TRANSPORTATION SERVICES

UNIVERSITY of WASHINGTON

Single-Use Parking Permit Purchases via

The University of Washington Transportation Services Customer Portal

USABILITY STUDY RESULTS

Results Summary

Pre-Test Questionnaire

Pre-Test Questionnaire Results

Prompt	Responses (# of Participants with Answer)
Age	25 - 44 (6)
UW Position	Student (4); Staff (2)
How often do you drive to campus?	Sometimes (3), Often (2), Always (1)
When you drive to campus, where do you park?	UW Garage (6)
Have you ever purchased parking for an on-campus lot online before?	Yes (6)
Have you used any other method to secure parking in an on-campus lot?	Pay-by-Phone (5), Parking Meter (1), Gatehouse (3)
If you use a method other than the online interface, how easy do you find this method?	Somewhat Easy (4), Very Easy (2)
How likely would you be to purchase on-campus parking online?	Very Likely (5), Very Unlikely (1)
How tech-savvy would you say you are?	Very (5), Somewhat (1)
If you have never used the UW parking permit interface before, please share why:	N/A (6)
If you have used the UW online parking interface before, when did you last use it?	Within 2 Weeks (4), November 2022 (1), 2019 (1)
If you have used the UW online parking interface, do you prefer it over other methods? Why or why not?	Cheaper (4), No other option (2)

Task Success/Failure

After each task was completed, the data logger recorded if a participant: 1 - Successfully completed the task, 2 - Successfully completed the task with errors or assistance, or 3 - Failed to complete the task. Table 7 records Task Success/Failure data.

Task Success/Failure

Key: 1-Success, 2-Success with errors/assistance, 3-Failure

#	Task	P1	P2	P3	P4	P5	P6	Average Success Rating
1	Locate Portal	1	1	2	3	1	1	***2***
2	Select Permit	1	1	3	2	1	2	***2***
3	Complete Purchase	1	1	1	1	1	1	***1***
4	Permit History	1	1	1	1	1	1	***1***
5	Cancel Permit	3	2	2	2	2	1	***2***
6	Add Vehicle	1	1	2	1	1	1	***1***
7	Update Address	2	1	3	1	1	1	***2***
8	Get Help	3	2	1	1	1	1	***2***

Analysis of the Task Success / Failure data identifies both easier and more challenging tasks: Task 5 (Cancel Permit) was the most challenging task for participants to compete: 4 of 6 struggled to identify how to successfully cancel a previously purchased permit and made errors or needed assistance and 1 of 6 failed to complete the task. Task 3 (Complete Permit Purchase) and Task 4 (Viewing Permit History) were the most successful tasks: 6 of 6 participants successfully completed the tasks with no additional assistance.

Single-Ease Question

After participants completed each task, the facilitator administered a SEQ to determine task ease or difficulty ranging from 1-Very Easy to 5-Very Difficult.

SEQ Results

Key: 1-Very Easy, 2-Easy, 3-Neither Easy nor Difficult, 4-Difficult, 5-Very Difficult

#	Task	P1	P2	P3	P4	P5	P6	Average Task Rating
1	Locate Portal	4	2	3	5	4	1	***2***
2	Select Permit	4	4	4	4	5	1	***4***
3	Complete Purchase	4	3	1	1	2	1	***2***
4	Permit History	3	2	1	1	1	1	***2***
5	Cancel Permit	5	5	4	5	5	5	***5***
6	Add Vehicle	3	2	2	1	1	1	***2***
7	Update Address	5	3	2	3	1	5	***3***
8	Get Help	5	2	1	1	1	5	***3***

Based on the SEQ results, the participants determined that the most difficult tasks were Task 2 and Task 5 (rated Difficult and Very Difficult). Participant 1 had the most difficulty with an average of 4 (Difficult) rating overall while participants 3 and 4 had the easiest time with both averaging a 2 (Easy) rating. These ratings helped to provide insight into the more difficult tasks and identify potential paint points of the system.

Task Success and Ease Ratings

#	Task	Successful	Successful with errors or assistance	Failed	Rated task easy or very easy
1	Locate Portal	4 of 6	1 of 6	1 of 6	2 of 6
2	Select Permit	3 of 6	2 of 6	1 of 6	1 of 6
3	Complete Purchase	6 of 6	-	-	4 of 6
4	Permit History	6 of 6	-	-	5 of 6
5	Cancel Permit	1 of 6	4 of 6	1 of 6	0 of 6
6	Add Vehicle	5 of 6	1 of 6	-	5 of 6
7	Update Address	4 of 6	1 of 6	1 of 6	2 of 6
8	Get Help	4 of 6	1 of 6	1 of 6	4 of 6

Overall Satisfaction (SUS) Metrics

After task session completion, participants completed a nine-question System Usability Scale (SUS) questionnaire rating their experience using the interface against statements on a scale from 1 (Strongly Agree) to 5 (Strongly Disagree).

System Usability Scale Results

Key: 1-Strongly Agree, 2-Agree, 3-Neither Agree nor Disagree, 4-Disagree, 5-Strongly Disagree

Prompt	P1	P2	P3	P4	P5	P6
I felt very confident using this interface.	5	4	1	2	3	3
I think that I would like to use this interface frequently.	1	5	5	4	5	5
I think that most people would figure out how to use this interface very quickly.	5	2	3	3	3	5
I think that this interface was easy to use.	5	4	4	2	4	5
I think this interface provided sufficient help/supportive information when needed.	4	2	4	4	4	5
I found the various functions of this interface were well-organized.	5	4	5	3	4	5
I found the interface unnecessarily complex.	1	2	5	4	1	1
I thought there was too much inconsistency in this interface.	1	2	3	4	2	1
I needed to learn a lot of things before I could get going with this interface.	1	3	3	1	2	1
SUS SCORE	14	36.4	44.8	50.4	25.2	5.6
AVERAGE: 29.4						

Using the scale John Brooke created to interpret SUS results (where anything above 68 is considered above average and anything below 68 is below average), and adjusting the SUS calculation multiplier to account for only nine (instead of 10) questions, we calculated an average SUS score of 29.4 from all participants.

SUS Score Rubric

SUS SCORE	Letter Grade	Adjective Rating
>80.3	A	Excellent
68 - 80.3	B	Good
68	C	OK
51 - 68	D	Poor
< 51	F	Awful

As evidenced by the SUS Rubric in Table 10 above, an average score of 29.4 indicates an “F” grade. Of note is that all six participants also individually scored the interface below 51.

This feedback clearly indicates that there is a major need for improvement within the system. In particular,

- 5 of 6 participants either disagree or strongly disagree that they would like to use the system frequently
- 5 of 6 participants either disagree or strongly disagree that the system is easy to use
- 5 of 6 participants either disagree or strongly disagree that the system provides sufficient help and support
- 5 of 6 participants either disagree or strongly disagree that the various functions of the system were well-organized

Participant Debrief Questions

We collected answers to six (5) open-ended exit questions (See Methods: Table 5, p.7) to glean additional feedback and insight to the participant's perception of the system. Below are simplified responses to these questions:

Open-Ended Questions Results

Question	P1	P2	P3	P4	P5	P6
Feelings when Using	Frustrated, wish it was faster	Difficult to work with	Comfortable but annoyed with system	Comfortable, no room for error	Easy Routine	Frustrated, Annoyed
Liked		Welcoming		Secure	Easy to pay for citations	
Disliked	Time-consuming	Repetitive	Doesn't store information	Doesn't store information		Confusing
Most Problematic	Complicated	Time Consuming	Complicated	Complicated	Finding Lots; Choosing Permit	Complicated; Lack of Help/Support
Feature Requests	Interactive Map	Saving data	App, Free, Saving data	Interactive Map; App	Interactive Map; App	Interactive Map
Other thoughts	Wants saved info, process streamlined	Primary actions are not defined				

The general feeling from these open-ended questions was that of frustration and annoyance. Participants reported it was a complicated process to successfully purchase parking, particularly with the lack of support on the website. A primary source of frustration and confusion was lot selection, which featured a non-alphabetized or sorted dropdown and required referencing and remembering choices made on a PDF map opened in another tab.