



CmpE 451 - Milestone 1 Report

GROUP 1

Nov 29th, 2020

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1. Executive Summary

1.1. Introduction

Tursu is an e-commerce platform. It provides some functionalities to users such as viewing, buying or selling products, making comments about a product, reviewing the comments written by previous customers to ease the one's decision process etc. The platform also provides a filtering and searching engine so that the customer can easily find a product which satisfies his or her desires. According to the search history and viewed products on the platform, the system recommends new products to the users. Therefore the experience of each user becomes individual.

For the first customer milestone, the first thing we did was to review and update all the things we did in the milestones before collaboratively. This includes the design documents, mockups, requirements and the project plan. In the project plan we decided on what we are going to do and in which order we are going to do them for the later milestones.

After the review, for the first customer milestone, we implemented some core functionalities of our product to get early feedback on them, also to show customers that functionalities early. Those functionalities include the home page, restricted search functionality, categorization, product page and sign in pages. We divided into 3 teams which are backend, frontend and android. Backend team developed endpoints for frontend and android teams which they can do queries and updates. Frontend team implemented the webpage and the android team created the android application.

1.2. Road Ahead

The functionalities we implemented so far are at their early stage. Since a lot that we are going to implement have their prerequisites we need to build on top of what we implemented so far and add the necessary parts to already existing implementations as well.

As the first next step, we are going to review the feedback we got from the customers and update our project accordingly. Then the backend team will finalize the database so that it doesn't need any further changes, concurrently other teams are going to work on the design and further improve the user experience. Then we will continue implementing the functionalities according to our plan and until the next milestone. For the next milestone, we are planning to finish all the functionalities except the fully functional messaging and notifications. We are also going to implement unit tests while implementing the functionalities. Also we are not planning to do any changes on the technologies we are using since they satisfy our needs.

1.3. Challenges We Met as a Group

During the process of designing and implementing the project we run into some challenges. Because of our long break from the project during the summer, we needed some time to get going from where we left. Our team did not have a lot of experience on the deliverables we needed to implement. So we needed to learn the technologies we are going to use quickly and efficiently. Also due to that, when updating the project plan, making educated guesses on the task deadlines was difficult as well. We also ran into some problems when integrating the frontend and android with the backend. This was not a big issue but the backend team dockerized and deployed the APIs when all endpoint implementations are finished for the milestone. Thus frontend and android teams could only try their implementations locally before the deployment of APIs. At the beginning we implemented our database with MySQL and later we were told by the customer we could not use it. We had to migrate to PostgreSQL after that.

1.4. Challenges We Met During the Deployment, Dockerizing, and CI/CD Processes

1.4.1. Challenges in Frontend

Inexperience in the dockerization process caused some challenges which we had to encounter during deployment and dockerization. These challenges consist of networking and communication docker images. While arranging the docker the encountered errors were not easily detected. Just before the presentation during deployment, we encountered an error which was caused by simultaneous runnings of several dockers. To overcome these issues we have widened our research on docker.

1.4.2. Challenges in Backend

During the dockerization of the backend, since the lack of experience we needed to do a lot of research on dockerization of a Django project. The challenges we addressed during the dockerization of the backend were:

- a. Setting the networking and communication between images correctly,
- b. Doing the migrations of the database correctly,
- c. Allowing communication from outside and redirecting it to our backend app using nginx.

We did research to overcome these challenges and tried different solutions to find the best one that meets our needs. The deployment of the backend application became easier when the dockerization was completed. However the most significant challenge that we addressed during this process was to serve the static files like images from our server. To do so we did our research and tried the available solutions online to serve the images and in the end we succeeded to serve images from our server. We did research on the CI/CD process however we decided to do CI/CD after the first milestone due to time constraints.

2. List and Status of Deliverables

Deliverable	Status	Delivery Date
Revised Requirements	Completed	Oct 31, 2020
Revised User Stories and Mockups	Completed	Oct 31, 2020
Updated Design Documents	Completed	Nov 3, 2020
Updated Project Plan	Completed	Nov 16, 2020
Backend		
Login and signup APIs	Completed	Nov 19, 2020
List products API	Completed	Nov 20, 2020
Product info API	Completed	Nov 21, 2020
Category filtering API	Completed	Nov 19, 2020
Product Search API	Completed	Nov 15, 2020
Android		
Sign in & Sign up interface design	Completed	Nov 10, 2020
Forgot password & Home Page & Product Page interface design	Completed	Nov 17, 2020
Sig in functionality	Completed	Nov 24, 2020
Search functionality	Completed	Nov 24, 2020
List of products functionality	Completed	Nov 24, 2020
Listing categories in side menu functionality	Completed	Nov 24, 2020
Frontend		
Sign In & Sign Up & Forgot Password interface design	Completed	Nov 24, 2020
Sig in functionality	Completed	Nov 24, 2020
Home Page interface design	Completed	Nov 24, 2020
Search functionality	Completed	Nov 24, 2020
Categorization functionality	Completed	Nov 24, 2020
Listing products functionality	Completed	Nov 24, 2020
Product Page interface design	Completed	Nov 24, 2020

Showing details of a product functionality	Completed	Nov 24, 2020
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3. Evaluation of the Status of Deliverables

3.1. Backend

Login, signup, product search, category filtering, product listing, product info APIs have been implemented. Necessary database tables have been created. Login API works without problem. There is a minor problem in signup which is to be fixed soon. Also the signup API needs to be improved to be able to handle different scenarios. Basic search API is implemented and will be improved to handle more complex searches. Product listing, category filtering and product info APIs work without problem.

3.2. Android

As the android team, we implemented sign up, sign in, forgot password, home page, and product pages. So far, we have completed all of what we had planned to complete before the first milestone. We created our registration pages as described in the requirements. Sign in page is working well but the functionality of sign up and forgot password pages is not implemented yet. We will add the functionalities soon. The home page and the product page is also working perfectly. Only some UI changes can need to be done.

3.3. Frontend

We have successfully completed all deliverables planned for the first milestone. We designed sign page, home page, and product page and implemented signing in, searching, categorization and showing product details. However, there will be some improvements in the design of the pages as we proceed to the milestone 2. Currently, functionalities are working well, but the style and UI/UX of the pages should be improved.

4. Changes In Requirements

1.1.1. Sign Up

- From 1.1.1.1 to 1.1.1.4 the word "User" is changed with "Registered User" for clarification.
- In 1.1.1.5, the part "for both users" at the end of the sentence is updated with "for both vendors and customers" for clearly indicating the user types.

1.1.4. User Profiles

- The section name is changed to “Registered Users” for explicitly showing that this part is not related with guest user.
- Current items is divided into three parts for increasing readability: Common Features, Vendor Profile, Admin Profile
- Also, 1.1.5 Admin Profiles is merged into 1.1.4 as a subsection.

1.1.6. & 1.1.7

- Commenting on Products and Rating Products are merged together since they are strictly coupled with each other.

1.1.8 Setting A Notification for A Product

- This part is added. Beforehand there was ambiguity about the functionality of the notification system.

1.1.10 Adding a Product

- 1.1.10.2 the part “ which will be checked by the admin as well.” is deleted and the sentence is updated to “When adding a product, vendor shall select a category for the product.” The reason for the change was checking the validity of a category of a product is not considered as a core task of the admin.
- 1.1.10.3 the part “payment options.” is removed. Because payment options will be the same for all products independent of the vendor.

1.1.11 & 1.1.12

- They are merged into together, since they are strictly coupled with each other as a functionality.

1.2.1. Search

- The general language of this part was ambiguous and unclear. We updated the sentences for increasing readability.

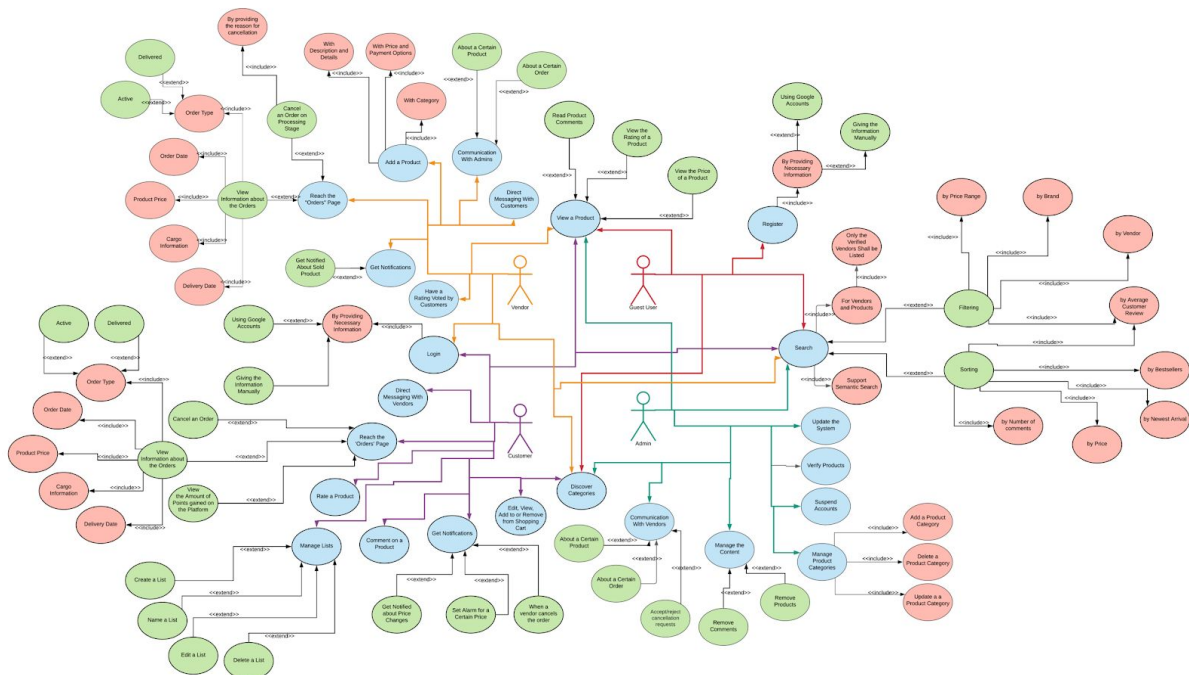
5. Changes in Design Documents

5.1. Use Case Diagram

There have been some minor changes regarding the use case diagram. Most part of the use case diagram is intact.

Verifying the products feature has been added to the admin. Also, admin's communication with vendors had a slight change. Now he is able to accept and reject the cancellation requests.

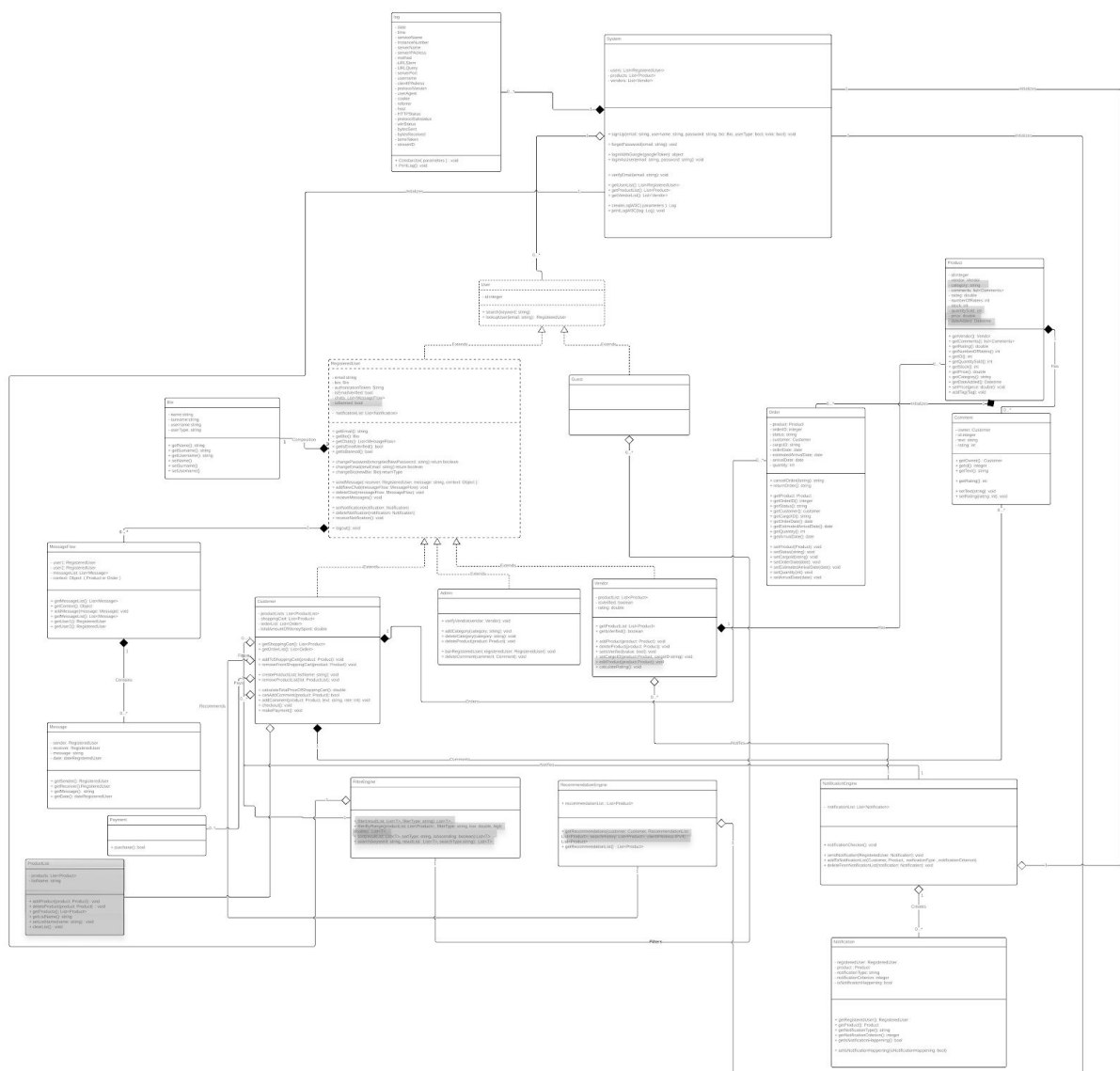
Search functionality had some changes as well. Now it includes “support semantic search” and “search for vendors and products”. Also, only the verified vendors shall be listed in this search.



5.2. Class Diagram

System class is updated and emailMap field and related functions are removed because it is found to be not useful. "isBanned" field is added to the RegisteredUser class to be able to control if the user is banned. Bio class is changed, the fields not common in Admin, Customer and Vendor are removed since all of them has a Bio. ProductList class is added to store the favorite product lists of the customers. "productLists" field of the customer is changed to store ProductList objects. "searchHistory" and "tursuPuan" fields and their related functions are removed from the customer because they are found to be not useful. "verify" method in Payment class is removed since it is found to be unnecessary in the

current design where purchase method satisfies all the needs. FilterEngine class is changed and its methods are changed to be multifunctional and some methods are removed since the requirements are satisfied with the new multifunctional methods. “getRecommendation” function in RecommendationEngine is changed to include more parameters to consider while recommending new products. Tag class is removed and its functionalities are added as static fields to the Product. Added new fields to Product class like “category”, “quantitySold”, “dateAdded” and “price” to satisfy different requirements like sorting, filtering, and compensating for the Tag class. Unnecessary functions in Admin and Vendor classes are removed since the respective fields and classes they used are removed. “editProduct” function is added to the Vendor to satisfy the requirements. All the additions are highlighted in the image below:



6. Summary of Work Done by Each Member

TEAM MEMBER	CONTRIBUTION
Ali Batır	<p>Coding Work: Learned how to use Kotlin and Retrofit Designed android login interface with Figma Implemented the interface of forgot password page Implemented search functionality for android Reviewed code for android team</p> <p>Other Work: Updated mock-ups and user scenarios due to changes in the requirements Reviewed and updated project plan</p>
Asena Karolin Özdemir	<p>Coding Work: - Learned how to use React and Axios. - Implemented frontend pages for 'Sign in', 'Sign up' and 'Forgot Password' functionalities. - Implemented the backend connections for the 'Sign in', 'Sign up' functionalities (sent the requests). - Learned how to prepare a Docker file for a frontend application and helped Mehmet Çelimli with the Dockerization. - Fixed some issues about the home page together with Yağız Çolak.</p> <p>Other Work: - Reviewed the mockups and the project plan and updated them. - Prepared and presented the slides related to the frontend development. - Prepared the scenario and did the demo on behalf of the frontend team.</p>
Baran Deniz Korkmaz	<p>Coding Work: - Learned how to use Kotlin and Retrofit - Implemented the interface of sign up page - Implemented the Retrofit client - Reviewed pull requests created by Android team.</p> <p>Other Work: - Reviewed the project requirements</p>
Barış Alhan	<p>Coding Work: - Researched for deciding the technology stack that the frontend team will use. Besides React, we put a lot of time to decide which frameworks to use and decided to use Material UI and Axios also. - Learned how to use React, Material UI, Axios. - Created base frontend application for frontend team to work on. We also spent a lot of time on the basic structure of the frontend codebase. - Designed and implemented the home page with Yağız. The parts we implemented are searching, product listing, navigation bar and categorization. - Created reusable react components for products that are used by many pages. - Connected different pages of frontend to each other. - Reviewed pull requests of the frontend team.</p> <p>Other Work: - Checked the consistency of requirements and after reviewing the requirements as a whole, we updated necessary parts. - Created guidelines for conventions used in issues, commits, branch naming and pull requests.</p>

Bariş Mutlu	<p>--Coding Work--</p> <ul style="list-style-type: none"> - Learned how to use Android Studio and Kotlin. - I implemented the product page which is opened when the user selects a product. - I worked on implementing categories part on the home page but I couldn't be successful so Buse did it. - Reviewed pull requests created by the Android team, created branches and merged some of them to the main Android branch. <p>--Other Work:</p> <ul style="list-style-type: none"> -We updated the project plan with Ömer by using ProjectLibre. It changed again after we updated it. - We decided how we progress on Android by arranging additional meetings with android teammates and listed these steps to add a project plan. -I took notes about our presentation while my friends are presenting.
Buse Kabakoğlu	<p>--Coding Work--</p> <ul style="list-style-type: none"> - Designed the sign in page, home page side menu interfaces - Implemented an expandable menu on the side bar and added its functionalities - Integrated category API and implemented listing of products belongs to a category - Integrated product detail API and implemented showing details of the product on the product page - Worked on the login API integration <p>-- Other Work --.</p> <ul style="list-style-type: none"> - Prepared and presented slides for Android - Prepared the scenario and did the demo on behalf of the Android team. - Reviewed the class diagram with three other teammates
Eray Sezgin	<p>--Coding Work--</p> <ul style="list-style-type: none"> - Creation of django project. - Implemented login and signup APIs. - Made necessary Django settings changes to serve photos from our own server. - Reviewed pull requests for backend. <p>-- Other Work --.</p> <ul style="list-style-type: none"> - Created the database for the project. - Dockerization of backend. - Helped with deploying the project. - Helped other teams with dockerization and coding.
Mehmet Çelimli	<p>Coding Work:</p> <ul style="list-style-type: none"> -Learned how to use react,material ui and axios. -Implemented the product detail page with comments -Fetched the data from the database and displayed it on the product page via product API. -Connect the homepage to the product detail page. -Implemented the search functionality via search API. -Implemented the docker-compose and dockerfile. <p>Other Work:</p> <ul style="list-style-type: none"> -Class diagram is reviewed, notification engine, filter engine and recommendation engine is edited. -Took part in dockerization and deployment of the frontend. -Reviewed pull requests of the frontend team members
Murat Ekici	<p>Coding Work:</p> <ul style="list-style-type: none"> - Learned how to use technologies we are using in backend (Django, PostgreSQL, AWS, Docker) - Implemented home page and categorization endpoints in backend. - Created and configured the AWS instances for backend and frontend deployment. - Reviewed pull requests for backend.

	Other Work: <ul style="list-style-type: none"> - Reviewed the class diagram with three other teammates - Helped with the project plan by proposing an order and completion dates with my team. - Helped prepare the Customer Milestone 1 presentation. - Presented the first part of the presentation which includes the general and backend presentation.
Onur Kılıçoğlu	<ul style="list-style-type: none"> - Learned how to use Django and Postgresql. - Implemented search feature for backend. - Implemented tests for the search endpoint in the backend. - Prepared dummy data to be used in testing and in demo and created a database dump. - Took part in the dockerization of the backend and frontend applications. - Took part in the deployment of the backend and frontend applications. - Reviewed 2 pull requests created by the backend team members.
Ömer Ak	Coding Work: <ul style="list-style-type: none"> - Learned how to use technologies namely Django and Postgresql. - Implemented product page endpoint in backend. - Reviewed codes of other backend team members. Other Work: <ul style="list-style-type: none"> - Reviewed our old project plan with Barış Mutlu and made necessary corrections - Since I was the only backend team member that is using Windows Operating System rather than Mac OS, I faced some challenges while I was trying to be compatible with my team members. So, I installed Ubuntu terminal to my computer and learned how to use it. Finally, I was able to implement my parts of our project.
Yağız Can Çolak	Coding Work: <ul style="list-style-type: none"> - Researched for deciding the technology stack we will use. Decided on material ui for the design and axios for the backend connection. - Learned how to use react, material ui and axios. - Designed and implemented the home page with Barış. The parts we implemented are searching, product listing, navigation bar and categorization. We also spent a lot of time regarding the basics of the design. - Connected different pages of frontend to each other. - Reviewed pull requests of the frontend team. - Fixed login redirecting issues about the home page together with Asena. Other Work: <ul style="list-style-type: none"> - Reviewed and updated the use case diagram.

7. Evaluation of tools and processes

7.1. General Tools

7.1.1. Github

We used GitHub as our project version management system.

7.1.2. Slack

We used slack for communication.

- 7.1.3. Zoom
During the distance-education, we have used Zoom for our weekly meetings.

7.2. Backend Tools

- 7.2.1. Python Django
We decided to use Python as the main language of our project since all team members knew how to use it and it was easy and simple. Then, we decided to use Python on Django because of the similar reasons.
- 7.2.2. Postgresql
We had to use a database system. Postgresql was a simple one and compatible for us. So, we decided to use it.
- 7.2.3. Docker
We used Docker to deliver the project in a container.

7.3. Frontend Tools

- 7.3.1. WebStorm
As the IDE, we decided to use WebStorm.
- 7.3.2. React
We used react for developing our frontend application. React is a JavaScript library for building user interfaces.
- 7.3.3. Material UI
We used Material UI for our frontend application design. It is a React UI framework and widely used, so it was convenient to learn and use.
- 7.3.4. Axios
We used Axios for connecting our frontend application to the backend. Axios is a JavaScript library used to make HTTP requests.
- 7.3.5. AWS
We used AWS for deploying and hosting the application. AWS is widely used and a good choice.
- 7.3.6. Docker
We used Docker to deliver the project in a container.

7.4. Android Tools

- 7.4.1. Android Studio
We used Android Studio for development environment. It has the most crowded community and many sources to learn about it.
- 7.4.2. Kotlin
We used Kotlin to implement in Android Studio. It is an easy-learn and understandable language. Also has many sources on the Internet.
- 7.4.3. Retrofit
We used Retrofit networking library. We thought it is the best way to use Rest API and also has many sources.

8. API documentation and URL

"/"

This endpoint is used to return the product list in the home page.

Method: GET

Parameter	Description
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Example query:

<http://3.232.20.250/>

Response:

JSON object: List of products with product_info

"/user/login"

This endpoint is used to login a registered user.

Method: POST

Parameter	Description
username	string: User's unique username.
password	string: User's password.

Example query:

<http://3.232.20.250/user/login>

Response:

JSON object: Authorization token.

"/user/signup"

This endpoint is used for a customer or vendor to register.

Method: POST

Parameter	Description
username	string: User's unique username.
password	string: User's password.
email	string: User's email address.
first_name	string: User's first name.
last_name	string: User's last name.
is_vendor	boolean: User type; customer or vendor.
IBAN(optional)	string: Vendor's bank account IBAN info.

Example query:

<http://3.232.20.250/user/signup>

Response:

JSON object: Authorization token.

"/product/category"

Category endpoint is used to filter products by their category.

Method: GET

Parameter	Description
name	string: Name of the category to filter products.

Example query:

<http://3.232.20.250/product/category/?name=Electronics>

Response:

JSON object: List of products with product_info that is filtered by given category.

"/product"

This endpoint is used to return information about a product for the page of the product.

Method: GET

Parameter	Description
id	int: ID of the product to reach its related information.

Example query:

<http://3.232.20.250/product?id=1>

Response:

JSON object: List of information of the product that has the given ID.

"/search"

Search endpoint is used to search the products or vendors in the system.

Method: GET

Parameter	Description
search_string	string: String to be used in searching the products or vendors
search_type	string: "vendor" for searching vendors, "product" for searching products in the system (Note: In the scope of this milestone you can only use product searching)

Example query:

http://3.232.20.250/search?search_string=apple&search_type=product

Response:

JSON object: List of products with product_info

Data Structures

product_info:

Field	Description
id	int: ID of the product
name	string: Name of the product
photo_url	string: Link to the photo of the product
vendor_name	string: Name of the vendor of the product
category	string: Name of the category of the product

rating	float: Rating of the product
stock	int: Available stock of the product
price	float: Price of the product

API URL:

<http://3.232.20.250/>

9. Project Plan

		Name	Duration	Start	Finish	Predecessors	Resource Names
1		Preparing Deliverables for Milestone 1 of 352	54 days?	2/19/20 8:00 AM	5/4/20 5:00 PM		
2		Requirements	35 days?	2/19/20 8:00 AM	4/7/20 5:00 PM		
3		The First Draft	14 days?	2/19/20 8:00 AM	3/9/20 5:00 PM		
4		Distribute the requirements to the team members	1 day?	2/19/20 8:00 AM	2/19/20 4:00 PM		Onur Kılçolu
5		Preparing the glossary	4 days?	2/27/20 8:00 AM	2/29/20 8:02 AM		Yaz Can Çolak
6		Reviewing the glossary	4 days?	3/4/20 8:00 AM	3/9/20 5:00 PM	5	Bar Alhan;Ömer Ak
7		Functional Requirements	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		
8		User Requirements	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Ali Batr;Bar Alhan,Murat Ekici;Yaz ...
9		System Requirements	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Buse Kabakolu;Onur Kılçolu;Ufuk K...
10		Nonfunctional Requirements	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		
11		Availability	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Bar Mutlu
12		Security	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Asena Karolin Özdemir
13		Performance	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Mehmet Çelimli
14		Privacy	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Mehmet Çelimli
15		Prepare the final first draft of Requirements document	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM	10;7	Ömer Ak
16		Reviewing the Categorization	3 days?	2/27/20 8:00 AM	3/2/20 5:00 PM	10;7	Ömer Ak
17		The second draft	5 days?	4/1/20 8:00 AM	4/7/20 5:00 PM	3	
18		Update the Glossary	5 days?	4/1/20 8:00 AM	4/7/20 5:00 PM	10;7	Bar Alhan
19		Update Requirements	5 days?	4/1/20 8:00 AM	4/7/20 5:00 PM	7;10	Buse Kabakolu;Murat Ekici;Ufuk Kar...
20		Update the Categorization	10 days?	4/1/20 8:00 AM	4/7/20 5:00 PM	19	Buse Kabakolu;Ufuk Karagöz
21		Scenarios & Mockups	8 days?	2/27/20 8:00 AM	3/9/20 5:00 PM	3	
22		Preparing scenario and mockups	4 days?	2/27/20 8:00 AM	3/3/20 5:00 PM		
23		Preparing the mockup designs of the pages shared by more than one scen...	2 days?	2/27/20 8:00 AM	2/28/20 8:01 AM		Onur Kılçolu
24		Preparing the "Buying a Product" scenario	4 days?	2/27/20 8:00 AM	3/2/20 4:59 PM	23	Asena Karolin Özdemir;Ömer Ak;Ufuk...
25		Creating persona, story and actions for the first scenario	6.998 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	24	Yaz Can Çolak;Asena Karolin Özde...
26		Preparing the "Cancelling an Order" scenario	5.002 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	23	Bar Mutlu;Mehmet Çelimli;Buse Kab...
27		Creating persona, story and actions for the second scenario	8 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	26	Buse Kabakolu;Bar Mutlu;Mehmet ...
28		Preparing the "Make Comment About a Delivered Product" scenario	5.002 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	23	Bar Alhan;Murat Ekici;Ali Batr
29		Creating persona, story and actions for the third scenario	8 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	28	Ali Batr;Bar Alhan;Murat Ekici
30		Reviewing the mockups	4 days?	3/4/20 8:00 AM	3/9/20 5:00 PM	22	Onur Kılçolu;Yaz Can Çolak;Buse K...
31		UML Designs	21 days?	3/11/20 8:00 AM	4/8/20 5:00 PM	2;21	
32		First Draft of the Design Documents	4 days?	3/11/20 8:00 AM	3/16/20 5:00 PM		

Gantt Chart - page1

		Name	Duration	Start	Finish	Predecessors	Resource Names
33		Preparation of Class Diagram	3 days	3/11/20 8:00 AM	3/13/20 5:00 PM		Bar Alhan;Buse Kabakolu;Mehmet ...
34		Preparation of Use Case Diagram	4 days	3/11/20 8:00 AM	3/16/20 5:00 PM		Asena Karolin Özdemir;Yaz Can Çol...
35		Preparation of Sequence Diagram	8 days	3/11/20 8:00 AM	3/16/20 5:00 PM	34;33	Bar Mutlu;Ali Batr;Onur Kipoğlu;Om...
36		Revising Design Documents	6 days	4/1/20 8:00 AM	4/8/20 5:00 PM	32	Ali Batr;Asena Karolin Özdemir;Bar ...
37		Project Plan	5 days	4/15/20 8:00 AM	4/21/20 5:00 PM	2;31;21	
38		Moving the actions done in the notes of the previous meetings to the project ...	3 days	4/15/20 8:00 AM	4/18/20 5:00 PM		Ali Batr;Bar Mutlu;Buse Kabakolu;...
39		Thinking about how to organize milestones	3 days	4/15/20 8:00 AM	4/18/20 5:00 PM		Onur Kipoğlu;Yaz Can Çolak;Buse K...
40		Revising the prepared project plan and make sure that they all are consistent	1 day	4/18/20 8:00 AM	4/20/20 5:00 PM		Murat Ekici
41		Create and fill the Project Plan Document for Milestone 1	2 days	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Murat Ekici;Ömer Ak;Ufuk Karagöz;Ya...
42		Create and fill the Project Plan Document for Milestone 2	2 days	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Onur Kipoğlu;Mehmet Çelimli
43		Create and fill the Project Plan Document for Milestone 3	1 day	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Bar Alhan;Buse Kabakolu
44		Reviewing the project plan document and assuring consistency	1 day	4/18/20 8:00 AM	4/20/20 5:00 PM	43;42;41	Asena Karolin Özdemir
45		Creating RAM document and making sure it is filled by members	2 days	4/18/20 8:00 AM	4/21/20 5:00 PM	38	Ali Batr
46		Milestone 1 Report	6 days	4/26/20 8:00 AM	5/4/20 5:00 PM	37;31;21;2	
47		Milestone 1	0 days	5/4/20 5:00 PM	5/4/20 5:00 PM	1	Ali Batr;Asena Karolin Özdemir;Bar ...
48		Preparing Deliverables for Milestone 2 of CMPE352	17 days	5/5/20 8:00 AM	5/27/20 5:00 PM	47	
49		Implementation of Practice App	13 days	5/5/20 8:00 AM	5/21/20 5:00 PM		
50		Research about Available APIs on Web	1 day	5/5/20 8:00 AM	5/5/20 5:00 PM		Onur Kipoğlu;Yaz Can Çolak;Buse K...
51		Implementing functions for necessary APIs	4 days	5/6/20 8:00 AM	5/11/20 5:00 PM	50	Onur Kipoğlu;Buse Kabakolu;Ömer Ak
52		Back-End Implementation: Product Page	5 days	5/12/20 8:00 AM	5/18/20 5:00 PM	51	Onur Kipoğlu;Bar Alhan;Murat Ekici
53		Front-End Implementation: Product Page	5 days	5/12/20 8:00 AM	5/18/20 5:00 PM	51	Bar Mutlu;Asena Karolin Özdemir;Ali...
54		Back-End Implementation: Comment Page	5 days	5/12/20 8:00 AM	5/18/20 5:00 PM	51	Ufuk Karagöz;Ömer Ak;Mehmet Çelimli
55		Front-End Implementation: Comment Page	5 days	5/12/20 8:00 AM	5/18/20 5:00 PM	51	Yaz Can Çolak;Bar Alhan;Bar Mutlu
56		Testing the Practice App	3 days	5/19/20 8:00 AM	5/21/20 5:00 PM	52;53;54;55	Onur Kipoğlu;Yaz Can Çolak;Buse K...
57		Milestone 2 Report	4 days	5/22/20 8:00 AM	5/27/20 5:00 PM	56	Onur Kipoğlu;Yaz Can Çolak;Buse K...
58		Milestone 2	0 days	5/27/20 5:00 PM	5/27/20 5:00 PM	48	Ali Batr;Asena Karolin Özdemir;Bar ...
59		Decisions and Settings	5 days	11/2/20 8:00 AM	11/6/20 5:00 PM		
60		Deciding on Tech Stack	1 day	11/2/20 8:00 AM	11/2/20 5:00 PM		Ali Batr;Asena Karolin Özdemir;Bar ...
61		Setting up the Environment	4 days	11/3/20 8:00 AM	11/6/20 5:00 PM	60	Ali Batr;Asena Karolin Özdemir;Baran...
62		Creation of the User Database	5 days	11/9/20 8:00 AM	11/13/20 5:00 PM		
63		Creating the User Database	5 days	11/9/20 8:00 AM	11/13/20 5:00 PM		Onur Kipoğlu;Murat Ekici;Ömer Ak;Er...
64		Deciding the Account Endpoints	1 day	11/9/20 8:00 AM	11/9/20 6:00 PM		Onur Kipoğlu;Murat Ekici;Ömer Ak;Er...

Gantt Chart - page2

		Name	Duration	Start	Finish	Predecessors	Resource Names
65		Implementing the Login Pages	4 days	11/10/20 8:00 AM	11/13/20 5:00 PM	64	Onur Kıpçolu;Murat Ekici;Eray Sezgin...
66		Implementation of Sign in / Sign up	5 days?	11/10/20 8:00 AM	11/16/20 5:00 PM		
67		Frontend Sign in page	5 days?	11/10/20 8:00 AM	11/16/20 5:00 PM		Yaz Can Çolak;Bar Alhan;Asena Ka...
68		Frontend Sign up page	5 days?	11/10/20 8:00 AM	11/16/20 5:00 PM		Asena Karolin Ozdemir;Bar Alhan;M...
69		Android Sign in page	5 days?	11/10/20 8:00 AM	11/16/20 5:00 PM		Ali Batr;Baran Deniz Korkmaz;Bar ...
70		Android sign up page	5 days?	11/10/20 8:00 AM	11/16/20 5:00 PM		Ali Batr;Baran Deniz Korkmaz;Bar ...
71		Internal Milestone	1 day?	11/16/20 8:00 AM	11/16/20 5:00 PM		
72		Implementation of Product Database	6 days?	11/16/20 8:00 AM	11/23/20 5:00 PM		
73		Deciding the Homepage Endpoints	1 day	11/16/20 8:00 AM	11/16/20 5:00 PM		Onur Kıpçolu;Ömer Ak;Eray Sezgin;M...
74		Front-End Implementation: Homepage	4 days	11/17/20 8:00 AM	11/20/20 5:00 PM	73	Bar Alhan[150%];Yaz Can Çolak;As...
75		Back-End Implementation: Homepage	4 days	11/17/20 8:00 AM	11/20/20 5:00 PM	73	Onur Kıpçolu;Murat Ekici;Ömer Ak;Er...
76		Android Implementation: Homepage	4 days	11/17/20 8:00 AM	11/20/20 5:00 PM	73	Buse Kabakolu;Bar Mutlu;Baran De...
77		Frontend Implementing Product Page	2 days?	11/20/20 8:00 AM	11/23/20 5:00 PM		Asena Karolin Ozdemir;Bar Alhan;M...
78		Backend Implementing Product Page	2 days?	11/20/20 8:00 AM	11/23/20 5:00 PM		Eray Sezgin;Murat Ekici;Onur Kıpçolu...
79		Android Implementing Product Page	2 days?	11/20/20 8:00 AM	11/23/20 5:00 PM		Ali Batr;Baran Deniz Korkmaz;Bar ...
80		Deciding the Product Endpoints	1 day	11/20/20 8:00 AM	11/20/20 5:00 PM		Onur Kıpçolu[50%];Eray Sezgin;Murat...
81		Customer Milestone 1 for CMPE451	1 day?	11/24/20 8:00 AM	11/24/20 5:00 PM		
82		Implementation of Order Database	5 days	11/24/20 8:00 AM	11/30/20 5:00 PM		
83		Deciding the Order Endpoints	1 day	11/24/20 8:00 AM	11/24/20 6:00 PM		Onur Kıpçolu;Murat Ekici;Eray Sezgin...
84		Front-End Implementation: Order Pages	4 days	11/25/20 8:00 AM	11/30/20 5:00 PM	83	Bar Alhan;Yaz Can Çolak;Asena Ka...
85		Back-End Implementation: Order Pages	4 days	11/25/20 8:00 AM	11/30/20 5:00 PM	83	Onur Kıpçolu;Murat Ekici;Ömer Ak;Er...
86		Android Implementation: Order Pages	4 days	11/25/20 8:00 AM	11/30/20 5:00 PM	83	Bar Mutlu;Ali Batr[150%];Baran Deni...
87		Implementation of Admin Panel and Product Display	5 days	11/30/20 8:00 AM	12/4/20 5:00 PM		
88		Deciding the Admin Endpoints	1 day	11/30/20 8:00 AM	11/30/20 5:00 PM		Onur Kıpçolu;Eray Sezgin;Ömer Ak;M...
89		Front-End Implementation: Admin Page	2 days	12/1/20 8:00 AM	12/2/20 5:00 PM	88	Bar Alhan;Yaz Can Çolak[50%];Me...
90		Back-End Implementation: Admin Page	2 days	12/1/20 8:00 AM	12/2/20 5:00 PM	88	Onur Kıpçolu;Murat Ekici;Ömer Ak;Er...
91		Android Implementation: Admin Page	2 days	12/1/20 8:00 AM	12/2/20 5:00 PM	88	Bar Mutlu;Buse Kabakolu;Baran De...
92		Deciding the Product Display Endpoints	1 day	11/30/20 8:00 AM	11/30/20 5:00 PM		Onur Kıpçolu;Eray Sezgin;Murat Ekici...
93		Deciding the Commenting and Rating Endpoints	1 day	11/30/20 8:00 AM	11/30/20 5:00 PM		Onur Kıpçolu;Eray Sezgin;Ömer Ak;M...
94		Front-End Implementation: Product Display Page	3 days	12/2/20 8:00 AM	12/4/20 5:00 PM	92;93	Yaz Can Çolak;Mehmet Çelimli;Bar...
95		Back-End Implementation: Product Display Page	3 days	12/2/20 8:00 AM	12/4/20 5:00 PM	92;93	Onur Kıpçolu;Murat Ekici;Ömer Ak;Er...
96		Android Implementation: Product Display Page	3 days	12/2/20 8:00 AM	12/4/20 5:00 PM	92;93	Ali Batr;Baran Deniz Korkmaz;Bar ...

Gantt Chart - page3

		Name	Duration	Start	Finish	Predecessors	Resource Names
97		Implementation of Search Engine, filtering and sorting Functions	5 days	12/7/20 8:00 AM	12/11/20 5:00 PM		
98		Deciding the Search Engine Endpoints, Implementing Filtering and Sorting Funct.	1 day	12/7/20 8:00 AM	12/7/20 6:00 PM		Onur Kılçolu;Eray Sezgin;Ömer Ak;M...
99		Front-End Implementation: Search Bar, Filtering and Sorting	4 days	12/8/20 8:00 AM	12/11/20 5:00 PM	98	Yaz Can Çolak; Mehmet Celimli; Asen...
100		Front-End Implementation: Search Bar, Filtering and Sorting	4 days	12/8/20 8:00 AM	12/11/20 5:00 PM	98	Onur Kılçolu; Murat Ekici; Ömer Ak; Er...
101		Front-End Implementation: Search Bar, Filtering and Sorting	4 days	12/8/20 8:00 AM	12/11/20 5:00 PM	98	Bar Mutlu; Buse Kabakolu; Ali Batr; B...
102		Internal Milestone 2	1 day?	12/11/20 8:00 AM	12/11/20 5:00 PM		
103		Implementation of Shopping Carts and Favorite's Lists	5 days	12/14/20 8:00 AM	12/18/20 5:00 PM		
104		Deciding Shopping Cart and Favorite's List Endpoints	1 day	12/14/20 8:00 AM	12/14/20 6:00 PM		Onur Kılçolu;Eray Sezgin;Ömer Ak;M...
105		Frontend Implementation of Shopping Carts and Favorite's Lists	4 days	12/15/20 8:00 AM	12/18/20 5:00 PM	104	Yaz Can Çolak; Mehmet Celimli; Asen...
106		Backend Implementation of Shopping Carts and Favorite's Lists	4 days	12/15/20 8:00 AM	12/18/20 5:00 PM	104	Onur Kılçolu; Murat Ekici; Ömer Ak; Er...
107		Android Implementation of Shopping Carts and Favorite's Lists	4 days	12/15/20 8:00 AM	12/18/20 5:00 PM	104	Bar Mutlu; Buse Kabakolu; Ali Batr; B...
108		Implementation of Payment Page	5 days?	12/15/20 8:00 AM	12/21/20 5:00 PM		
109		Deciding on Payment Page Endpoints	5 days?	12/15/20 8:00 AM	12/21/20 5:00 PM		Eray Sezgin; Murat Ekici; Onur Kılçolu...
110		Frontend Implementation of Payment Page	5 days?	12/15/20 8:00 AM	12/21/20 5:00 PM		Asena Karolin Özdemir; Bar Alhan; M...
111		Backend Implementation of Payment Page	5 days?	12/15/20 8:00 AM	12/21/20 5:00 PM		Eray Sezgin; Murat Ekici; Onur Kılçolu...
112		Android Implementation of Payment Page	5 days?	12/15/20 8:00 AM	12/21/20 5:00 PM		Ali Batr; Baran Deniz Korkmaz; Bar ...
113		Implementation of Recommendation System	4 days	12/21/20 8:00 AM	12/24/20 5:00 PM		
114		Implementing Recommendation System	4 days	12/21/20 8:00 AM	12/24/20 5:00 PM		Onur Kılçolu; Yaz Can Çolak; Buse K...
115		Implementation of User Profiles	3 days?	12/24/20 8:00 AM	12/28/20 5:00 PM		
116		Deciding on User Profile Endpoints	3 days?	12/24/20 8:00 AM	12/28/20 5:00 PM		Eray Sezgin; Murat Ekici; Onur Kılçolu...
117		Frontend Implementation of User Profiles	3 days?	12/24/20 8:00 AM	12/28/20 5:00 PM		Asena Karolin Özdemir; Bar Alhan; M...
118		Backend Implementation of User Profiles	3 days?	12/24/20 8:00 AM	12/28/20 5:00 PM		Eray Sezgin; Murat Ekici; Onur Kılçolu...
119		Android Implementation of User Profiles	3 days?	12/24/20 8:00 AM	12/28/20 5:00 PM		Ali Batr; Baran Deniz Korkmaz; Bar ...
120		Customer Milestone 2 of CMPE451	1 day?	12/29/20 8:00 AM	12/29/20 5:00 PM		
121		Implementation of Messaging System	4 days	12/30/20 8:00 AM	1/4/21 5:00 PM		
122		Implementing Messaging System	4 days	12/30/20 8:00 AM	1/4/21 5:00 PM		Bar Mutlu; Asena Karolin Özdemir; Ali...
123		Implementation of Notification System	5 days	1/4/21 8:00 AM	1/8/21 5:00 PM		
124		Implementing Notification System	5 days	1/4/21 8:00 AM	1/8/21 5:00 PM		Baran Deniz Korkmaz; Eray Sezgin; Me...
125		System Testing	4 days	1/11/21 8:00 AM	1/14/21 5:00 PM	62;72;82;87;...	
126		Testing: Integration Test	4 days	1/11/21 8:00 AM	1/14/21 5:00 PM		Onur Kılçolu; Baran Deniz Korkmaz; ...
127		Testing: Usability Testing	4 days	1/11/21 8:00 AM	1/14/21 5:00 PM		Onur Kılçolu; 150%; Yaz Can Çolak...
128		Performance Testing	4 days	1/11/21 8:00 AM	1/14/21 5:00 PM		Onur Kılçolu; Yaz Can Çolak; Buse K...

Gantt Chart - page4

		Name	Duration	Start	Finish	Predecessors	Resource Names
129		Deployment Preparation	6 days	1/15/21 8:00 AM	1/22/21 5:00 PM	125	Onur Kıpçulu[150%];Yaz Can Çolak...
130		Customer Milestone 3 for CMPE451	0 days	11/24/20 5:00 PM	11/24/20 5:00 PM		Onur Kıpçulu;Yaz Can Çolak;Buse K...

You can also view the [Project Libre document](#), the [project plan in PDF format](#), and the [Gantt Chart](#).

10. Assessment of the Customer Presentation

We started our milestone presentation with some slides to introduce our deliverables (the web and the android applications). Information related to the teams and the technologies that we used were also present in the slides. Afterwards, we did the demos of the web application and the android application. Lastly, we took the questions.

What went well:

- We did not have any malfunctioning during the presentation, the presentation went as planned.
- The speakers were fluent and explained the slides and demonstrated the applications well.
- The user scenarios were accurately designed to show the developed features.
- We were able to answer all questions coming from the customer. (There is one exception which is mentioned in the next part.)
- The customer seemed satisfied with our work.
- Our note-takers took notes of the points which were emphasized by our customer and we will be able to take them into consideration for the next milestone.

What could have been better:

- Our presentation was faster than the way we practiced it. It was not a dramatic issue, however our time management could have been better.
- Even though it was out of the scope of this milestone we had implemented the 'Sign up' functionality. During the Q&A part we were asked to show it, but since we were not expecting to present this functionality, a minor bug caused an error and we could not show the functionality. Next time we should be sure that everything that we deploy is working correctly even if it is out of the scope of the milestone. Otherwise, we should not include it in the deployed project.

Overall, our presentation was successful and we gained a lot of experience which will come in handy in the next milestone.

11. User Scenarios

Android

- Deniz wants to buy some new sneakers.
- He opens his favorite e-commerce application called "Turşu".
- He enters his email and password but he misspells his password, therefore he gets a warning.
- He corrects the password and enters the application. He is on the home page now in which all products are listed.
- He goes to the "sports" category. While checking for the sneakers he sees The North Face brand sneakers and he views its product details.
- Because he wants to buy Nike brand shoes, he searches for the keyword "nike". Unfortunately there are no Nike brand sneakers in the application yet.
- He searches for the keyword "The North" and checks for the same shoe again.
- He finally decides to save some money to buy these cool The North Face brand sneakers.

Website

- Asena wants to buy a new phone.
- She goes to Turşu's website on her computer.
- She enters her email but misspells her password, so she gets a warning.
- She corrects the password and enters the home page.
- She goes to the category of electronics to check the phones but realizes that there are lots of products.
- Therefore she decides to search for the keyword "phone".
- Because she wants a "Galaxy" specifically, she makes another search with the keyword "galaxy phone".
- After finding a good model for herself, she opens the product details page and checks for its features.
- She likes the model and decides to buy it when she has enough money.