Usability Testing

## Scope

The usability testing of the Driver Log was conducted by learning drivers and their parents on August 20, 2021].

During the usability evaluation, eight participants, matching the user profile(s), were asked to complete a range of task with the software over a 30-minute period. During this time, participants:

* Performed real-world tasks on the Drivers Log while thinking allowed
* Answered questions about how easy they found the tasks to complete and their overall satisfaction with the software

## Participants

Eight participants, having the following profile characteristics, evaluated the Drivers Log.

*NOTE: Add or delete main categories as needed. Refer to screener for main demographic information.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Audience Type**   |  |  | | --- | --- | | Learning Drivers | 5 | | Supervisors | 3 | |  |  | | **TOTAL (participants)** | **8** | | **Computer Usage**   |  |  | | --- | --- | | 0 to 10 hrs. wk. | 1 | | 11 to 25 hrs. wk. | 2 | | 26+ hrs. wk. | 5 | | **TOTAL (participants)** | **8** | |
| **Age**   |  |  | | --- | --- | | 16-18 | 3 | | 18-35 | 2 | | 26-39 | 1 | | 40-59 | 2 | | **TOTAL (participants)** | **8** | | **Gender**   |  |  | | --- | --- | | Women | 4 | | Men | 4 | | **TOTAL (participants)** | **8** | |

## Tasks performed

During the usability evaluation, participants were asked to complete ten (10) scenarios or “real-life” tasks using the software. Participants were provided with minimal training. The tasks were presented in random order and participants were given no hints during the process.

| **#** | **Task description** | **Usability goal** | **Metric** | **Target** |
| --- | --- | --- | --- | --- |
| 1 | *Use the output interface to determine the total number of trips driven with light traffic.* | Accuracy | Percentage of users who could correctly identify the total number of trips with light traffic selected. | 100% |
| 2 | *Use the output interface to determine the total number of unapproved hours.* | Accuracy | Percentage of users who could correctly identify the total number of unapproved hours. | 80% |
| 3 | *Use the input interface to start and stop a new trip lasting for at least 2 minutes.* | Efficiency | Average time to create a new data record. | 2-3 minutes. |
| 4 | *Create a trip with the daytime variable selected.* | Ease of use | Percentage of users who are able to locate and select the daytime checkbox, but not the nighttime checkbox. | 80% |
| 5 | *Create a trip with the supervisor approval variable selected.* | Ease of use | Percentage of users who are able to locate and select the supervisor approval checkbox. | 100% |
| 6 | *Create 5 new trips with any variables selected.* | Timeliness/ Capacity | The duration in time that it would take to create 5 trips. | 5-10 minutes. |
| 7 | *Use the output interface to determine the total number of hours.* | Communication of message | Percentage of users who are able to identify and read the total number of hours. | 85% |
| 8 | *Create a trip with all variables selected.* | Effectiveness | Percentage of users who are able to make all output variables being increased by 1. | 80% |
| 9 | *Create a trip with no variables selected.* | Communication of message | Percentage of users who are greeted with an error message | 80% |
| 10 | *Use the output interface to determine the total number of trips with any road type selected.* | Effectiveness | Percentage of users who could correctly identify the total number of trips with any road type selected. | 70% |

# Data collection

The user will perform the following tasks and rate the efficiency and effectiveness of the application.

Task 1:

*Use the output interface to determine the total number of trips driven with light traffic.*

One a scale of 1 to 5 please rate how difficult you found the task to perform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very difficult |  |  |  | Very easy |
| 1 | 2 | 3 | 4 | 5 |

Task 2:

*Use the output interface to determine the total number of unapproved hours.*

One a scale of 1 to 5 please rate how difficult you found the task to perform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very difficult |  |  |  | Very easy |
| 1 | 2 | 3 | 4 | 5 |

Task 3:

*Use the input interface to start and stop a new trip lasting for at least 2 minutes.*

One a scale of 1 to 5 please rate how difficult you found the task to perform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very difficult |  |  |  | Very easy |
| 1 | 2 | 3 | 4 | 5 |

Task 4:

*Create a trip with the daytime variable selected.*

One a scale of 1 to 5 please rate how difficult you found the task to perform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very difficult |  |  |  | Very easy |
| 1 | 2 | 3 | 4 | 5 |

Task 5:

*Create a trip with the supervisor approval variable selected.*

One a scale of 1 to 5 please rate how difficult you found the task to perform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very difficult |  |  |  | Very easy |
| 1 | 2 | 3 | 4 | 5 |

# Feedback Evaluation

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| I found the software easy to use. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I found the data easy to read. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I think I would be able to use the application on a daily basis. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I would recommend this product to friends or family. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| Compared to existing products, I found the software easier to navigate. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I found it easy to input data. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I was able to use the software in an appropriate timeframe. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |
| I required help to use the program. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Strongly disagree |  |  |  | Strongly agree | | 1 | 2 | 3 | 4 | 5 | |

# Recommended Changes

Documents a comprehensive set of the modifications to be implemented to the software solution.

* There is currently no way to approve unapproved trips. This can be solved by creating another form with a list of unapproved trips, and an approval button for each trip.
* The unapproved hours label fails to show only the unapproved trips, instead showing all hours.
* Anyone can approve a trip in the data input screen. This can be fixed by allowing supervisors to approve the trip separately.
* There is no response when a trip is submitted, a pop-up box can fix this with a message confirming the trip has been saved.
* The ability to edit or delete existing trips could also be recommended.
* UI features could be updated, such as sizing, scaling, colours and icons to match variables.
* There is no way to exit the input screen without creating a trip. A return button should be added.
* Duration and other input variables aren’t collected if one of the input boxes is not selected (meaning an error text box pops up). This can be fixed by putting the validation code above the code that stores the variables in the array.
* Scaling issues across phones that don’t share the same dimensions as the latest iPhone.
* Unnecessary data, such as date is not required.
* Displaying the total number of daytime hours and nighttime hours driven.
* A message when all requirements of a learners driver are met (120 hours driven, 20 night hours driven).