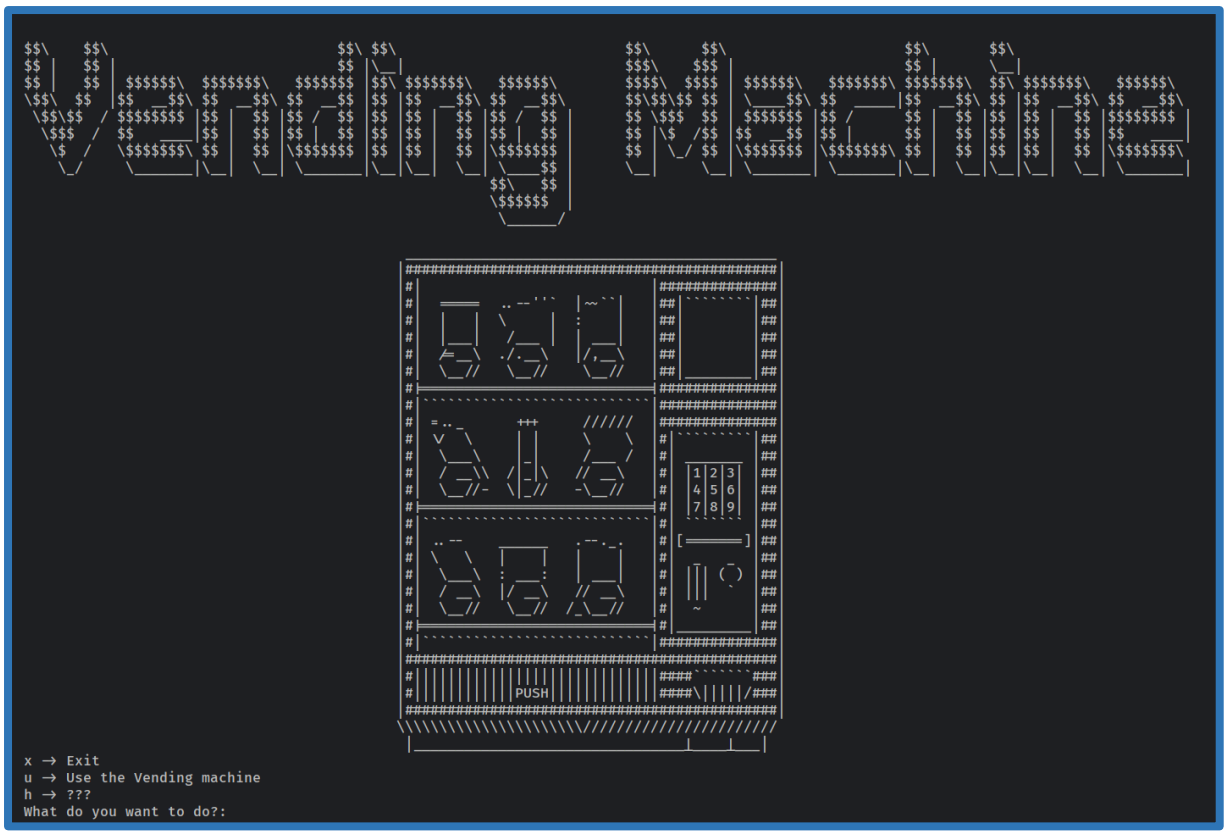
Vending Machine CLI



Authors:

Timofey, Tsering, Virginia

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All Images have been made from Our Group Alone. If not, there always will be a Source to that Image in Sources

IPERKA

Informing

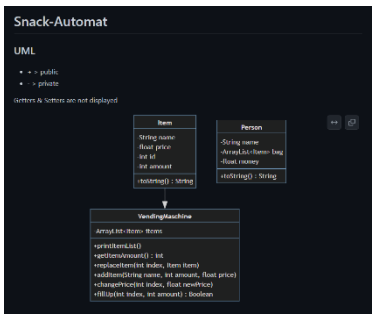
At the start we got introduced to the project. We then read the vending machine challenge document separately at our desk. After we finished reading the document, we came together and talked about the project requirements and what we needed to give as the product.

Resources (Also check the sources):

- IntelliJ IDE
- GitHub
- Visual Studio code IDE
- MS word
- MS PowerPoint
- MS Excel
- Adobe Acrobat Reader
- Notepad application

Planning

After discussing the project requirements together, we started to plan how we are going to go through it. With the help of a UML Diagram (screenshot 1.1) we tried to understand the challenge. After that we needed to distribute the workload. We decided that we will divide the work based on the classes of the project (screenshot 1.2). And when we are finished with our part, we will help the other members. After dividing the tasks, we made a workplan/task-plan (screenshot 1.3), showing on which day we should finish the milestones we set.



(Screenshot 1.1)

Name	Tasks
Timofey	Vending Machine class, App class, Dokumentation(Evaluation and Realization part)
Tsering	Person Class, Documentation(Information and Planing part), Presentation
Virginia	Item class, Documentation(Control and Assessing part)

(Screenshot 1.2)

Task	Status	Finish by	Finish date	Deadline (hh:mm, dd,mm,yyyy)
Phase				
Information	finished	14.12.2022	14.12.2023	14:30, 16.12.2022
Planing	finished	14.12.2023	14.12.2024	14:30, 16.12.2023
Evaluation	finished	14.12.2024	14.12.2025	14:30, 16.12.2024
Realization	finished	15.12.2022	15.12.2023	14:30, 16.12.2025
Controlling	finished	16.12.2022	16.12.2023	14:30, 16.12.2026
Assessing	finished	16.12.2023	16.12.2024	14:30, 16.12.2027
Dokumention				
Information	finished	16.12.2023	16.12.2023	14:30, 16.12.2027
Planing	finished	16.12.2024	16.12.2024	14:30, 16.12.2028
Evaluation	finished	16.12.2025	16.12.2025	14:30, 16.12.2029
Realization	finished	16.12.2026	16.12.2026	14:30, 16.12.2030
Controlling	finished	16.12.2027	16.12.2027	14:30, 16.12.2031
Assessing	finished	16.12.2028	16.12.2028	14:30, 16.12.2032
Presentation				
presentation	finished	16.12.2028	16.12.2029	14:30, 16.12.2032

(Screenshot1.3)

Evaluation

We have decided on using Java as our main Programming Language. We chose IntelliJ as our main IDE. We decided that the User Interface would be a CLI (Command Line Interface), because We had good experience writing CLI programs. We decided on the buying process to be: first choose the item you want to buy, then pay the required amount and receive the item. We also decided to write the requirements first and if time is left implement extra features.

Realization

We started on creating a class diagram UML with mermaid in the README.md File. We gave each other to work on a class. Tsering took the person class, Virginia took the item class, and I took the vending machine class. After we had implemented the code for the classes, we then decided on giving each other what to do. Tsering would start on writing the documentation, Virginia would write the testing protocol for the program, and I would take the app class and write the logic for the program. After we have finished the requirements for the project, we can say the project is done. We then can start with testing.

Control

Testing is a very important part of every project. You always want to make sure everything works as expected before you present the client your product. This is the reason why we decided to plan enough time for the control and evaluation.

While planning how we were going to split up the work, we decided to use Thursday afternoon and Friday morning (in case we needed more time).

We have executed two different tests for our code, a functional and a clean code one. We used Excel for this purpose. On the following tables you can see the different steps and status of the tests in more detail.

Test case number	1
Test case designation	Functional test
Request number	1
Test environment	Noser Young
Date of the test execution	15/12/2022
Tester	Timofey, Tsering, Virginia
Steps:	

Nr.	Test	Input	Expected Output	Result obtained	Status
1	Secret key is functional	Enter the secret key for more "features"	Be able to refill, exchange a product or change its price	The user enters the admin mode and is able to modify things	OK
2	Initial filling is possible	Enter secret key and fill up the machine	The machine is empty at first, the user can fill it up	Admin can add as many items as wanted	OK
3	Buy a product	Select item you want to buy and insert money	After inserting money, you receive the product	You get the item after inserting the money	OK
4	Missing money	Able to see how much money left to insert	It shows on the screen the money left to introduce	User experience was not satisfied	In process
5	Replace a product	Replace an existing product for another one (admin)	New product is visible on the screen	Product + name, amount, price can be changed	OK
6	Change a products price	Change a products price (admin)	Change of price is visible for the user	Just the price of an item alone can also be changed	OK
7	Refill vending machine	Refill machine in case a product isn't on stack (admin)	You can buy the product again	Admin chan refill an item but it doesn't show the changes	In process
8	Return change	A user can insert more money then needed	The change will be returned to the user	The money is returned to the user but not shown on screen	OK
9	Decrease amount of Item	Decrease an amount of the chosen Item in the Vending Machine	The Amount will decrease from the Vending machine	Not working	In process
10	Stop the User from buying	If the Vending Machine is empty the user won't able to so anything	At the buying process, if empty, won't be able to do anything	At the beginning is machine empty, user not able to buy	OK
11	Able to quit buying any time	Inputing -1 should stop the process and return the Money	The user should be able to quit anytime during the process stage	Easy to quit buying by entering -1	OK

Test case number	2
Test case designation	Clean code test
Request number	1
Test environment	Noser Young
Date of the test execution	15/12/2022
Tester	Timofey, Tsering, Virginia
Steps:	

Nr.	Test	Description	Status
Nr. 1	No blank lines	There are not more blank lines than needed	OK
Nr. 2	No comments	Only important commets in the code	OK
Nr. 3	Correct access modifiers	The access modifers are right chosen	OK
Nr. 4	Correct casing	Correct casing is used for name of a class, method	OK
Nr. 5	Correct grammar	Words are written right	OK

This document can be found in our repo. Link: https://github.com/Timofey-Makhankov/Snack-Automat

Improvement

Nr.	Test	Solution	Status
4	Mising money	showed the user how much they need to pay	OK
7	Refill vending machine	run the fill function and update the amount	OK
9	Decrease amount of Item	after purchase remove 1 from bought item	OK

Assessing

Overall:

Our group believes that we worked well together and accomplished the task we were assigned to do. We strategically distributed the tasks so each one of us has something to do at every moment. We helped each other and had a consistent communication about what we were working on.

We had to deal with some unforeseen events, such as one member being absent. This led us to readjust the time we had left but also helped us learn to be prepared for this kind of incident.

All together we are pleased with the outcome of our project and how we worked together.

Virginia:

I liked working on this team a lot and I'm happy with the outcoming of the project. We did a good job planning and deciding how we were going to divide the tasks. This gave us time to make up for the fact that I wasn't here on Thursday afternoon. We also had a great communication together and were well organized.

Tsering:

Overall I am happy with our end result. The Teamwork was also very good. Although I feel like I could have contributed more to the project than I did. I also learnt a lot from my team. They were supportive and open. It was a nice experience. The problem I faced was mostly with coding where I had to write java functions, but my team members and the vocational trainers helped me with it. I think there's a lot of room for improvement for me.

Timofey:

I found that, our teamwork was excellent, and everyone has contributed his part to the project. We were communicative to each other if we had any problems or questions. The end product has met the requirements, and I'm satisfied with it. I would have liked to improve the User Experience of the end product if we had more time. I wasn't satisfied about how some tasks were dealt with longer than my expectation. As said previously, I was satisfied with the end product, but it is not my finest work.

Source

- https://benleighvending.com.au/snack-vending-machines/ {Inspiration of a Vending Machine}
- https://www.angelfire.com/co/cajhnesplace/ascii/vend.html {ASCII Art for the Vending Machine}
- http://patorjk.com/software/taag/#p=display&f=Graffiti&t=Type%20Something%20 {Text to ASCII Art for the Program}
- https://emojipedia.org/ {Emoji Wikipedia}
- https://www.bexio.com/de-CH/blog/view/iperka-methode {IPERKA checklist}
- https://languagetool.org/ {Grammatic checker}