J. **Help and Documentation**  - The system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed. | 4.75 | Very Good | Successful |
| **SECTION 2** |  | |  |
| What is your experience with viewing the prototype flow? Has it achieved the desired system flow? |  |  |  |
| What impressions do you have of the prototype's user interface as you viewed the navigation flow? |  |  |  |
| User Feedback |  |  |  |
| **Average** | 4.33 | Good | Successful |

Table 3. Survey Interpretation of Data

The information from the survey completed after the questionnaire was sent is shown in the table above. It demonstrates that the prototype is critiqued successful and is at a good successful quality level. Critics like using a lighter and plainer colors for the backgrounds, etc., a google map interface and other minor details were suggestions for better improvements of the overall design. This data, which is based on the 10 Nielsen’s Heuristics Criteria, demonstrates that the prototype met the requirements and indeed satisfied the participants with important features including its overall design, flow and structure and minimalist approach.

**Feedback**

A few concerns suggested from the feedback by the users were mainly the focus of some map and color changes within the system. The Prototype’s function in general was not at all the center of the stated problems. Problems like these often give rise to user concerns and even further enhancements that will benefit the application itself and every user. Even still, nearly all of the comments were very favorable and positive Feeback.

**Design Implications:**

● Did your prototype work very well, or did you need to alter and make any changes to address the analysis's findings?

○ There are some minor changes and things the team could further enhance for a more detailed and immersive experience with the app in the near future, but in general, the prototype was rather successful according to all the results gathered, and it is currently at a respectable adequate critique stage.

**Critique and Summary:**

What were the benefits and drawbacks of your evaluation?

* One benefit of conducting this evaluation was that the team collected vital data needed and information necessary for the prototype. Collecting data that was critiqued without bias and in a genuine manner. Also, using social media to contact participants for the successful survey evaluation questionnaire, including their open-ended feedback, provided relevant strategies to reach the users which was made easy for the team and participants.
* The drawback of all of this, though, is that neither laboratory work nor any physical interaction occurred, which would have allowed for the collection of further data for the prototype; this would come in handy in ways of a participant’s facial expressions, reactions, and other ways we can physically see and observe each user when in use of the prototype. Additionally, because internet speed greatly affects how effectively the team can see the exchanges and how the participants can view the prototype, along with the challenges of some participants being preoccupied, the team has frequently had to wait until a participant can be reached in full due to the ongoing internet problems in the Philippines aligned with their available time to take and answer the given survey questionnaire. In essence, the slower the internet meant that evaluating the prototype and viewing it on screen would be more challenging.

With the knowledge you now possess, both regarding design and evaluation, what actions would you do differently? If you had been exposed to greater resources, what actions could you have taken to yield much more perceptive assessment outcomes (regardless of whether the solution is a revised prototype or an alternative path for evaluation)?

* Given an exposure to greater resources accompanied with more time and more knowledge, would lead to actions of probably not doing much of anything so different from the process we have already undertaken but instead alter other decision makings, enhancements of the design flows, evaluation techniques and even use those resources and research being used. This would help us know more about what is indeed essential for this specific type of application along with its specific characteristic. To be able to yield much more perspective, gathering even more participants coming from different backgrounds, would already itself be another advancement for this project in its data collections, user friendliness, and the overall centered focus on the user; including pondering on questions using “how” and the 5 W’s. With knowledge about how to satisfy a user and make an application better, like, using user maps, sympathizing to users, and other techniques and strategies learned throughout, would precisely boost the advancements of project TriSakay.

**Summary of the Project**

The development process of TriSakay heavily revolved around the market research that was conducted by the team via the usage of the aforementioned data gathering techniques earlier in this paper. It was concluded that while the majority of participants that were surveyed was extremely satisfied with the overall UX/UI design of the prototype, there was still a minority of participants that were extremely dissatisfied with the designs. Therefore, it can be also concluded that there are still certain pain points within the design that must still be addressed, before finalizing the app design of TriSakay.

This input was extremely valuable to the development process, as this ensures that the final product will cater to all users and ensure a nice and convenient experience overall, ensuring that all potential users are able to use the app without further complaints. The input provided from the open-ended feedback was valuable, as some of the responses received could prove useful for the future of TriSakay, which included new potential features that could be added, making the app more lucrative. Overall, the insights and criticisms received from this data gathering process has been significant to the overall development of TriSakay.