Experiment Study

PROJECT NAME: SMART VENDING MACHINE

COURSE NAME: INTEGRATED DESIGN PROJECT-02
COURSE CODE: CSE-460

GROUP NO: JULIETT (08)

SECTION: A

GROUP MEMBERS:

Pratyusha Kundu (201814014)
Anika Zaman (201814018)
Sabrina Afreen Haque (201814020)
Md. Arr Rafi Islam (201814050)

Experiment Conduction Data Sheet:

System: Smart Vending Machine

Task 1: Logging into the app

Task 2: Recharging account

Task 3: Connecting the app with the vending machine

Task 4: Buying a product from the vending machine

Participant Name: Dr Pathan (Doctor)

Task NO.	Task Completion Time	Success	No. of Click Requires Vs Expected	No. of Attempts	No. of Asking Help
Task 1	2s	Yes	Required: 3 Expected: 3	1	0
Task 2	3s	Yes	Required: 2 Expected: 2	1	0
Task 3	2s	Yes	Required: 2 Expected: 2	1	1
Task 4	4s	Yes	Required: 7 Expected: 3	2	1

Participant Name: Dr Tajina Islam (Doctor)

Task NO.	Task Completion Time	Success	No. of Click Requires Vs Expected	No. of Attempts	No. of Asking Help
Task 1	2s	Yes	Required: 3 Expected: 3	1	0
Task 2	4s	Yes	Required: 3 Expected: 2	2	1
Task 3	2s	Yes	Required: 2 Expected: 2	1	1
Task 4	3s	Yes	Required: 3 Expected: 3	1	1

Participant Name: Snigdha Islam (High School Student)

Task NO.	Task Completion Time	Success	No. of Click Requires Vs Expected	No. of Attempts	No. of Asking Help
Task 1	1.5s	Yes	Required: 3 Expected: 3	1	0
Task 2	2s	Yes	Required: 2 Expected: 2	1	0
Task 3	1.5s	Yes	Required: 2 Expected: 2	1	0
Task 4	3s	Yes	Required: 3 Expected: 3	1	0

Post Questionnaires:

Participant 1:

Questions	Answers
1. Which feature of the app you liked the most? Please describe briefly.	Buying products using credit card information.
2. While performing a particular task, have you ever felt puzzled regarding the completion of the respective task?	Yes
3. If you have any suggestion for the user interface to improve navigation/ design/ any other aspects, please describe briefly.	If there was a option to save the credit card information, the app could be used without taking the credit card outside.
4. Please give a score (on a scale of 0 to 10) considering the following aspects on prevailing vending machine and Smart Vending Machine.	*See table below*

Categories	Prevailing Vending Machines	Smart Vending Machine
Portability	2	9
Prone to Error	7	3
Integrity	5	9
Reliability	7	8
Effectiveness	8	8
Ease of use	8	9

Data Analysis based on the answer to the Question 4:
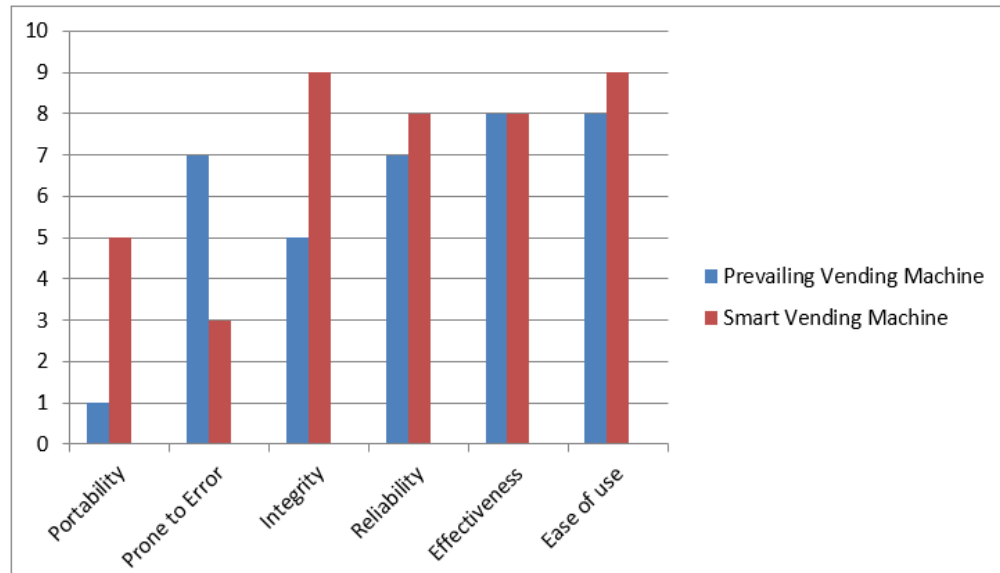

Fig:1: Performance comparison between prevailing vending machines and Smart Vending Machine from the point of view of participant 1

Participant 2:

Questions	Answers
1. Which feature of the app you liked the most? Please describe briefly.	Product detection system
2. While performing a particular task, have you ever felt puzzled regarding the completion of the respective task?	Yes
3. If you have any suggession for the user interface to improve navigation/ design/ any other aspects, please describe briefly.	NIL
4. Please give a score (on a scale of 0 to 10) considering the following aspects on prevailing vending machine and Smart Vending Machine.	(see table below)

Categories	Prevailing Vending Machines	Smart Vending Machine
Portability	3	8
Prone to Error	8	5
Integrity	5	9
Reliability	7	8
Effectiveness	5	8
Ease of use	9	9

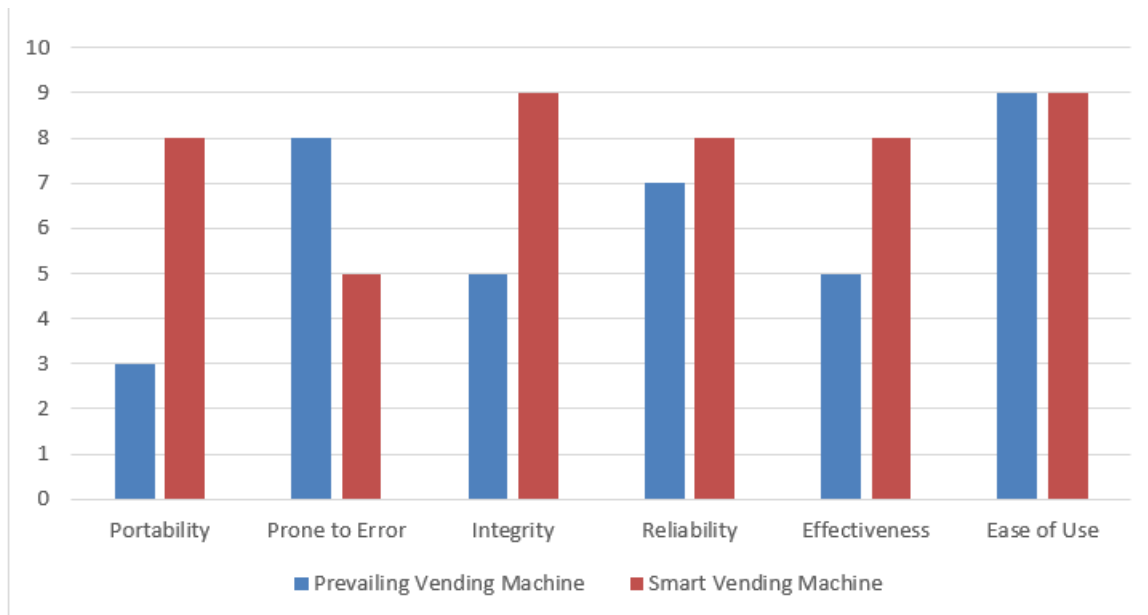**Data Analysis based on the answer to the Question 4:**

Fig:2: Performance comparison between prevailing vending machines and Smart Vending Machine from the point of view of participant 2

Participant 3:

Questions	Answers
1. Which feature of the app you liked the most? Please describe briefly.	Product detection system
2. While performing a particular task, have you ever felt puzzled regarding the completion of the respective task?	No
3. If you have any suggestion for the user interface to improve navigation/ design/ any other aspects, please describe briefly.	If more than one product can be bought at a time, it will be more efficient.
4. Please give a score (on a scale of 0 to 10) considering the following aspects on prevailing vending machine and Smart Vending Machine.	<table><tr><td>Categories</td><td>Prevailing Vending Machines</td><td>Smart Vending Machine</td></tr><tr><td>Portability</td><td>1</td><td>8</td></tr><tr><td>Prone to Error</td><td>8</td><td>6</td></tr><tr><td>Integrity</td><td>3</td><td>9</td></tr><tr><td>Reliability</td><td>6</td><td>8</td></tr><tr><td>Effectiveness</td><td>5</td><td>8</td></tr><tr><td>Ease of use</td><td>7</td><td>9</td></tr></table>

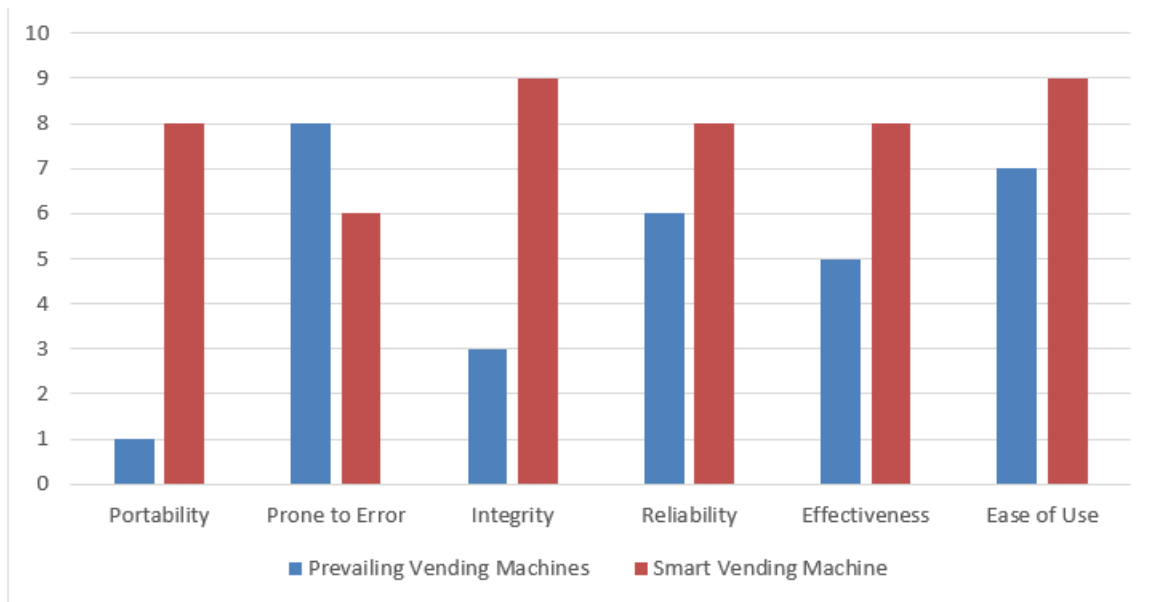**Data Analysis based on the answer to the Question 4:**

Fig:3: Performance comparison between prevailing vending machines and Smart Vending Machine from the point of view of participant 3

Pre-questionnaires:

Participant 1:

Questions	Answers
1. Have you ever used a snack vending machine before?	Yes
2. If you did then did you face any type of problem?	The product did not reach the take-out port
3. How much trustworthy do you think the prevailing vending machines are? Rate on a scale from 0-5, where 0 = not at all trustworthy, 5= absolutely trustworthy	3
4. If there was an automated vending machine which could solve those problems stated in question 2, then it would be more convenient for a person to use these types of machine to buy snacks in between their works. Do you agree with the above statement?	Strongly Agree

Participant 2:

Questions	Answers
1. Have you ever used a snack vending machine before?	Yes
2. If you did then did you face any type of problem?	My note got stucked in the machine
3. How much trustworthy do you think the prevailing vending machines are? Rate on a scale from 0-5, where 0 = not at all trustworthy, 5= absolutely trustworthy	3
4. If there was an automated vending machine which could solve those problems stated in question 2, then it would be more convenient for a person to use these types of machine to buy snacks in between their works. Do you agree with the above statement?	Agree

Participant 3:

Questions	Answers
1. Have you ever used a snack vending machine before?	Yes
2. If you did then did you face any type of problem?	The machine accepted my money but did not drop any product
3. How much trustworthy do you think the prevailing vending machines are? Rate on a scale from 0-5, where 0 = not at all trustworthy, 5= absolutely trustworthy	2
4. If there was an automated vending machine which could solve those problems stated in question 2, then it would be more convenient for a person to use these types of machine to buy snacks in between their works. Do you agree with the above statement?	Agree

Conclusion:

This experiment study was conducted by three participants who were interested to use our Smart Vending Machine but were not associated with the development of the system. From their participation and their answers to the questionnaires helped us to learn that the performance of Smart Vending Machine was better than the prevailing vending ones. Moreover, their suggestions will help us to improve the limitations of the Smart Vending Machine in the future.