Usability Testing - a Summative Study

Usability Goals:

1. Effectiveness: The system allows users to successfully complete their goals (selling or buying furniture).

   Hyper-Local Search Success: The system shall successfully get results for specific item searches using filters (e.g. specific item or item property)

   Transaction Completion: The system shall clearly guide customers through the purchasing journey.

2. Efficiency: The system minimizes the time and effort required to perform tasks.

   Rapid "Move-Out" Listing: The system shall accept multiple listings from one user, e.g. in the event of the student moving out.

   Quick Coordination: The system shall handle user requests in under one second under normal conditions and under 3 seconds in the worst cases.

3. Safety: The system protects users from dangerous conditions and prevents undesirable situations.

   Identity Verification: The system shall verify student status or/and place of residency.

Prohibited Item Warnings: The system shall not accept items that are not allowed on the platform to be listed (e.g. guns and drugs).

4. Learnability: New users (freshers) are able to use the system immediately without training.

   Familiar Patterns: The system shall follow simple patterns, e.g. login -> browse -> buy OR login -> list -> sell.

   Clear Terminology: The system shall restore the user's previous browsing context (e.g. last viewed items, saved searches, active listings) when they return.

5. Memorability: Users who return after a long break (e.g., summer vacation) remember how to use the system.

   Contextual Recall: The selling and buying roadmap should not change and buttons should remain intuitive.

   Saved Preferences: The system shall remember the accommodation where the user is registered at.

UX Goals:

- Students can discover relevant furniture (desks, chairs, shelves, lamps, etc.) that matches their budget, style, and location (Lumis Dorm), without feeling overwhelmed or lost.

- The app makes listing an item effortless and low-risk, so first-time sellers can post furniture in under a few minutes with clear feedback and no fear of "doing it wrong."

- The experience reinforces a student community vibe, making users feel they are helping each other save money and reduce waste, rather than just using another anonymous marketplace (like ebay, kleineanzeige etc.)

- The overall interface feels lightweight and calm, reducing cognitive load during stressful move periods for example new semester, room change through clear hierarchy, consistent patterns, and minimal clutter.

Key Research Questions:

- How easily can students find relevant furniture using FurniSwap's browse and search features?

- Do filters, categories, and search results help users narrow down options without feeling overwhelmed or lost?

- Do users feel they get enough information from the item detail page to decide whether to contact the seller? (e.g. Photos of the article, Price Negociable /Non-negociable etc.)

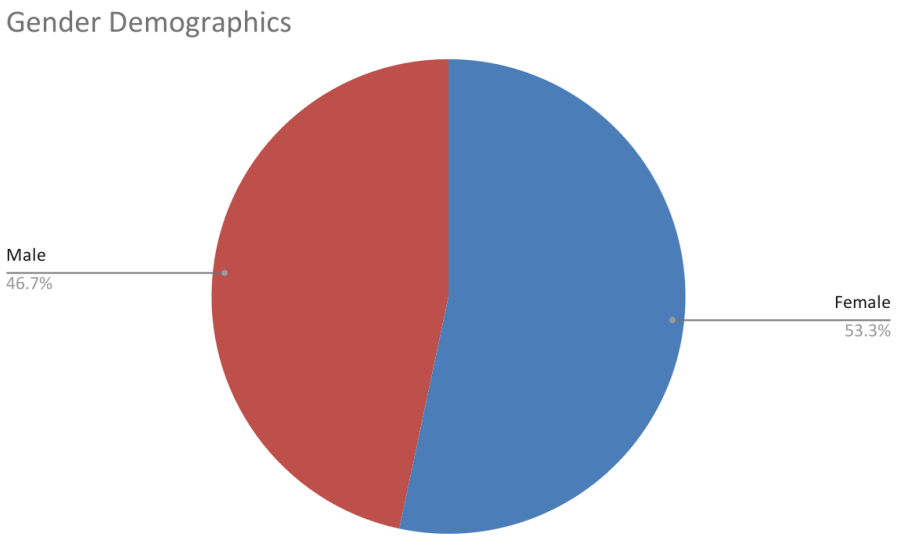
- Can first-time sellers understand how to create a new listing and complete the posting without external help?

- How do students rate the overall ease of use and satisfaction with FurniSwap (e.g., using a SUS or simple post-test questionnaire)?

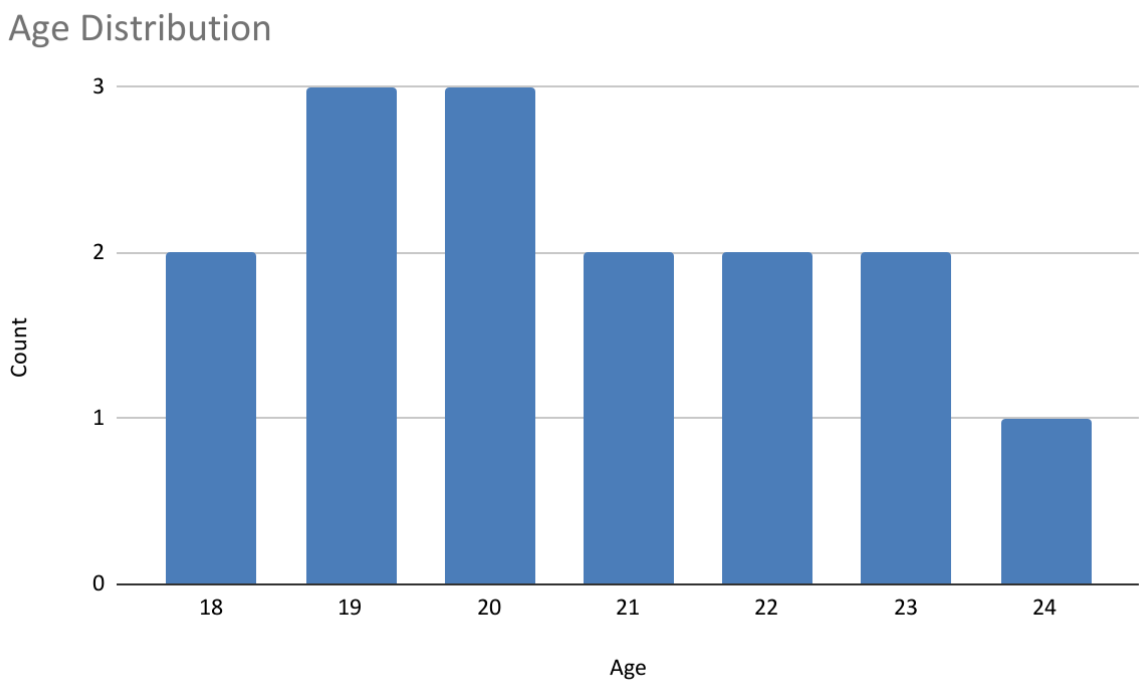
- Which aspects of the experience (navigation, visual design, trust cues, speed) most influence whether they would actually use FurniSwap in real life?

Participants:

15 participants have accepted to participate in our research which has been conducted anonymously and their names have been replaced for that said purpose.



Age	Count
18	2
19	3
20	3
21	2
22	2
23	2
24	1



Our sample clearly represents the population of students in specified accommodations (i.e. Lumis and BaseCamp).

Apparatus/Tools:

SUS and SEQ Questionnaires:

Single Ease Question for Task Level Satisfaction

Name: _____ Age: _____ Gender: Male/Female

System/Software Application : FurniSwap – a furniture exchange platform for students

Overall, how difficult or easy was the task to complete?

	Tasks	Very Difficult		_____			Very Easy		Failed to perform
		1	2	3	4	5	6	7	
1.	Registering	☐	☐	☐	☐	☐	☐	☐	------
2.	Logging in	☐	☐	☐	☐	☐	☐	☐	------
3.	Resetting password	☐	☐	☐	☐	☐	☐	☐	------
4.	Opening main menu	☐	☐	☐	☐	☐	☐	☐	------
5.	Opening account	☐	☐	☐	☐	☐	☐	☐	------
6.	Opening settings	☐	☐	☐	☐	☐	☐	☐	------
7.	Searching by keyword	☐	☐	☐	☐	☐	☐	☐	------
8.	Browsing a category	☐	☐	☐	☐	☐	☐	☐	------
9.	Making a listing	☐	☐	☐	☐	☐	☐	☐	------
10.	Buying a listing	☐	☐	☐	☐	☐	☐	☐	------
11.	Selling a listing	☐	☐	☐	☐	☐	☐	☐	------
12.	Reviewing	☐	☐	☐	☐	☐	☐	☐	------
13.	Logging out	☐	☐	☐	☐	☐	☐	☐	------

System Usability Scale

System/Software Application: FurniSwap – a furniture exchange platform

Name: _____ Age: _____ Gender: Male/Female

		Strongly Disagree				Strongly Agree
		1	2	3	4	5
1.	I think that I would like to use this system frequently.	☐	☐	☐	☐	☐
2.	I found the system unnecessarily complex.	☐	☐	☐	☐	☐
3.	I thought the system was easy to use.	☐	☐	☐	☐	☐
4.	I think that I would need the support of a technical person to be able to use this system.	☐	☐	☐	☐	☐
5.	I found the various functions in this system were well integrated.	☐	☐	☐	☐	☐
6.	I thought there was too much inconsistency in this system.	☐	☐	☐	☐	☐
7.	I would imagine that most people would learn to use this system very quickly.	☐	☐	☐	☐	☐
8.	I found the system very cumbersome to use.	☐	☐	☐	☐	☐
9.	I felt very confident using the system.	☐	☐	☐	☐	☐
10.	I needed to learn a lot of things before I could get going with this system.	☐	☐	☐	☐	☐

Session Details:

<u>During</u>: Interacting with the figma prototype:

Goal 0: logging in / signing in; accessing a buying listing and a selling listing; logging out.

Plan 0: Do 1, then 2, then 3, then 4, then 5, then 6, then 7, then 8, then 9, then 10, then 11, then 12, then 13.

1. Registering
2. Logging in
3. Resetting password
4. Opening main menu
5. Opening account
6. Opening settings
7. Searching by keyword
8. Browsing a category
9. Making a listing
10. Buying a listing
11. Selling a listing
12. Reviewing
13. Logging out

Post-Session activities: filling out SUS and SEQ questionnaires.

Result:

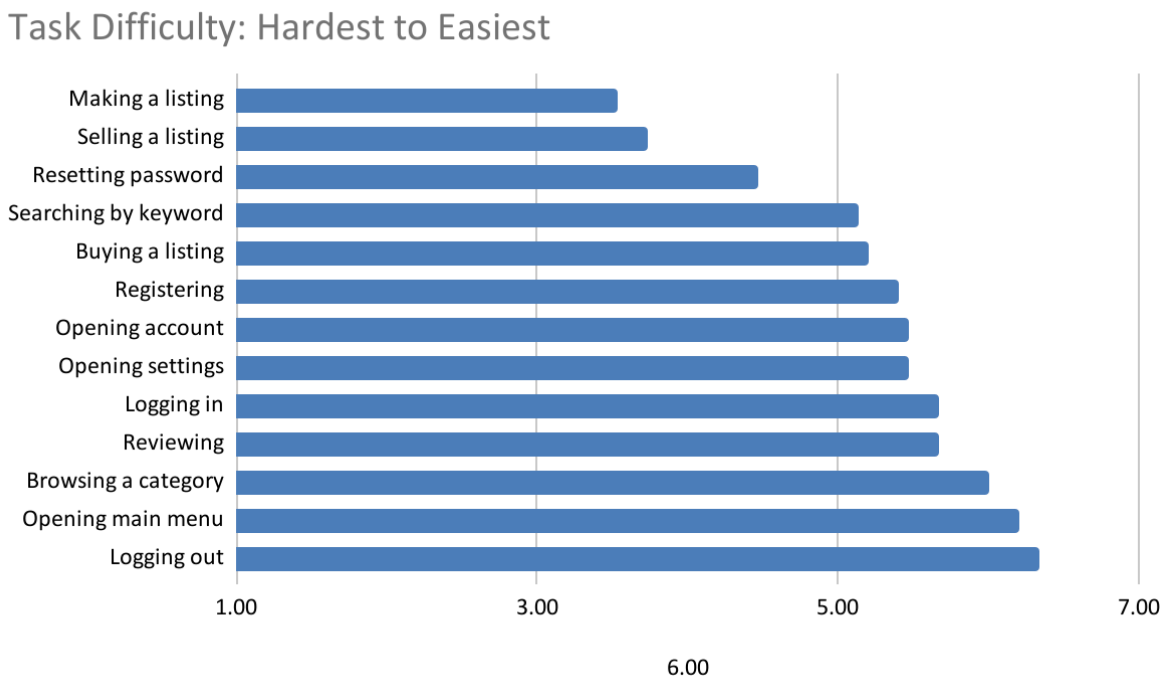
SEQ Diagrams:

This output shows mixed results from the population sample. On the one hand, some participants failed to complete the assigned tasks. On the other hand, some participants had no problem with them. An overall average of 1 represents a very difficult sequence of tasks while an overall average of 7 represents a very easy sequence of tasks. Hence, our overall average (i.e. 5.25) reveals that it is slightly easier than average to complete our sequence of tasks. As a result, our analysis shines light on the ease of usage of our system through its design. Some tasks were obviously harder to complete than others, respectively making a listing and selling a listing (success rate of 13% and 20%) were significantly harder than opening the main menu or logging out (100% success rate for both). While most candidates generally agree on the difficulty of each task, registering and searching by keyword were found to be more controversial than the others.

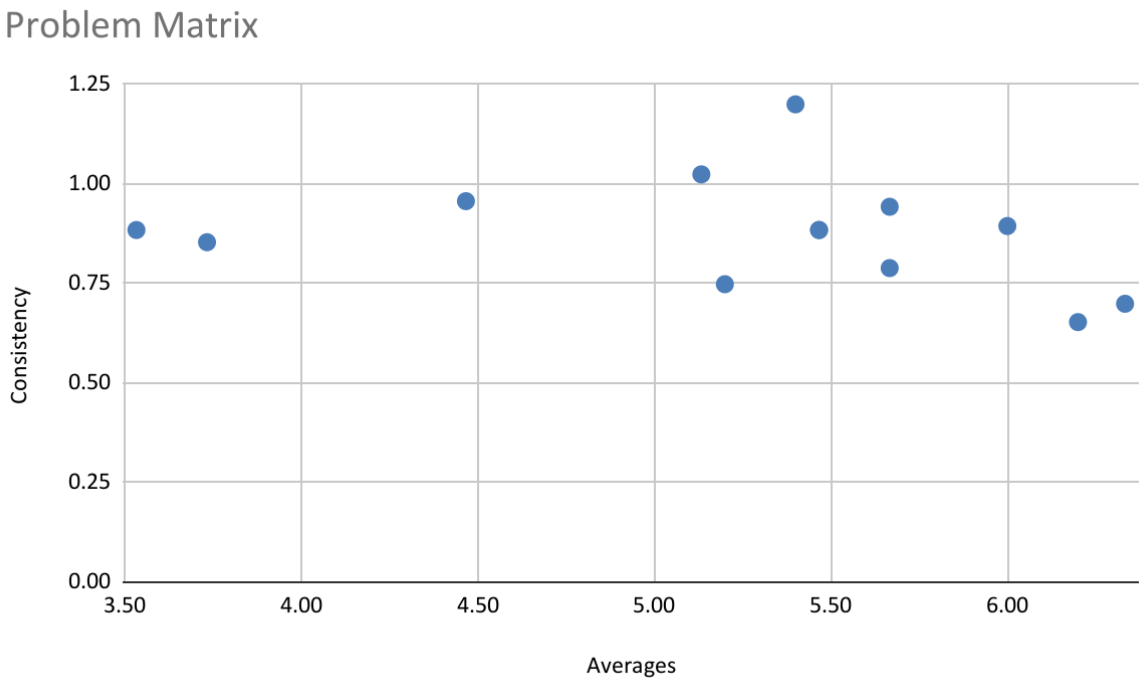
Name	Age	Gender	Registering	Logging in	Resetting password	Opening main menu	Opening account	Opening settings	Searching by keyword	Browsing a category	Making a listing	Buying a listing	Selling a listing	Reviewing	Logging out
Sarah M.	19	Female	6	7	5	7	6	6	5	6	4	6	5	6	7
Daniel R.	22	Male	7	7	6	6	6	7	6	7	5	6	5	6	6
Leila A.	20	Female	4	5	3	6	4	5	4	5	3	4	3	5	6
Javier L.	21	Male	6	5	5	6	6	6	7	6	4	5	4	6	6
Aisha K.	18	Female	5	5	4	6	5	5	6	6	3	5	4	6	7
Mark T.	24	Male	7	7	6	7	7	7	6	7	5	6	5	7	7
Chloe W.	20	Female	3	4	3	5	4	4	3	4	2	4	3	4	5
Tom H.	23	Male	6	6	4	7	6	6	5	7	4	6	4	6	7
Mariam Z.	19	Female	4	5	4	6	5	5	4	5	3	5	3	5	6
Dylan P.	22	Male	7	6	5	6	6	5	5	6	4	6	4	6	7
Jana B.	18	Female	5	6	4	6	5	5	5	6	3	5	3	6	6
Ethan S.	21	Male	6	6	5	7	6	6	6	7	4	6	4	6	7
Priya N.	23	Female	4	4	3	5	4	4	4	5	2	4	2	4	5
Oliver J.	20	Male	6	6	5	6	6	5	6	6	4	5	4	6	6
Emily R.	19	Female	5	6	5	7	6	6	5	7	3	5	3	6	7
Averages			5.40	5.67	4.47	6.20	5.47	5.47	5.13	6.00	3.53	5.20	3.73	5.67	6.33
Overall Average			5.25												
Success Rate			73.33%	86.67%	53.33%	100.00%	80.00%	86.67%	73.33%	93.33%	13.33%	80.00%	20.00%	86.67%	100.00%
Consistency*			1.20	0.94	0.96	0.65	0.88	0.88	1.02	0.89	0.88	0.75	0.85	0.79	0.70

*. (>1.5) means users disagreed wildly; (<1) means everyone had a similar experience.

Task Names	Averages
Making a listing	3.53
Selling a listing	3.73
Resetting password	4.47
Searching by keyword	5.13
Buying a listing	5.20
Registering	5.40
Opening account	5.47
Opening settings	5.47
Logging in	5.67
Reviewing	5.67
Browsing a category	6.00
Opening main menu	6.20
Logging out	6.33



Averages	Consistency
5.40	1.20
5.67	0.94
4.47	0.96
6.20	0.65
5.47	0.88
5.47	0.88
5.13	1.02
6.00	0.89
3.53	0.88
5.20	0.75
3.73	0.85
5.67	0.79
6.33	0.70

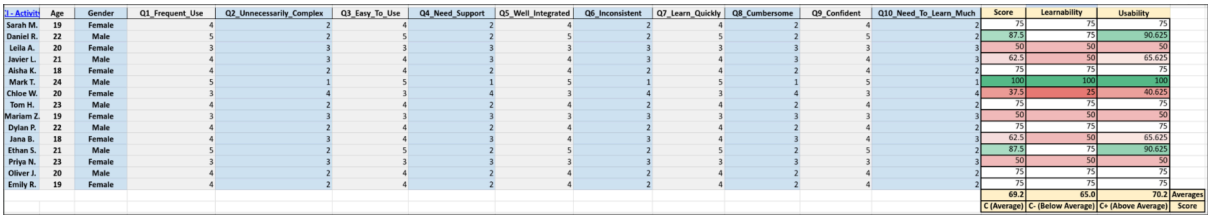


*Bottom Left Corner (Low Score, Low Deviation): These are "Critical Failures." Everyone hates them. (Fix these first).

*Top Right (High Score, High Deviation): These are "Controversial." Some users are lost, some are fine. (Needs better instructions).

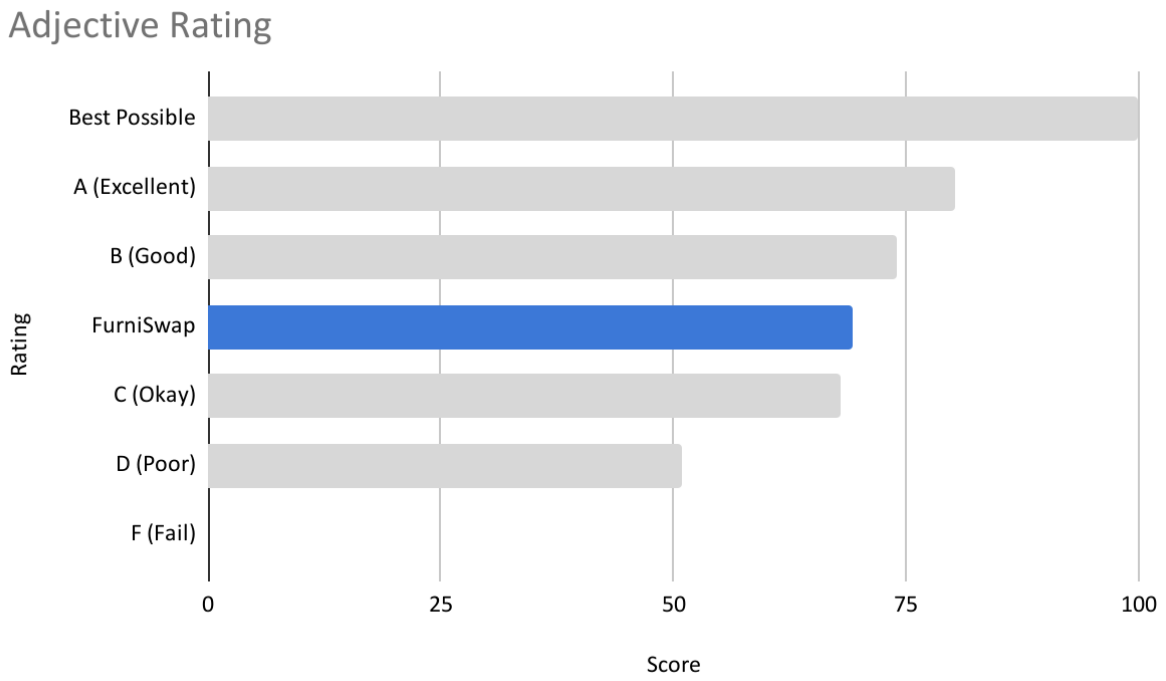
SUS diagrams:

Our SUS analysis has enabled us to quantify the learnability and usability of our system. The overall score for learnability (i.e. 65/C-) represents a design that is below average but still relatively easy to learn. In contradiction, our usability score (i.e. 70/C+) is considered slightly above average meaning our design is relatively easy to learn how to interact with. Finally the overall SUS score for our design is balanced at 69 which is perfectly average and does not raise any deep concerns.



1 - Activit	Age	Gender	Q1_Frequent_Use	Q2_Unnecessarily_Complex	Q3_Easy_To_Use	Q4_Need_Support	Q5_Well_Integrated	Q6_Inconsistent	Q7_Learn_Quickly	Q8_Cumbersome	Q9_Confident	Q10_Need_To_Learn_Much	Score	Learnability	Usability	
Sarah M.	19	Female	4	2	4	2	4	2	4	2	4	2	75	75	75	
Daniel R.	22	Male	5	2	5	2	5	2	5	2	5	2	87.5	75	90.625	
Leila A.	20	Female	3	3	3	3	3	3	3	3	3	3	50	50	50	
Javier L.	21	Male	4	3	4	3	4	3	4	3	4	3	62.5	50	65.625	
Aisha K.	18	Female	4	2	4	2	4	2	4	2	4	2	75	75	75	
Mark T.	24	Male	5	1	5	1	5	1	5	1	5	1	100	100	100	
Chloe W.	20	Female	3	4	3	4	3	4	3	4	3	4	37.5	25	40.625	
Tom H.	23	Male	4	2	4	2	4	2	4	2	4	2	75	75	75	
Mariam Z.	19	Female	3	3	3	3	3	3	3	3	3	3	50	50	50	
Dylan P.	22	Male	4	2	4	2	4	2	4	2	4	2	75	75	75	
Jana B.	18	Female	4	3	4	3	4	3	4	3	4	3	62.5	50	65.625	
Ethan S.	21	Male	5	2	5	2	5	2	5	2	5	2	87.5	75	90.625	
Priya N.	23	Female	3	3	3	3	3	3	3	3	3	3	50	50	50	
Oliver J.	20	Male	4	2	4	2	4	2	4	2	4	2	75	75	75	
Emily R.	19	Female	4	2	4	2	4	2	4	2	4	2	75	75	75	
													69.2	65.0	70.2	Averages
													C (Average)	C- (Below Average)	C+ (Above Average)	Score

Rating	Score
Best Possible	100
A (Excellent)	80
B (Good)	74
FurniSwap	69.2
C (Average)	68
D (Poor)	50
F (Fail)	0


Adjective Rating
Best Possible
A (Excellent)
B (Good)
FurniSwap
C (Okay)
D (Poor)
F (Fail)
Rating
0
25
50
75
100
Score