CmpE 352 - Milestone 1 Report

GROUP 1

May 4th, 2020

Contents

1. Executive Summary

1.1. Project Introduction

Tursu is a e-commerce platform. It provides some functionalities to users such as buying or selling products, making comments about a product, reviewing the comments written by previous customers to ease the one's decision process and 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.

1.2. Project Status

Our software engineering team consists of 11 members. From the beginning the of the semester, our main goal is to distribute the work among the team members equally and improving the project by contribution from each of us. We hold regular meetings on wednesdays and we discuss what assignments should be done for the following week.

So far, we have completed many important steps for developing a software project from scratch. Some of the big steps that we have taken until this point as follows:

Preparing the requirements, preparing the mockups and scenarios, designing UML diagrams, documenting the project plan and etc.

After preparing these deliverables, we review them and think about the ways to improve our product better.

1.3. Future Plans

The assignments we have been working so far, provides a base for our project implementation. We have requirements, UML diagrams and so forth, that shows us the functionalities of the software and flow of the one's experience which will lead us for our implementation in the future. The project plan which we have designed lately contains some future but not certain deadlines to give us an idea about our route.

From now on, we are making research about APIs and try to form an opinion for ours.

The languages that we will use in the implementation of the project can also be decided before the end of this semester.

2. List and Status of Deliverables

Deliverable	Status	Accessible at
Communication Plan	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Communication-Plan
Glossary for Requirements	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Requirements
Requirements	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Requirements
User Personas and Stories	Completed	https://github.com/bounswe/bounswe2020group1/wiki/User-Scenarios-and-Mock-ups
User Scenarios and Mock-ups	Completed	https://github.com/bounswe/bounswe2020group1/wiki/User-Scenarios-and-Mock-ups
Use Case Diagram	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Use-Case-Diagram
Class Diagram	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Class-Diagram
Sequence Diagram	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Sequence-Diagram
Project Plan	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Project-Plan
RAM	Completed	https://github.com/bounswe/bounswe2020group1/wiki/Responsibility-Assignment-Matrix

3. Evaluation of the Status of Deliverables

3.1. Communication Plan

As a group communication held great importance for us. We abide by a communication plan that includes Slack as a regular communication channel. We held weekly meetings whether on BM Lounge or on Zoom. Sharing documents on google drive is another aspect of our communication plan. Synchronization was the key as tasks are divided among many people.

3.2. Glossary for Requirements

Requirements needed a glossary to guide and explain some concepts that need clarification in order to have a better understanding for the project. After several modifications glossary has come to a satisfactory point.

3.3. Requirements

By following Project Description, the outline of requirements created. As we came to a deeper understanding of the project the requirements updated. After the customer meeting and several of the feedbacks requirements have come to its final shape. This does not mean the end of the modifications, Requirements might need to reshape as our assumptions meet with realization. Moreover, requirements serve as the cornerstone for our project as we turn back and check for clarification at some point.

3.4. User Personas and Stories

To test out our requirements we have imagined three users with background stories and personas who might use our product. This gave us a better understanding of the mindset of the customers. To divide the task fairly, we have divided it into three subgroups though we checked and reviewed each group's scenario as well.

3.5. User Scenarios and Mock-ups

Each subgroup designed mock-ups according to their user's story. We have designed two mockups as web applications and one as a mobile application. Some parts of mock-ups are repeatedly used in other scenarios. After the mock-up feedback, we have updated some parts as intended.

3.6. Use Case Diagram

The use case diagram visualizes the paths that each type of user takes in order to accomplish a certain action. Our project consists of four types of users as vendor, guest, customer, and admin. Each user is capable of certain actions. One can follow the arrows going out of each user type in order to grasp the relationship between user types and plausible actions.

3.7. Class Diagram

Designing the class diagrams was crucial in order to have a better understanding of the structure of the project. The class diagram consists of many classes that have different relationships within each other as some classes extend from other classes, some are in composition relationship. Classes have different fields and methods in order to achieve an object-oriented manner. The class diagram evolved as sequence diagrams needed clarifications. Consequently, the class diagram forms the backbone of the project.

3.8. Sequence Diagram

The sequence diagram is for object interactions arranged in a sequential manner. Interactions are observed as exchanges of messages between classes. Several diagrams are plotted for different scenarios. As the class diagram has changed some sequence diagrams have changed as well.

3.9. Project Plan

The project plan outlines the activities and tasks in the project. The project plan is really helpful in order to keep track of our progress within the project. Also, the project plan estimates the resources to be allocated in order to complete future tasks. We reviewed the past issues and meeting notes and formed the project plan according to it.

3.10. RAM

The responsibility assignment matrix is filled by each member separately. Different types of responsibilities are colored differently.

4. Evaluation of Tools and Processes

4.1. GitHub

We used GitHub as our project version management system. We had a chance to see how useful it is. We have used issues for the works we needed to do, assignments section for managing the project, and wiki for documentation.

4.2. Slack

We used slack for communication.

4.3. Zoom

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

4.4. LucidChart

LucidChart is a chart creation tool and free for students. We used it for creating our diagrams. It lets multiple users edit diagrams at the same time.

4.5. Draw.io

We used Draw.io for creating our mock-ups. It is a free tool and pretty useful. It is also possible to work simultaneously.

4.6. Projectlibre

We used Projectlibre for creating our project plan and generating the Gantt Chart from our tasks. It is a free tool and comes pretty useful.

5. Summary of Work Done by Each Team Member

TEAM MEMBER	CONTRIBUTION
Ali Batır	I attended every group meeting so far. I created my personal wiki page on github.I added my favorite repository to wiki. I have edited the readme and wiki pages when some changes are needed. I took part in preparation of the functional requirements part of the requirements document.I created the user scenario and mockups-3 with the other 2 teammates. I prepared an agenda for the fifth meeting and took notes in the meeting. I prepared "Cancel a Product" , "Comment a Product" , "Filtering by Brand of Product" and "Delete a Product" sequence diagrams. I contributed to the project plan. I created a responsibility assignment matrix document for team responsibilities. I reviewed and improved the documents according to feedback.
Asena Karolin Özdemir	I actively participated in all the group meetings so far. In the first week, I took the meeting notes, uploaded them to github, created most of the issues of the week and edited my personal page. I also explored various github repositories and posted a description of the repository that I liked the most on github. In the second week, as we were discussing the requirements during the group meeting, I took notes of the questions that we wanted to ask the customer about the requirements. I also wrote my part of the requirements (mostly availability related). In the third week, I did revisions on my personal page and on the meeting notes so that they would all be using the same template. I also attended the meeting of the sub-group which was responsible for the creation of the user scenario 1. I created the steps 5, 6, 7, 8 and 9 of the mockup of the first scenario. In the fourth week, I did revisions to some parts of the requirements and to some parts of the user scenarios and mockups. In the fifth week, I created the use case diagram for the customer. After the fifth week, we had a break due to covid-19. In the first week after the break, I revised the use case diagram I had created, added missing functionalities and joined all use case diagrams. I also did a consistency check between the requirements and all other deliverables. In the next week, I fixed the inconsistencies I had discovered together with some of my teammates. I also contributed to the project plan by entering the names of the assignees to each task and by entering the start and end dates. I also contributed to the RAM by entering my own information. This week, I created the 'List and Status of the Deliverables' part of this report.

Barış Alhan	I attended every group meeting, except one which was announced lately. I took notes of one meeting. I made a research about well designed repositories and added it to repo of our wiki page. I created labels for the issue system in the GitHub repository. I prepared two requirements in the requirement document. I prepared a scenario and a mock up design in a team with 3 members. Our scenario was about making comment on an already bought product. I participated in designing the diagrams of mockups and adding them to our repository. My part for the UML diagrams was designing the Class Diagram (again in a group of 3). For the diagram, We arranged a meeting and designed all classes and fields while discussing our ideas. After feedback, we also reviewed and made some changes in the class diagram. I learned how to use projectLibre. Afterwards, Buse. and I listed the tasks that start from Milestone 2 and end with Milestone 3 and added them into the project plan. After the feedback of project plan, I revised the plan and adjusted dates..
Barış Mutlu :D	I attended every group meeting except one of them. I entered my informations to the README. I designed my personal github page.I choose my favorite repository. I prepared 3 of the requirements. I did some research about these subjects. I suggested and voted to the name of the project. . I prepared a scenario and a mock up design in a team with 3 members.I was a participant the task that is moving the designs to the Github page. I prepared agenda of one week. I created the sequence diagrams.These were sign-up, rating a vendor and adding product diagrams. For the diagrams, we arranged 2 meetings with the sequence diagram group and made some changes according to reviews.. I participated the preparing the Milestone 1.I filled the part about myself in the RAM document.My next job is assigned as creating Amazon AWS EC2 instance.
Buse Kabakoğlu	Until now, I attended every group meeting. I created a README page for our repository with member names in it. I prepared our home Wiki page and the templates for our personal pages. I prepared 1.1.1 and 1.1.2 requirements. I chose a design for our logo for the product using online AI tools. I made a research about well designed repositories and added App Ideas repo to our wiki page. I prepared a scenario and a mock up design in a team with 3 members. Our scenario was about cancelling an order. I participated in designing the diagrams of mockups using online tools and adding them to our repository. Afterwards, my part of designing the UML diagrams was designing the Class Diagram (again in a group of 3). For the diagram, We arranged a meeting and designed all classes and fields while discussing our ideas. After feedback, we also reviewed and made some changes in the class diagram. The later step in our project was preparing the “Project Plan”. I made the first draft of the plan in Projectlibre and added the listed task items from the excel document to the plan. Afterwards, Barış A. and I listed the tasks that start from Milestone 2 and end with Milestone 3 and added them into the project plan. I also wrote the executive summary part in the Milestone 1 report.

Mehmet Çelimli	I have attended every group meeting except the first one. I participated actively on these meetings. I took meeting notes for sixth meeting. As first assignment, I researched repositories and added TensorFlow repo to the wiki. I edited wiki page whenever I found time. I filled personal page in wiki. In requirements I formed the parts privacy, performance and security. I had contributed to the glossary. Afterwards, I had added the Admin Profiles section to requirements. As a communicator I attended the customer meeting and asked questions that need clarification. As for the mock-ups, I had participated in the scenario "cancel order". I created persona and story. Afterwards, as a subgroup we did the mockups. And as for the UML diagrams, I participated in class diagram. We arranged a meeting zoom and actively worked on the class diagram. After the feedback for the UML diagrams we updated the document and uploaded to wiki page. For the project plan, we planned milestone 2 with Onur. I revised the dates for the tasks in milestone 2. I filled my part in the RAM document. As for the milestone 1 report, I completed the part Evaluation of the Status of Deliverables.
Murat Ekici	I attended every group meeting. I was late for one because of a conflict. I shared my ideas on different subjects in the meeting actively, I prepared the agenda for one meeting. I took the notes for meeting 9, edited them to a certain format we decided on and uploaded them to our repository. I did a research on great repositories with good documentation. I added project Libra as an sample repository for our project research. As all of my teammates did, I completed my parts in the Documentation and Wiki page. I filled my personal page on the repository, I completed 3 of the requirements (10, 11 and 12 in the version 1) according to the meetings . Recently I revised all of them for consistency and grammar check (shall/should usage). I participated actively in preparing the mockups for mobile platform (commenting on a product that customer already bought) and revised it with my team few times for consistency with other mockups and requirements. I also participated actively in preparing the Class Diagrams, We did some research and few meetings to finish them. I actively shared my opinions on different parts. We gathered few more times and revised our diagrams according to the feedbacks. I think I have a good idea of how the codebase will look like in terms of classes and methods. 4 people including me fixed the project plan according to the feedback we had and uploaded the fixed version.
Onur Kılıçoğlu	I attended every group meeting at this moment. I took meeting notes in some meetings edited my notes and uploaded them. I also attended the customer meeting, took notes about the meeting, edited my notes, and uploaded them. I created the initial communication plan after the discussion with my team members in the first meeting. I contributed to the repository search task by adding my views about the spaCy module. For the requirements, I initially created some parts (Communication between vendors and admins, Notification System, and Order Page) of the requirements document and I revised the document multiple times to correct errors. I updated the glossary and updated the

	requirements about the Recommendation System and Payment Page and did some minor changes in others. For the mockups and the user scenarios, I've created the mockup templates of the common pages(main page, product page). For the design documents I initially prepared sequence diagrams for 4 different cases (Sign-In with Google, Deleting Item From Shopping List, Searching, and Returning Order). I reviewed the class diagram multiple times to suggest better functionalities to be used in sequence diagrams. I also checked the class diagram against the requirements to find the missing classes, fields, and functionalities in the class diagram and changed some of them. For the project plan, I prepared the implementation flow for future milestones and planned milestone 2 with Mehmet. I revised the categorization of the tasks in the plan for future milestones and created subcategories for implementation tasks. I and some members of the team did a meeting about the project plan to decide on the predecessors of the tasks in the plan. Also, I filled the part about myself in the RAM document.
Ömer Ak	I attended all group meetings. I designed the sidebar of our Wiki page. I added a repository called Manim to the favourite repositories page. I categorized the requirements and edited them according to these categories. Then, I created the table of contents for the requirements. After creating all the requirements page, I corrected some categorization mistakes and re-edited the page. For user scenarios, I wrote the first scenario, buying a product, and put the mock-ups to our Wiki. Then I created the acceptance criteria for that scenario. For design diagrams, I was a member of the subgroup responsible for sequence diagrams. I contributed to decide which diagrams can and should be created, and I created "Add a product to shopping cart", "Buy a product that is in the shopping cart", and "Direct messaging" sequence diagrams. While doing these, I found some deficiencies in class and use case diagrams, so my friends responsible for these diagrams corrected them. For the project plan, I organized the tasks in the fourth meeting and then organized the issues about "planning". I filled the column of responsibility assignment matrix that is under my name.
Ufuk Karagöz	I attended every group meeting except one of them. I created the Slack group and my wiki page. I added my favorite repository freeCodeCamp to the favorite repositories page. I prepared 3 of the requirements. I prepared a mock-up design in a team with 4 members. Our scenario was buying a product and I created the first part of the mock-up's diagram and loaded them to the wiki page. I took a meeting note in a meeting. I edited the logo and took a group picture and added those to the wiki home page. I checked the requirements which were my part. For the UML part, I created the guest user part. Because of the holidays, we have needed some online conference platforms and I created hangouts and discord groups. I reviewed and rescheduled the non-functional requirements. For the Project plan part, I moved the actions done in the fifth week's

	meeting notes and organized the tasks about the Requirements in the project plan document - Milestone 1. I filled the Ram table which related to me. I also checked the project plan's final version with Onur and Murat.
Yağız Can Çolak	I attended all group meetings so far. I added a repository called Atlas to the favorite repositories page. I have updated my personal wiki page. I helped creating the first draft of our project requirements. I have created the first version of the glossary. For user scenarios, I wrote the first scenario with my group, buying a product, and put the mock-ups to our Wiki. Then I created the acceptance criteria for that scenario with Ömer. I have reviewed the feedbacks for our requirements and mock-ups. For the diagrams, I worked on creating the use-case diagram with Asena and Ufuk. I have created the vendor and admin part of the use case diagram. After the feedbacks, I helped revising the use case diagram. For the project plan, I organized the tasks in the sixth meeting and then organized the issues about “scenarios and mock-ups”. I have filled the column of RAM that is under my name. For the Milestone 1, I evaluated the tools and processes used and filled my summary of work.

6. Communication Plan

6.1. Customer Communication Plan

Where	Who	Why	When
Piazza	Everybody	Regular Communication Channel	Always
Email	Communicator	Formal Communication Channel	Always

Weekly Meetings

The group communicator and the customer hold weekly meetings on the day they decide.

Piazza

It is the main communication channel with the customer. Customers can reach the team via the piazza website of CMPE352.

Email

Official email account for any contact: tursu.help@gmail.com

It will be used as official inquiries are needed.

6.2. Team Communication Plan

Where	Who	Why	When
BM Lounge/ Zoom	Everybody	Weekly meetings	Wednesdays 19.00-21.00
WhatsApp	Everybody	Emergency Communication Channel	Always
Slack	Everybody	Regular Communication Channel	Always
GitHub	Everybody	Public Discussion, Issues and Project Details	Always
Zoom	Whoever Needs	Small group meetings about the weekly tasks	When needed

Weekly Meetings

Weekly meetings will be held to decide on the main action items and to discuss the progress of the project.

Zoom

Zoom is used as the new platform to host out weekly meetings since the meetings cannot be done in person due to covid-19.

WhatsApp

Since everybody in the team uses WhatsApp, it will be used as the emergency communication channel.

Slack

Slack will be used as the regular communication channel to discuss issues and share ideas about the project.

GitHub

GitHub will be used as the main tool for tracking the project.

7. Requirements

7.1. Glossary

- **Banning a user**: Limiting the available actions of a user to the actions that can be taken by a guest.
- **Category**: A type that denotes a grouping of products based on common features of the products in that group.
- **Comment**: A text about a product written by a customer who purchased the product to explain the interaction between the product and the customer.
- **(Product) Description**: A text written by a vendor, describing a product.
- **Location**: The physical address of a vendor.
- **Order**: A set of products purchased by a customer which will be delivered to the customer.
    - **Delivering Stage**: After processing stage product enters delivering stage in which the product is on the move to the customer and during this process, customers can keep track of the cargo.
    - **Processing Stage**: An ordered product comes to the processing stage and stays there before the vendor enters the unique cargo id.
- **Payment Failed**: The end state of payment process where the transaction of money via provided payment information cannot be completed because of a problem.
- **Payment Successful**: The end state of payment process where the transaction of money via provided payment information is completed with no problems.
- **Product**: An item to be sold on the platform by a vendor.
    - **Rating**: An integer score from 0 to 5 which denotes the measurement of satisfaction about the product where higher scores shows a better level of satisfaction.
    - **Rating a product**: Providing a rating for a product.
    - **Adding a product**: An action taken by the vendor to display the item to be sold on the platform by providing the necessary information to the system.
- **Profile Page**: A page displaying some(as much as allowed) information about a registered user.
- **Shipping Information**: The address where the purchased products will be delivered to.
- **Shopping Cart**: A set of products selected by a customer to be purchased.
- **Shopping List / List**: A set of products which contains the products that a customer is interested in but not willing to buy soon.
- **Stock**: Information about the available quantity of a product.
- **Tag**: An entity denoting a feature or set of features about a product with a corresponding value of the entity.
- **User**: A person using the e-commerce platform on any device possible.
    - **Guest**: A non-logged-in user that can search, display and read the comments of products.
    - **Registered User**: A person who completed registration process by providing necessary information including a unique email and a password to the system

and who is able to login with the unique email and password provided beforehand.
    - **Admin**: A user type that has special privileges to manage and organize the platform.
    - **Customer**: A logged-in user profile with privileges of buying products, tracking orders, creating lists, etc.
    - **Vendor**: A logged-in user profile that sells products using the platform.
- **Verified Product**: A product endorsed by admins.
- **Verified Vendor**: A vendor endorsed by admins.

7.2. Functional Requirements

7.2.1. User Requirements

1.1.1. Sign Up

- **1.1.1.1.** Users shall register to the system by providing an email and a username via creating a password.
- **1.1.1.2.** Users should register to the system using their Google account.
- **1.1.1.3.** Users shall provide information about whether they are a vendor or a customer while making registration.
- **1.1.1.4.** Users shall provide a unique email address to register.
- **1.1.1.5.** A verification email shall be sent to the provided email address to complete the registration for both user types.
- **1.1.1.6.** Vendor users additionally shall provide:
    - **1.1.1.6.1.** their IBAN to the system.
    - **1.1.1.6.2.** the location of their store through Google Maps in registration.

1.1.2. Sign In

- **1.1.2.1.** Already registered users shall be able to sign in with their email and password.
- **1.1.2.2.** Already registered users should be able to sign in via Google account.
- **1.1.2.3.** Users should be able to reset their passwords in case they forget it.
- **1.1.2.3.** The resetting process should be started by sending an email to the address provided.

1.1.3. Guest Users

- **1.1.3.1.** Guests shall be able to search for products
- **1.1.3.2.** Guests shall be able to view the price of a product, but shall not be able to add them to their lists or carts.
- **1.1.3.3.** Guests shall be able to read user comments about products.
- **1.1.3.4.** Guests shall be able to discover categories.

1.1.4. User Profiles

- **1.1.4.1.** Users shall provide a set of information according to account type.
- **1.1.4.2.** Users should be able to edit their information using authentication.
- **1.1.4.3.** Using profile pages, one shall be able to see the corresponding user's comments.
- **1.1.4.4.** In vendor user profiles, one shall be able to see products of that vendor.
- **1.1.4.5.** Each vendor shall have a rating voted by customers.
- **1.1.4.6.** Customers shall have a shopping cart where they can add items they want to buy.
- **1.1.4.7.** Vendors shall be able to see the products that they put on the website.
- **1.1.4.8.** All users shall be able to discover catagories.

1.1.5. Admin Profiles

- **1.1.5.1.** Admin should verify vendor, only verified vendors are able to conclude sales.
- **1.1.5.2.** Admin should verify products though non-verified products are open to sales.
- **1.1.5.3.** Admin shall be able to ban any registered user from the platform.
- **1.1.5.4.** Admin shall be able to manage tags on a product.
- **1.1.5.5.** Admin shall be able to delete a comment
- **1.1.5.6.** Admin shall be able to remove a product.

1.1.6. Commenting on Products

- **1.1.6.1.** Customers shall be able to comment on the products they have purchased.
- **1.1.6.2.** Customers shall be able to read user comments about products.
- **1.1.6.3.** Customers should be able to delete/edit an old comment they have committed.

1.1.7. Rating Products

- **1.1.7.1.** Customers shall be able to review their products after a transaction has been completed.
- **1.1.7.2.** Customers shall be able to rate a product with stars.
- **1.1.7.3.** Customers shall be able to see these rates when making a purchase decision.

1.1.8. Shopping Cart

- **1.1.8.1** Customers shall be able to add products to their shopping carts to order.
- **1.1.8.2** Customers shall be able to edit their shopping carts.
- **1.1.8.3** Customers shall be able to view their shopping carts.
- **1.1.8.4** Customers shall be able to add and remove products from their shopping carts.

1.1.9. List of Favourite Products

- **1.1.9.1** Customers shall be able to create a list of products they would like to keep an eye on.
- **1.1.9.2** Lists shall be private for each user.
- **1.1.9.3** Customers shall be able to create their lists.
- **1.1.9.4** Customers shall be able to delete their lists.
- **1.1.9.5** Customers shall be able to name their lists.
- **1.1.9.6** Customers shall be able to edit their lists.

1.1.10. Adding a Product

- **1.1.10.1.** Only vendors shall add a product.
- **1.1.10.2.** When adding a product vendor shall add the product with according categories which will be checked by the admin as well.
- **1.1.10.3.** The added product shall have price and payment options.
- **1.1.10.4.** The added product shall have its description and details.
- **1.1.10.5.** Vendors shall specify the stock information of the added product.

1.1.11 Communication Between Vendors and Admins

- **1.1.11.1.** Vendors shall be able to communicate with admins about a certain product.
- **1.1.11.2.** Vendors shall be able to communicate with admins about a certain order.

1.1.12. Direct Messaging Between Customers and Vendors

- **1.1.12.1.** Customers shall be able to message directly to vendors about their orders.

7.2.2. System Requirements

1.2.1. Search

- **1.2.1.1.** The system shall support search with category of a product, vendor name or brand name.
- **1.2.1.2.** The system shall provide searching for products, categories, and vendors.
- **1.2.1.3.** The system shall support a search functionality that considers all the information available in product pages and vendor profiles.
- **1.2.2.4.** The system shall support semantic search based on the context of information, variation of words, synonyms and concept matching.
- **1.2.2.5.** The system shall sort products in search results by the rating of products.(see 1.5)

1.2.2. Filtering

- **1.2.2.1.** The system shall provide filtering for the searched products based on:
    - **1.2.2.1.1.** Average customer review of the product
    - **1.2.2.1.2.** Price range of the product
    - **1.2.2.1.3.** Vendor of the product
    - **1.2.2.1.4.** Brand of the product

1.2.3. Sorting

- **1.2.3.1.** The system shall provide sorting the searched products based on:
    - **1.2.3.1.1.** Bestsellers
    - **1.2.3.1.2.** Newest arrivals
    - **1.2.3.1.3.** Prices
    - **1.2.3.1.4.** Average customer reviews (Rating)
    - **1.2.3.1.5.** Number of comments

1.2.4. Categories

- **1.2.4.1.** The system shall put products with similar features to the same category.
- **1.2.4.2.** The admin users shall be able to manage (add/delete/update) product categories and subcategories.
- **1.2.4.3.** The added product shall have its category.
- **1.2.4.4.** The system shall support searching for products categorically.

1.2.5. Distinguishability of Products

- **1.2.5.1.** Two products are considered different if any of the following is different:
    - **1.2.5.1.1.** Names of the products
    - **1.2.5.1.2.** Vendors of the products
    - **1.2.5.1.3.** Categories of the products
- **1.2.5.2.** Each product that is considered different by the criteria mentioned in requirement 1.2.5.1 shall be given a unique ID by the system.

1.2.6. E-Mail Verification

- **1.2.6.1.** For registration, an e-mail shall be valid and unique for each user.
- **1.2.6.2.** For e-mail verification, a link shall be sent to the users' e-mail account. Users shall be able to validate their e-mail addresses by visiting the link.

1.2.7. Order Page

- **1.2.7.1** The system shall enable customers and vendors to see the status of their active (currently not delivered) and delivered orders.
- **1.2.7.2** Status of the orders shall include sufficient information such as but not limited to order date, product price, cargo information and delivery date.
- **1.2.7.3** The system shall enable customers to cancel their active orders.
- **1.2.7.4** The system shall enable vendors to cancel their orders during the processing stage by providing the reason for cancellation.
- **1.2.7.5** The system shall enable customers to return their delivered orders.
- **1.2.7.6** The system should enable customers to see the total amount of points they have achieved on the platform by placing orders.

1.2.8. Notification System

- **1.2.8.1.** The system shall enable customers and vendors to use the notification system.
- **1.2.8.2.** The system shall send a notification to the vendor when the vendor sold a product.
- **1.2.8.3.** The system shall enable customers to get notifications for price changes.
- **1.2.8.4.** The system shall enable customers to set an alarm on the price of a certain product to be notified when the price of the product goes below that price.
- **1.2.8.5.** The system shall enable customers to get notifications when a vendor cancels an order.

1.2.9. Recommendation System

- **1.2.9.1.** The system shall provide product recommendations to users.
- **1.2.9.2.** Recommendation system shall take information such as but not limited to the search history, the products that are viewed and the products that are bought by the users into consideration for recommendations.

1.2.10. Payment Page

- **1.2.10.1.** The system shall enable customer users to complete the purchases of the products in their shopping carts after they fill their payment information.
- **1.2.10.2.** The system shall take payment information of the customer to process the payment.
    - **1.2.10.2.1.** The system should be able to use the payment information of the customer stored in the system if the customer provided any payment information to be stored beforehand.
- **1.2.10.3.** The system shall take shipping information of the customer.
    - **1.2.10.3.1.** The system should be able to use the shipping information of the customer stored in the system if the customer provided any shipping information to be stored beforehand.

- **1.2.10.4.** The system shall provide links to the Terms and Conditions and Privacy Policy documents.
- **1.2.10.5.** The system shall ask customer to approve the “Terms and Conditions“ and the Privacy Policy.
- **1.2.10.6.** The system shall ask customer to confirm the order and proceed with the payment.
- **1.2.10.7.** The system shall show the status (payment successful, payment failed) of the payment to the customer.

2.1. Availability

- **2.1.1.** The application shall be available as a native web site in browsers.
- **2.1.2.** Users shall be able to reach a product by URL.
- **2.1.3.** The application shall be available as a native mobile application on Android platforms.
- **2.1.4.** The application shall be deployable on a remote and manually configurable server.
- **2.1.5.** The application shall be dockerized, to make the development and deployment process easier.
- **2.1.6.** The application shall support the Turkish and English characters.

2.2. Security

- **2.2.1.** The system shall use the HTTPS protocol to transfer encrypted data over the web.
- **2.2.2.** To ensure that sensitive information shall be unreadable to everyone but the destination server, the system shall use SSL Certificates.
- **2.2.3.** To quickly identify potential hacking activity the website shall be monitored periodically.
- **2.2.4.** The system shall be secure against SQL injection and cross-site scripting.
- **2.2.5.** The system shall regularly scan for malware.

2.3. Performance

- **2.3.1.** The system shall respond to up to 1000 users without a crash.
- **2.3.2.** The system shall respond to each user in less than 2 seconds.

2.4. Privacy

- **2.4.1.** The system shall follow the W3C Activity Stream Protocol.
- **2.4.2.** The system shall follow the standards of Wide Web Consortium.
- **2.4.3.** Personal data shall be processed in a manner that ensures GDPR and KVKK requirements.

- **2.4.4.** The system shall seek, consent to use personal data in research.

8. Scenarios and Mock-ups

8.1. Scenario 1 – Buying a Product

Persona

- 22 years old
- Computer Engineering student
- Intelligent and funny
- Agile
- Loves playing football

Story

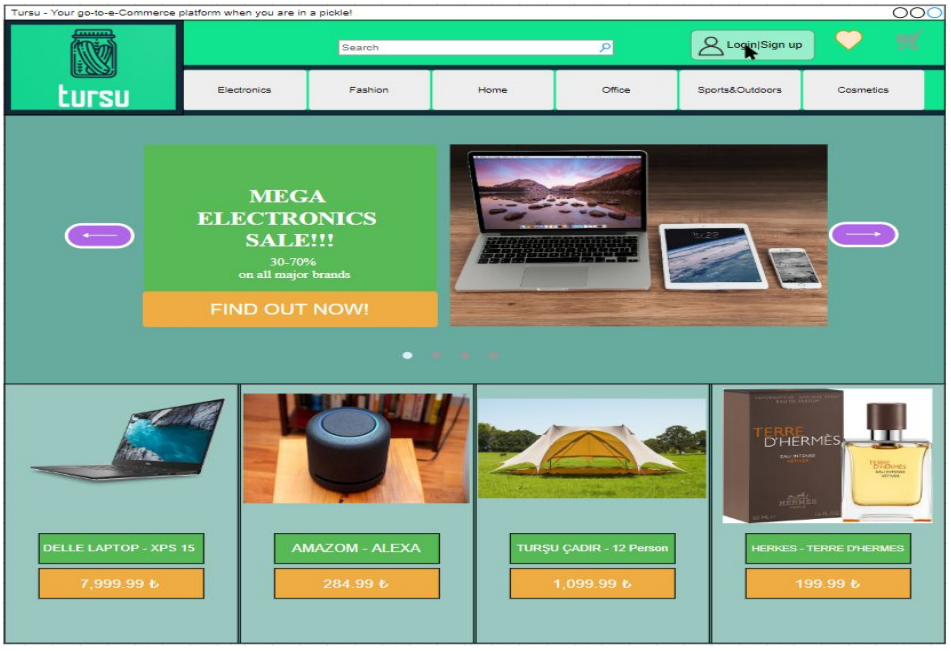
Later this week Barış has a football match with his engineering student friends. Since he plays so much, his shoes had worn out and he needs a new pair now. So, by a recommendation of his friend, he decided to try tursu.com and search for a new pair of shoes there.

Preconditions

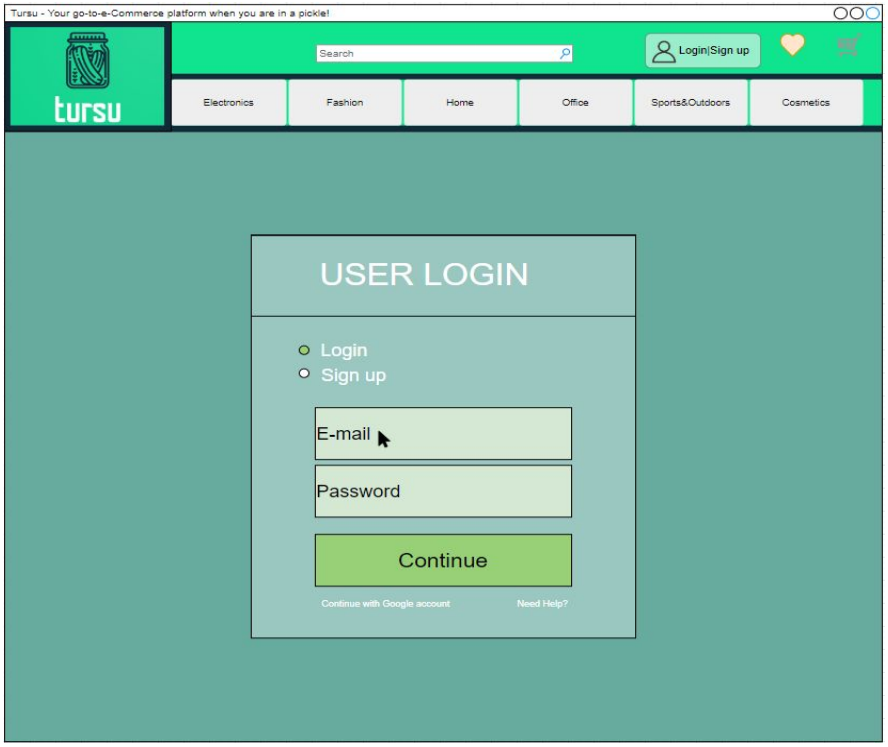
- Barış must already have signed up to the platform.
- His user type must be customer.

Actions

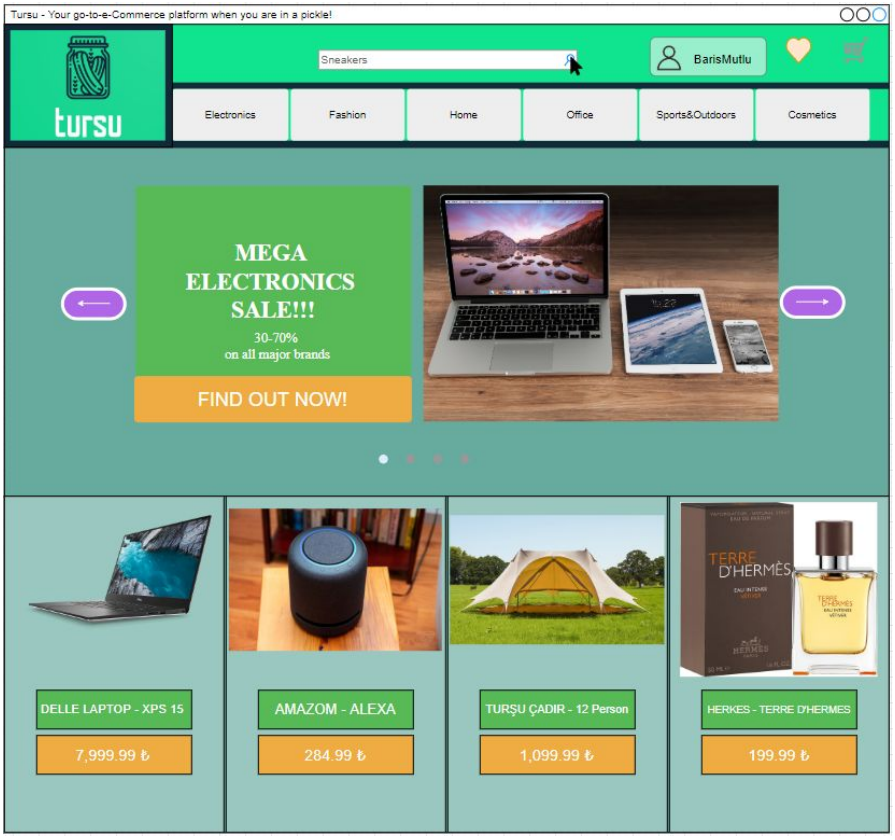
1. Barış visits tursu.com and clicks the "login" button.



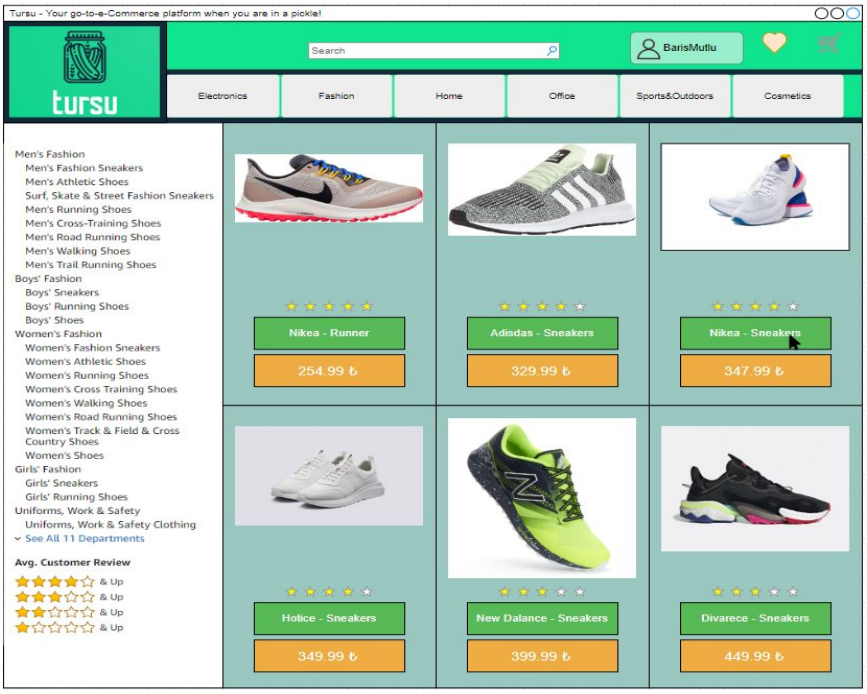
2. He encounters the login page and fills in his user information.



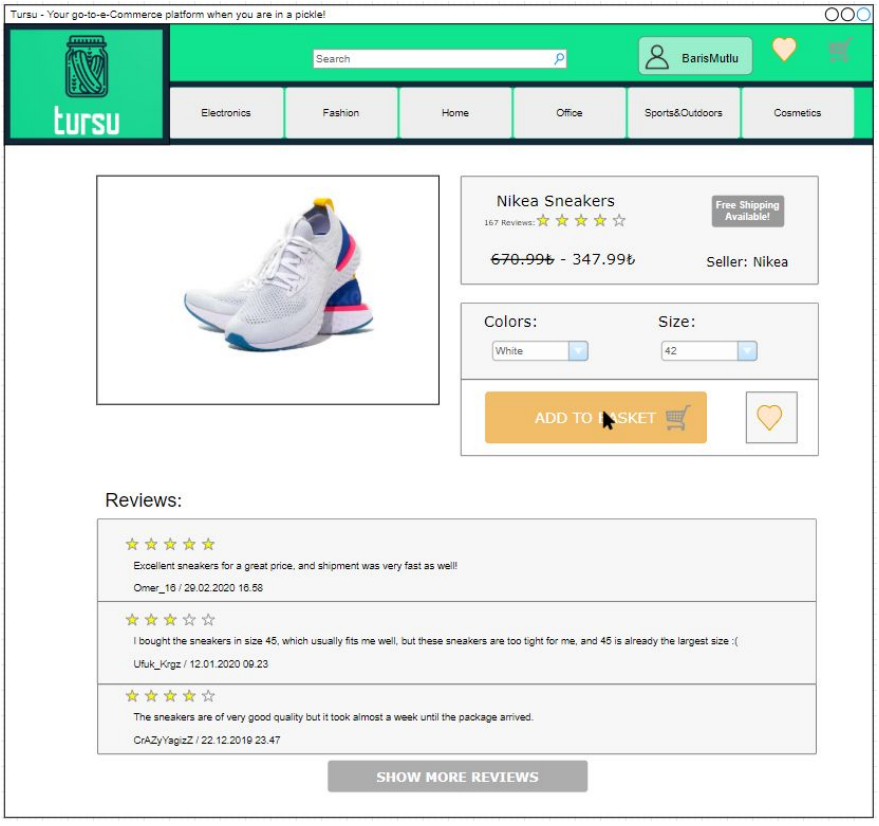
3. He is back in the home page and searches for a pair of sneakers.



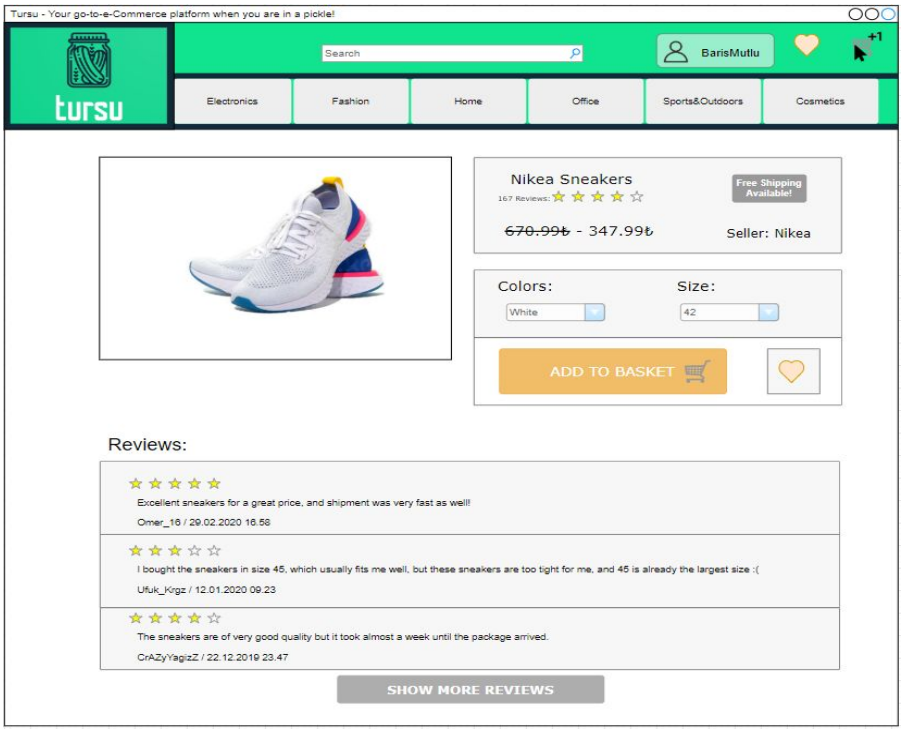
4. He sees several sneakers and decides to click on one based on its rating, its price and his liking.



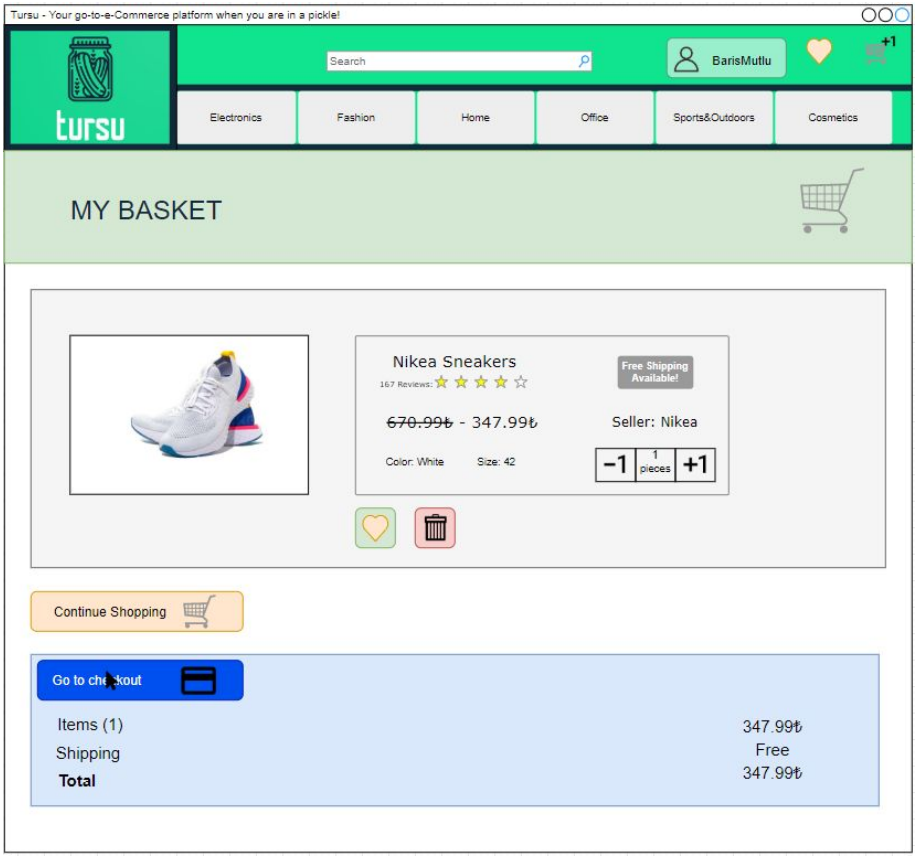
5. He reads the comments of the product and sees his shoe-size is in the stock. He decides to buy the sneakers and adds the sneakers to his basket.



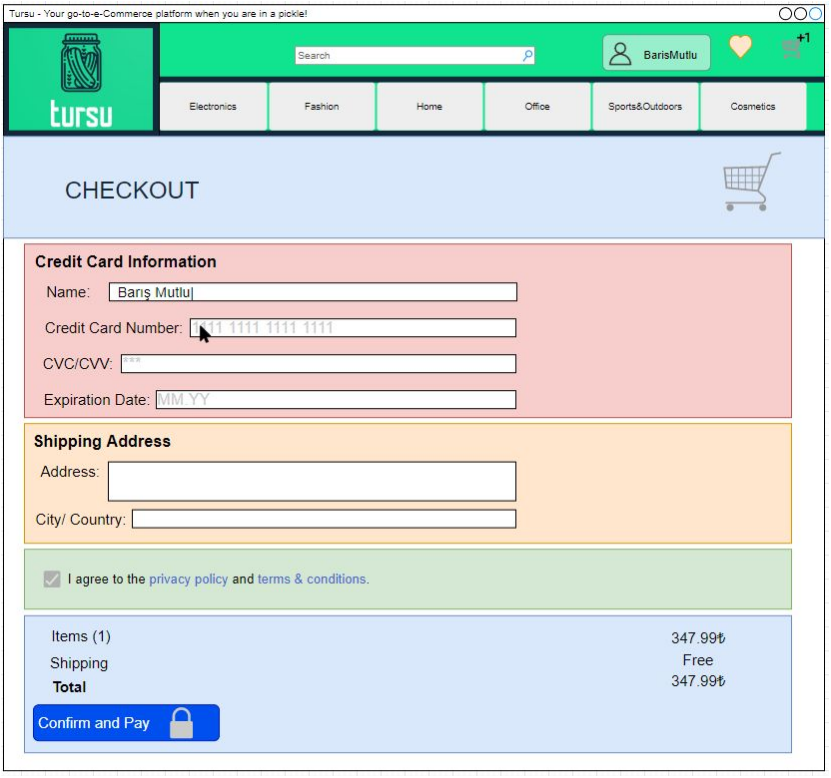
6. He clicks the basket button to complete his purchase.



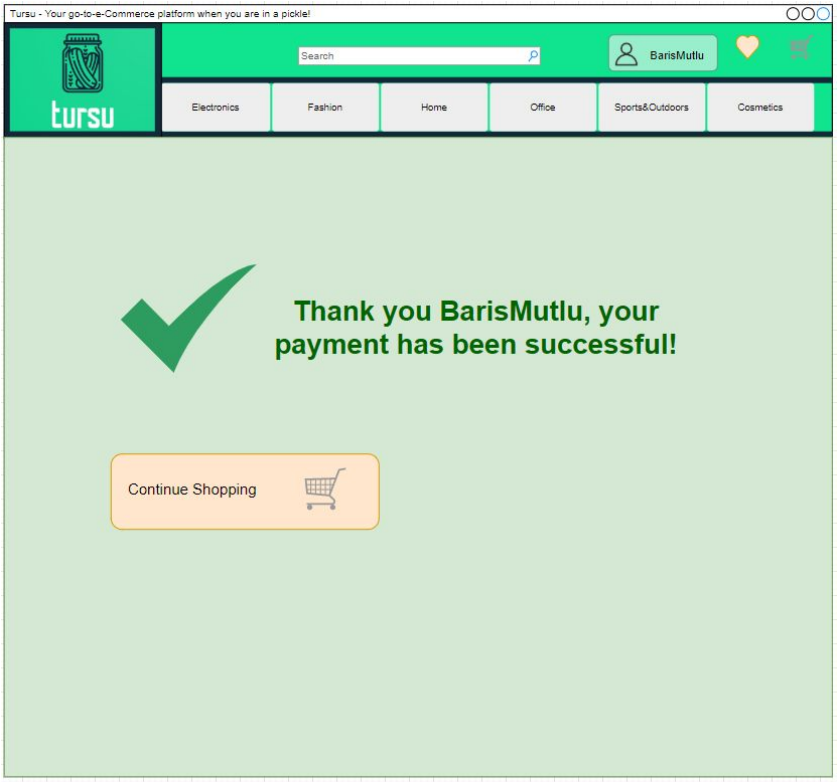
7. He clicks the "Go to checkout" button.



8. He encounters the payment page and fills in his credit-card information and shipping address. He also has to agree to the privacy policy (GDPR and KVKK) and the terms & conditions, which he can read by clicking on the links.



9. He sees the "Payment Successful" page.



Barış is happy with his new shoes.

Acceptance Criteria

1. Customer user shall be able to login to the system entering their necessary information. **(1.1.2.)**

2. Customers shall be able to search products using search bar. **(1.2.1.)**

3. The system should support semantic search. **(1.2.13.)**

4. Customers shall be able to see these rates when making a purchase decision. **(1.2.5.3.)**

5. Customers shall be able to read user comments about products. **(1.2.4.2.)**

6. Customers shall be able to add products to their shopping carts to order. **(1.2.7.1.)**

7. Customer users shall be able to complete the purchases of the products in their shopping carts after they fill their payment information. **(1.2.16.)**

8.2. Scenario 2 – Cancelling an Order

Persona

- Owner of an anonymous textile company
- 65 years old
- Housewife
- Energetic
- Ambitious
- Wants to keep up to date
- Skilled in needlework
- Wants to use her free time and make money

Story

All Afife Şensoy's children left their village home to work in İstanbul. Afife feels bored. She is an energetic person and looking for something to keep her busy and make her feel useful. On Bayram holiday one of her grandsons gifted her, his old computer to able to communicate with each other via skype. With her grandson's help and ambition, she learns the basics of computer in no time. She sews her grandson a scarf as a thank you gift. Grandson loves the scarf and encourages her to start a business. The two build an anonymous textile company. Grandson advises our easy-to-use website. Afife looks forward to this opportunity to evaluate her time and earn some money in the meanwhile.

Preconditions

- She has already built her company for first-hand products.
- She signed up via her Google account.
- She already defined her account as a vendor provide her IBAN and specified the location via Google Maps in registration.
- She has already sold a couple of products.
- She has some products added and ready to be sold.

Acceptance Criteria

1. Users should provide information about whether they are a vendor or a customer. (1.1.1.3.)

2. Vendor users also should provide their IBAN number to the system. (1.1.1.4.)

3. Vendor users also are expected to specify the location of their store through Google Maps in registration. (1.1.1.5.)

4. A verification email should be sent to the provided email address to complete the registration. (1.1.1.6.)

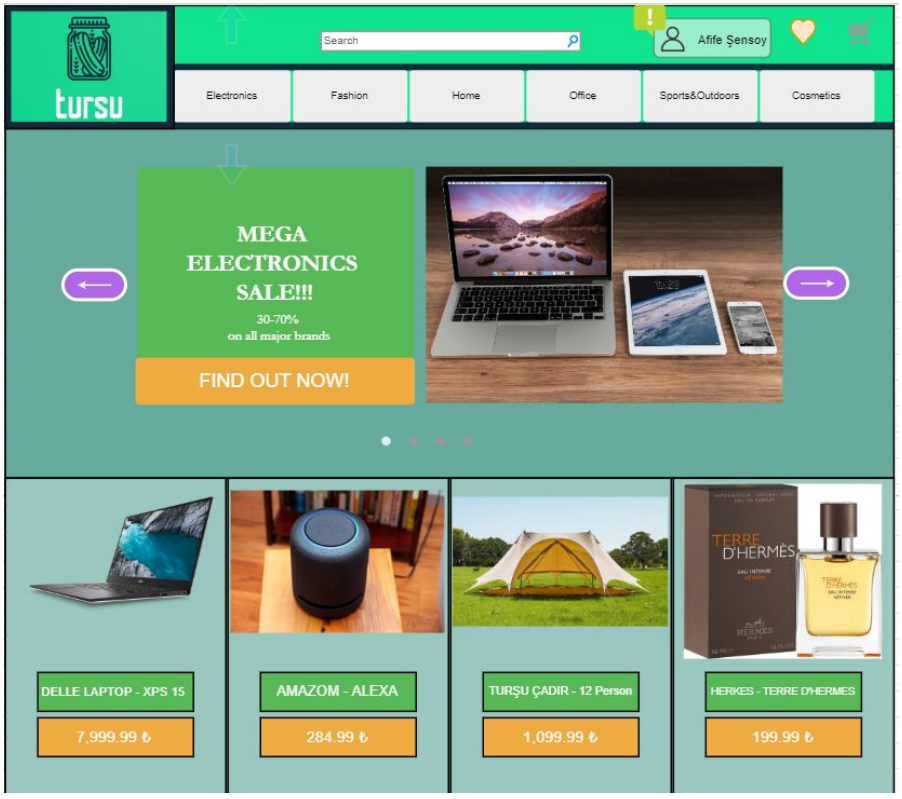
5. Vendors should be able to communicate with admins about a certain order. (1.1.5.2.)

6. Vendors should be able to cancel their orders during the processing stage. (1.2.12.6)

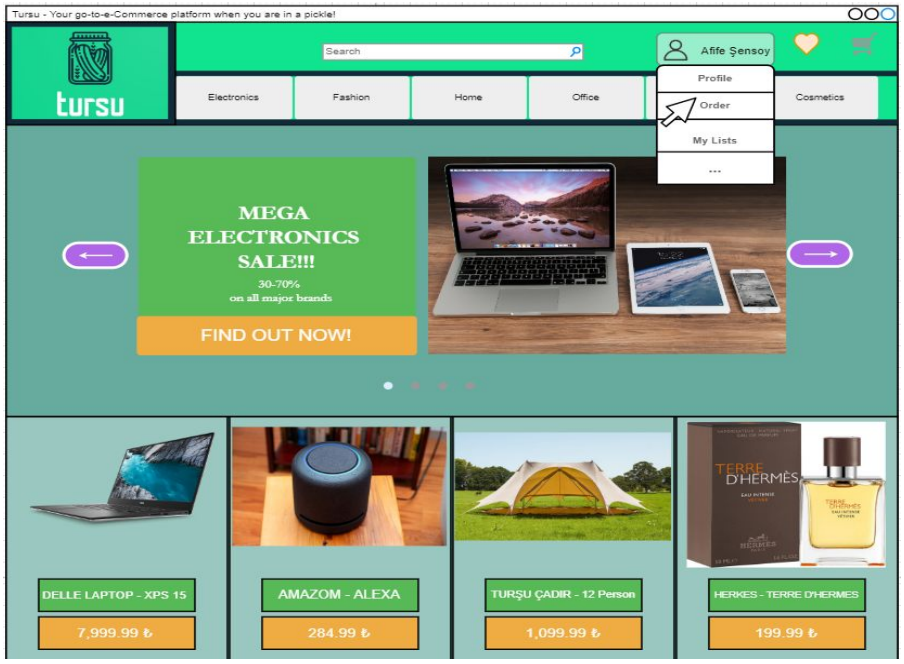
7. Sellers get a notification when they sold a product. (1.2.14.1.)

Actions

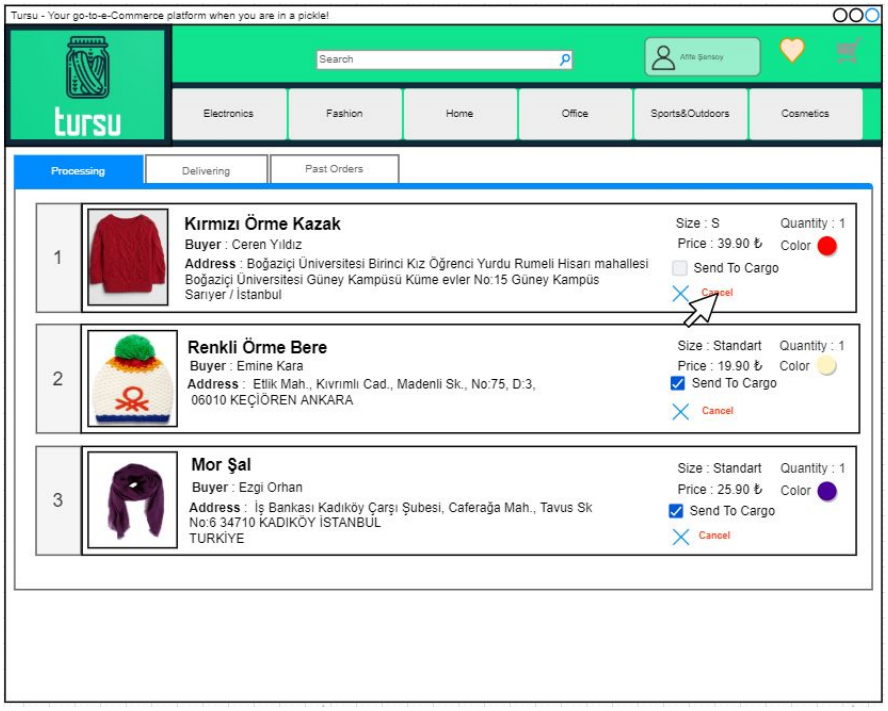
1. Afife realizes that she has a notification about her products.



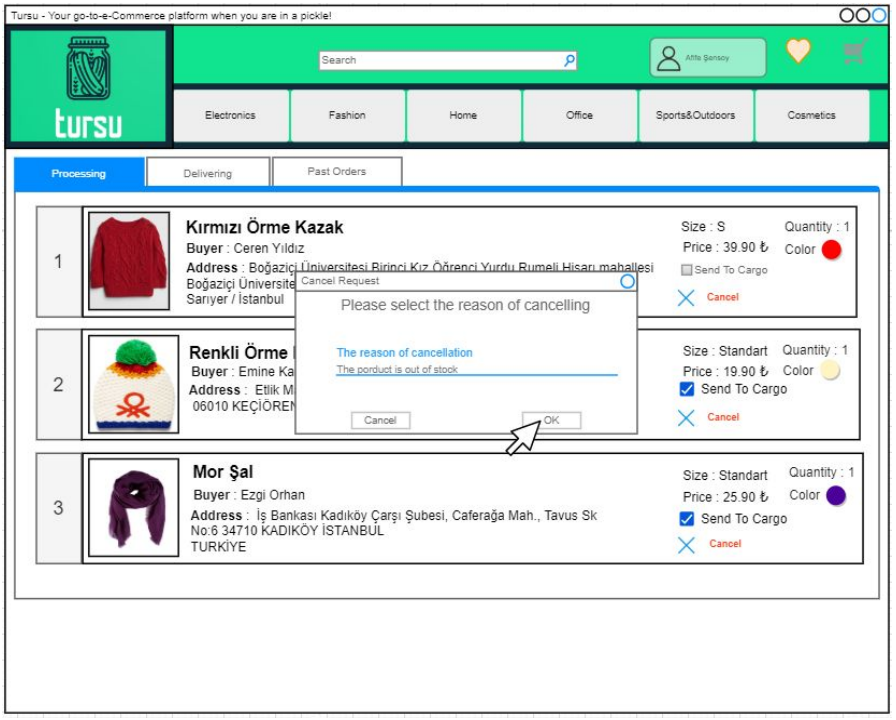
2. Afife clicks to checkout her orders.



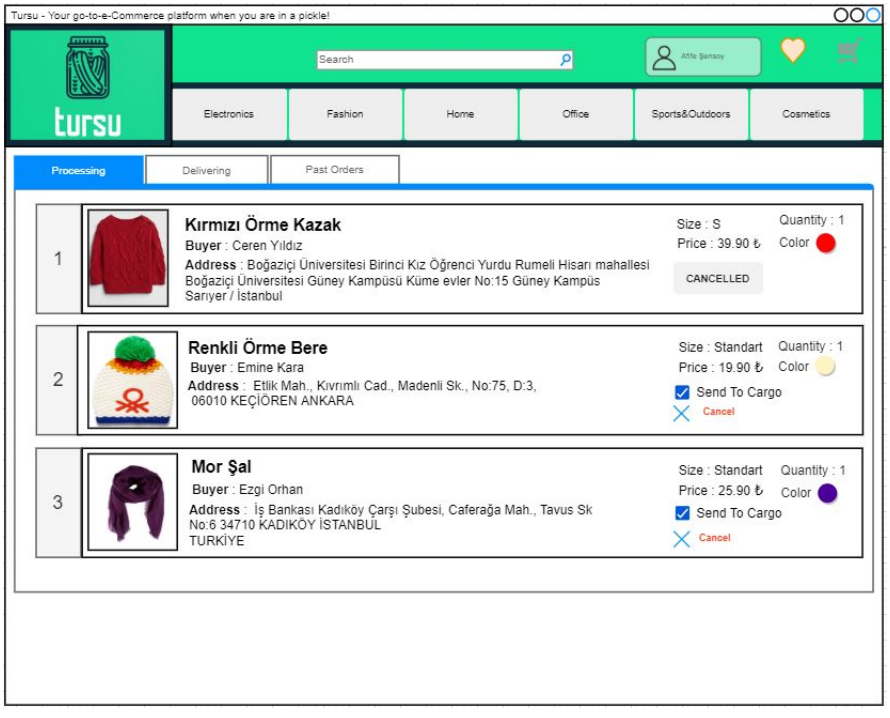
3. She realizes that the ordered product is not in the stock right now. And she decided to cancel the order by clicking the cancel button.



4. After she pushed the button a pop-up screen shows up. She writes the reason of the cancellation and clicks "Ok".



5. Finally, she sees that the order is cancelled.



8.3. Make a Comment About a Delivered Product

Persona

- 45 years old
- Banker
- Bored after many years of work
- Expects peace in life
- Recently divorced
- Likes home cooking
- Fast adapter to technology

Story

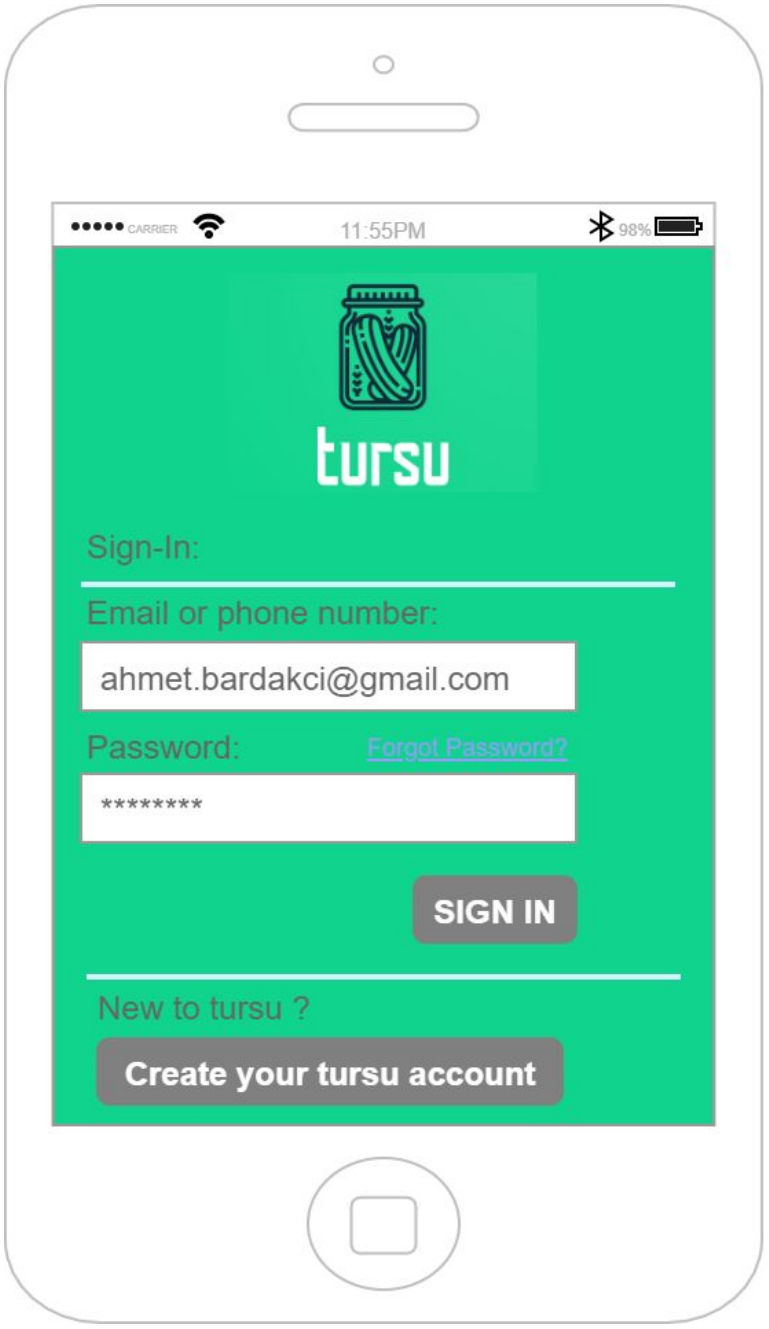
Ahmet is a banker who belongs to upper middle class. He enjoys homemade foods a lot. He has always wanted to live in the countryside, but because of his profession he got stuck in Levent/Istanbul. He likes to try different flavours. And, one day, from one of his friends he heard that some website is selling homemade pickles and he wanted to give it a chance. So, he bought 3 cans of Pickle and he liked them a lot. Now, he wants to leave some feedback to the product to share his experience.

Preconditions

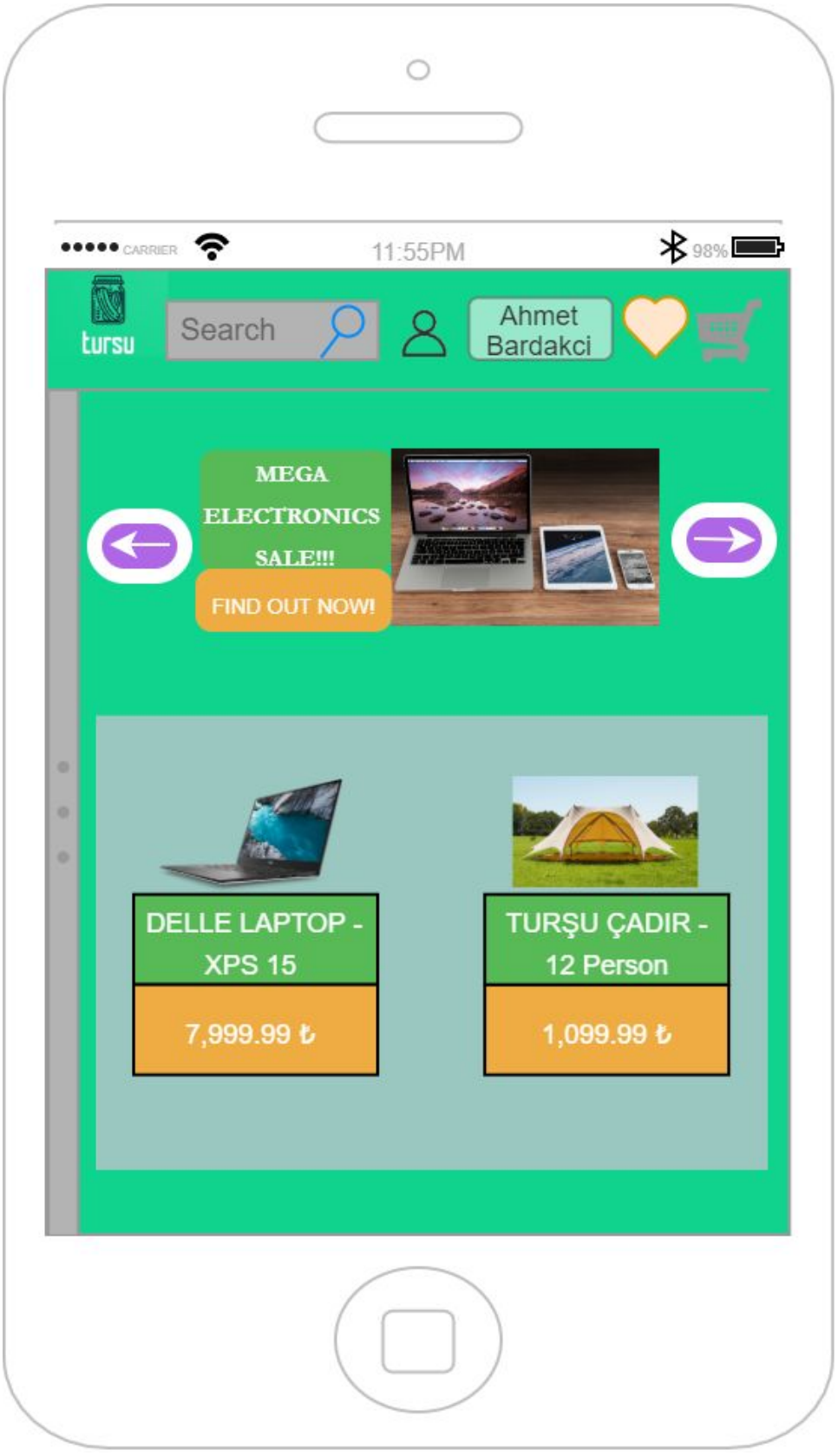
- Ahmet has already downloaded the app to his phone.
- Ahmet has already signed up.
- Ahmet has already bought the product.
- Ahmet has already got the product and tasted it.

Actions

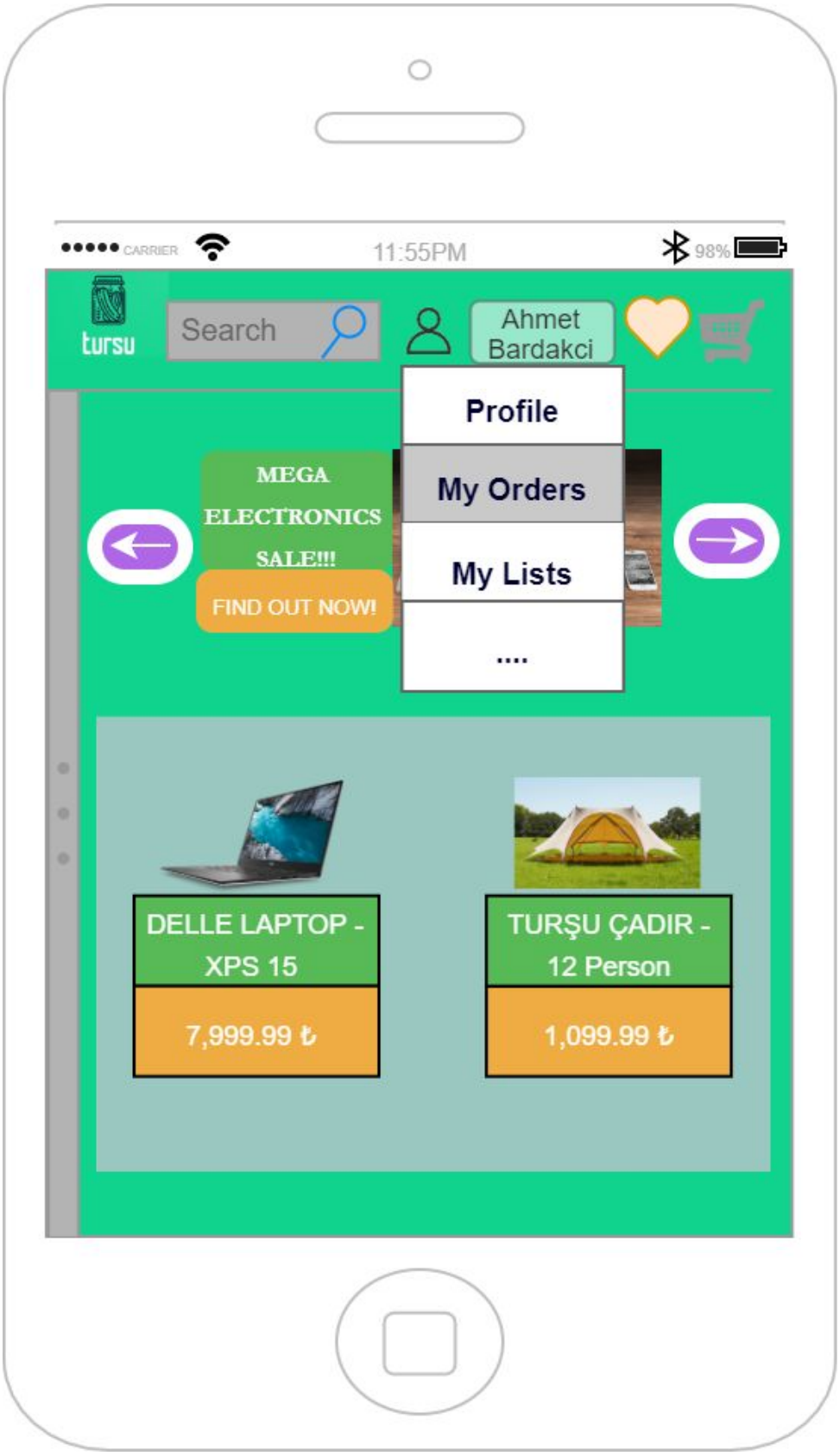
1. Ahmet opens the application and types his credentials to login.


CARRIER
11:55PM
98%
tursu
Sign-In:
Email or phone number:
ahmet.bardakci@gmail.com
Password:
Forgot Password?
****
SIGN IN
New to tursu ?
Create your tursu account

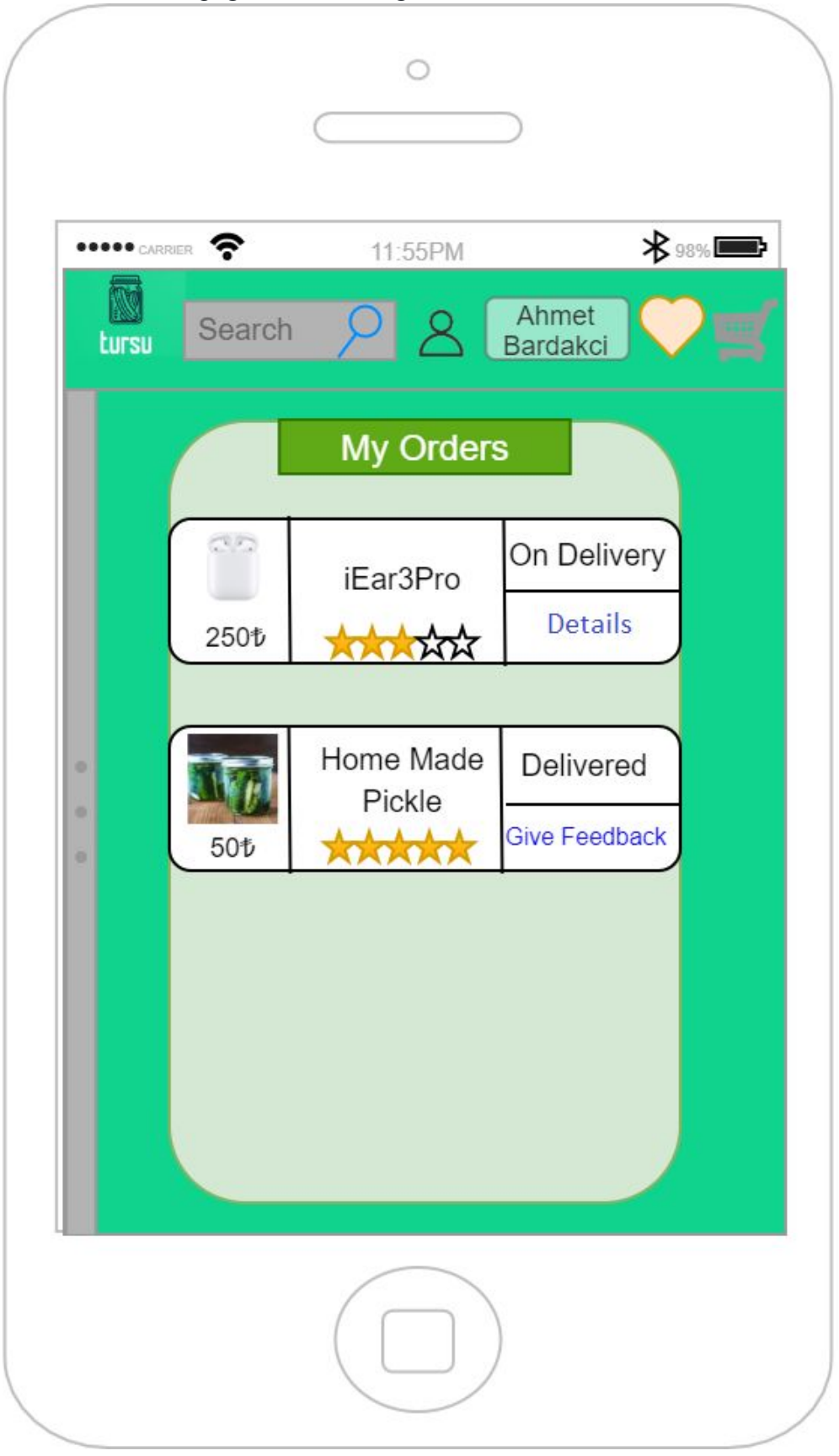
2. He is now in the main page. He opens his user bar by clicking the menu icon.



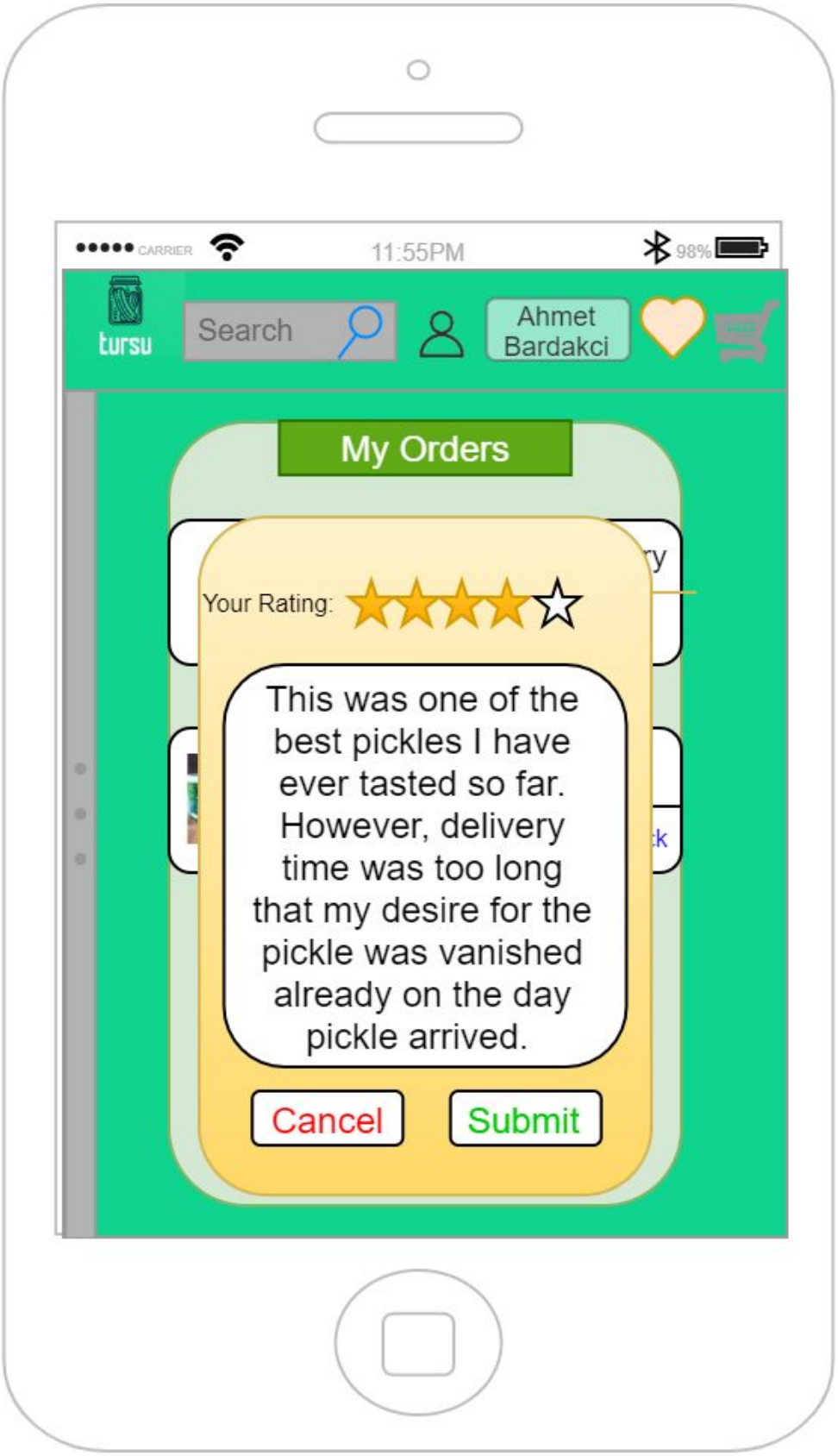
3. In the pop-up bar, he clicks to my orders section.



4. In the current page, he clicks to give feedback button of his Pickle orde



5. Feedback page pops-up. He fills the form and rates the product (4/5). Finally, he submits it.



Acceptance Criteria

1. Customer user shall be able to login to the system entering their necessary information. **(1.1.2.)**

2. Customers shall see the status of their active (currently not delivered) and delivered orders. **(1.2.12.1)**

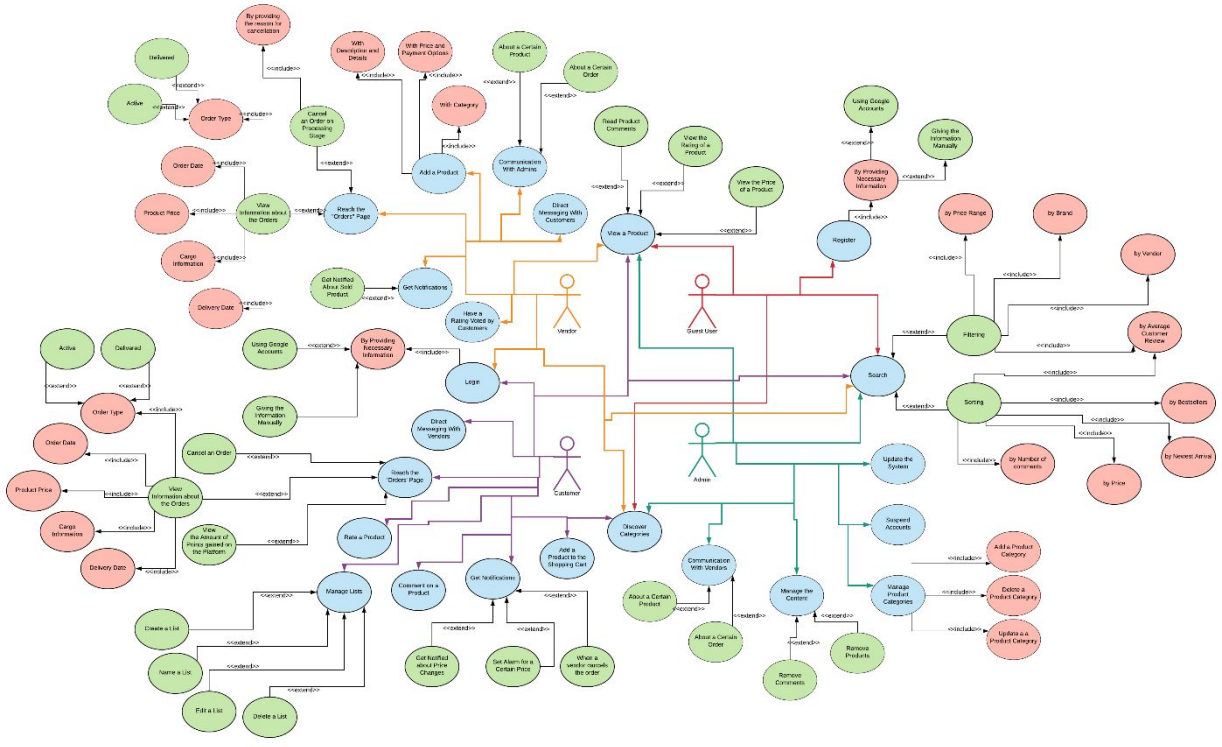
3. Customers shall be able to review their products after a transaction has been completed. **(1.2.5.1.)**

4. Customers shall be able to comment on products they have purchased. **(1.2.4.1.)**

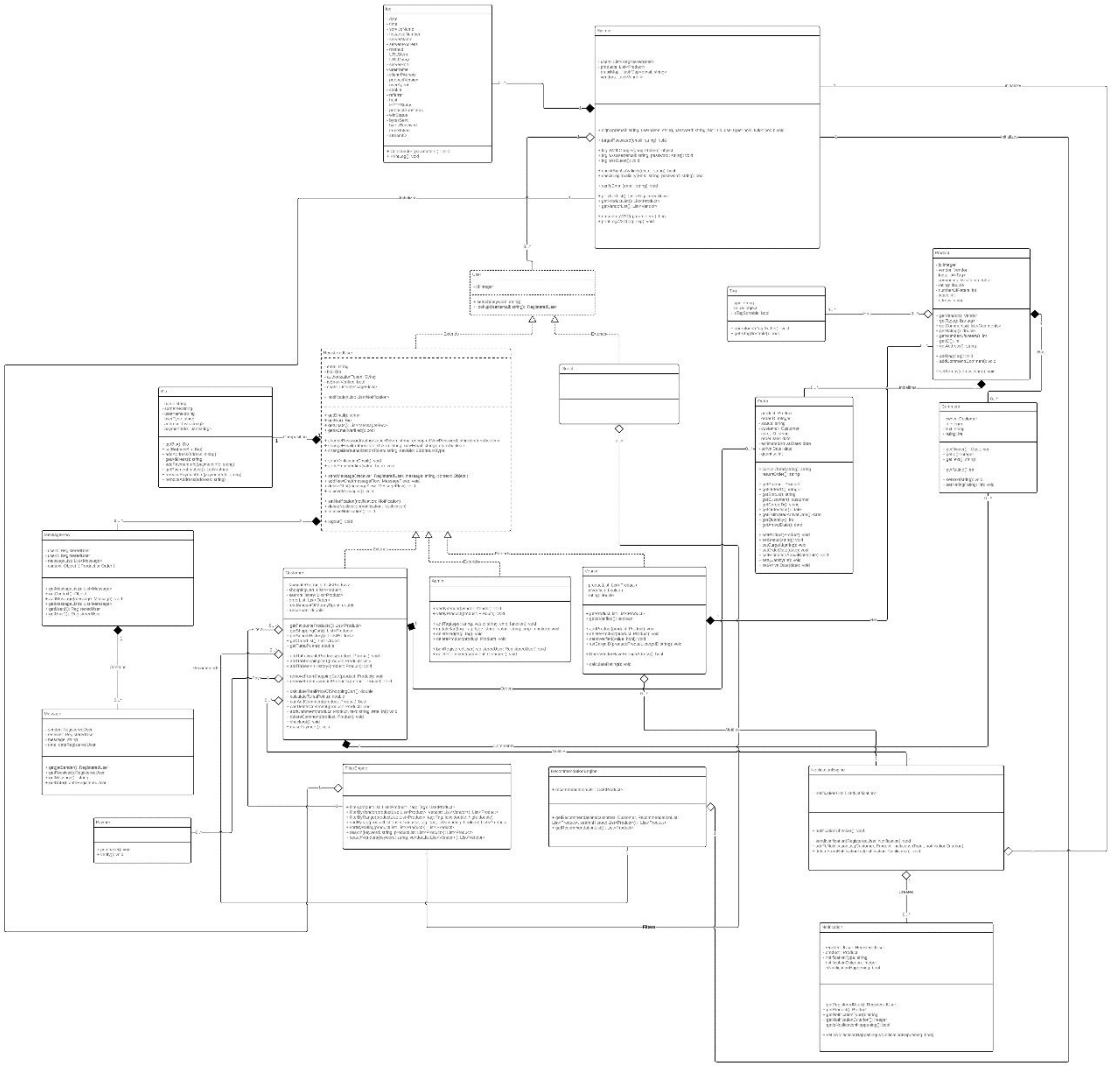
5. Customers shall be able to rate a product with a number of stars. **(1.2.5.2.)**

9. UML Software Designs

9.1. Use Case Diagram

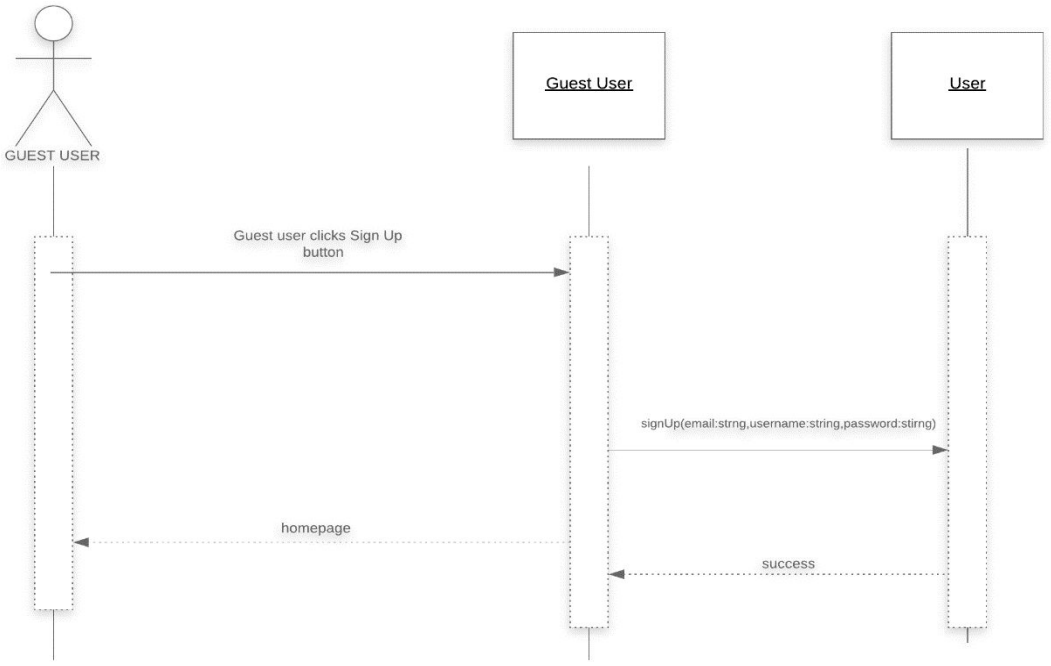


9.2. Class Diagram

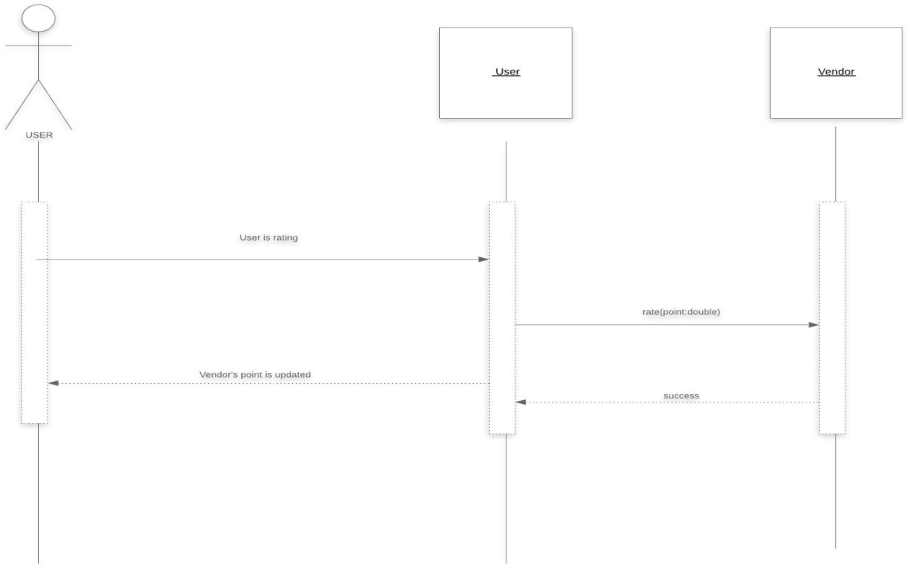


9.3. Sequence Diagrams

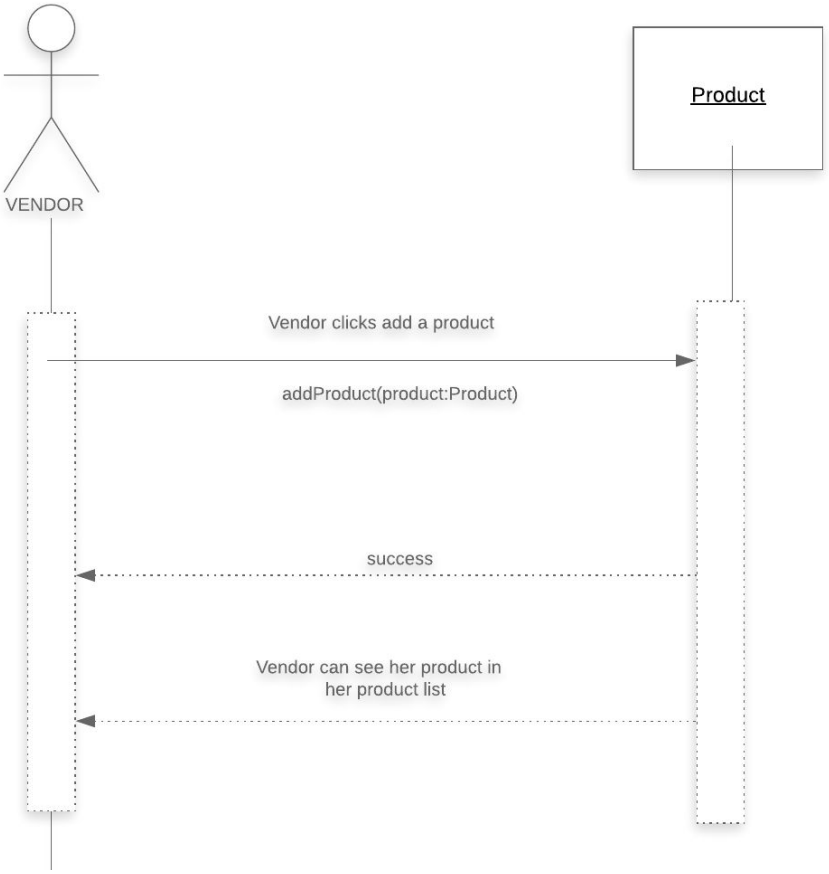
- **Signup**



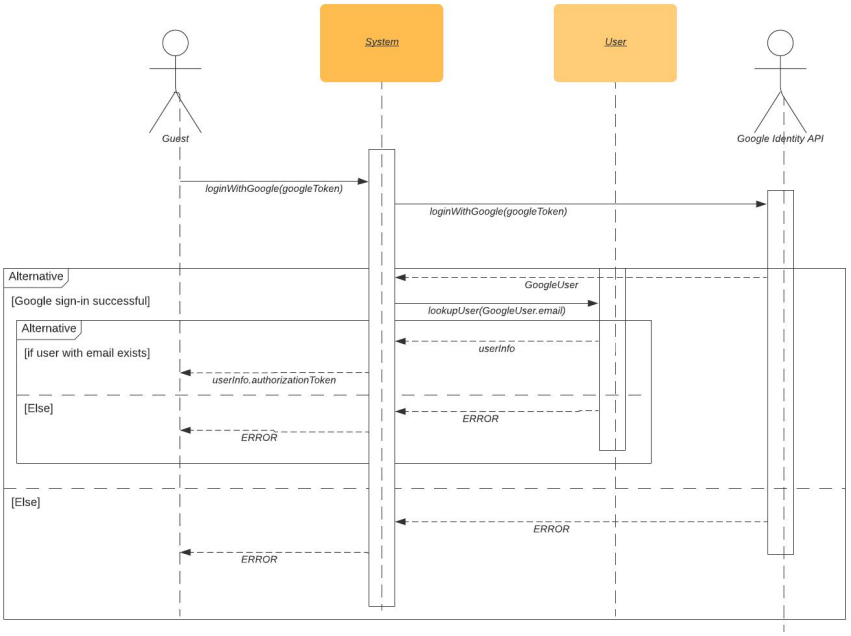
- **Rate a Vendor**



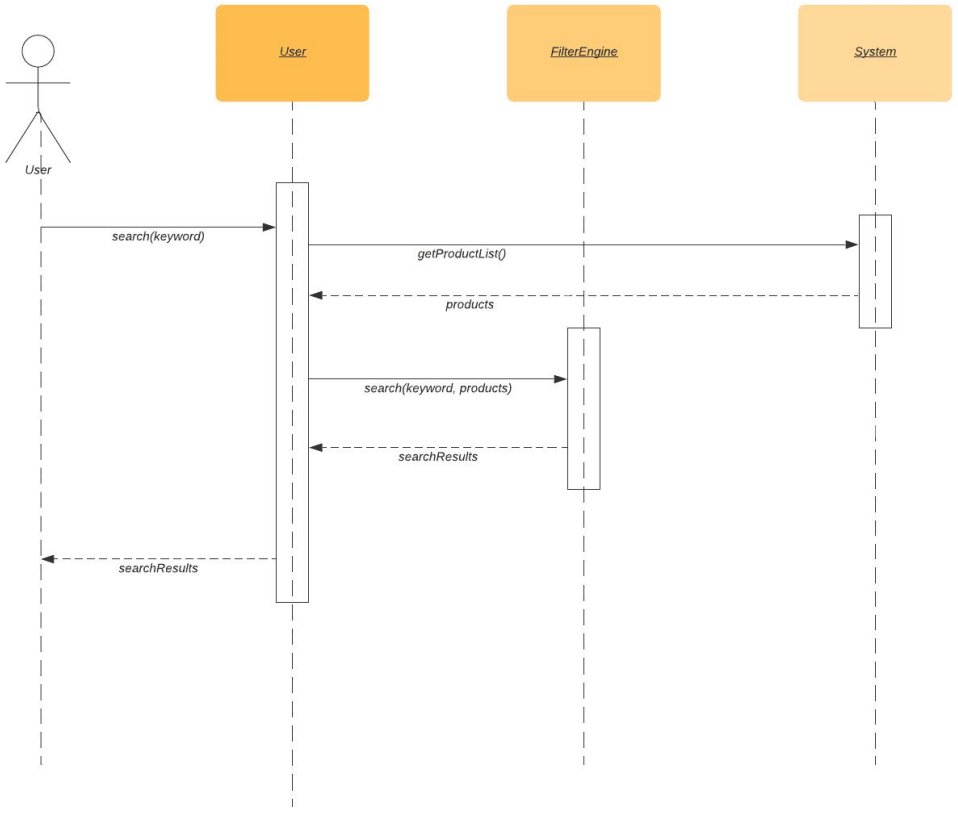
- **Adding Product**



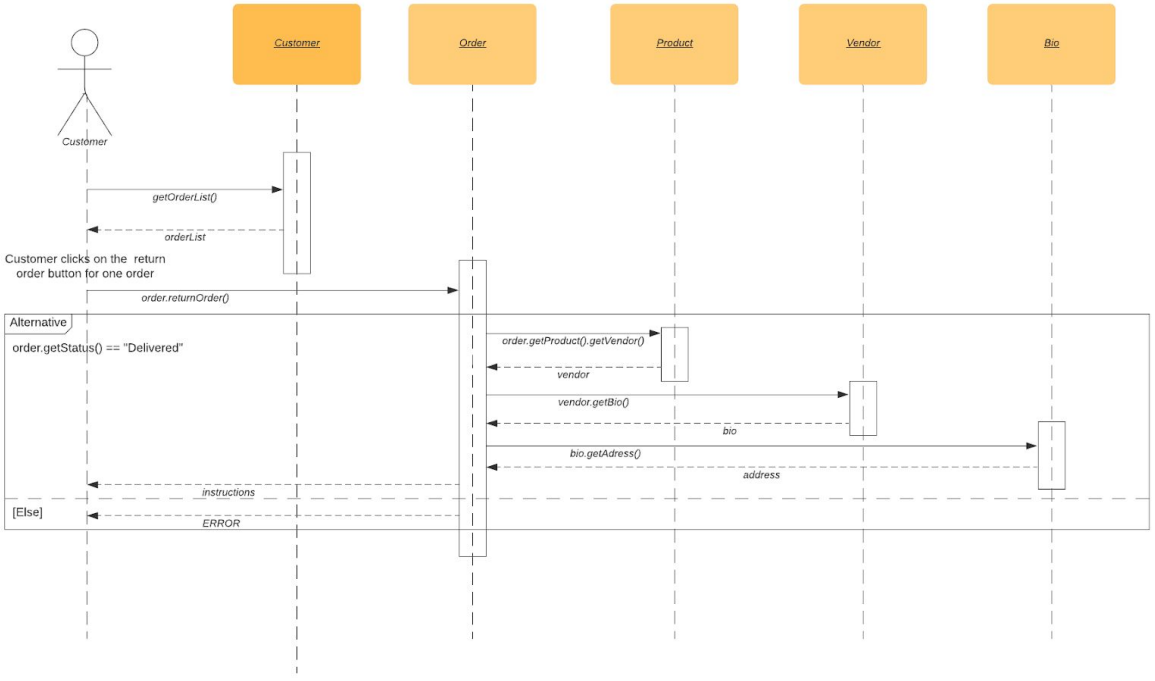
- **Sign-in with Google**



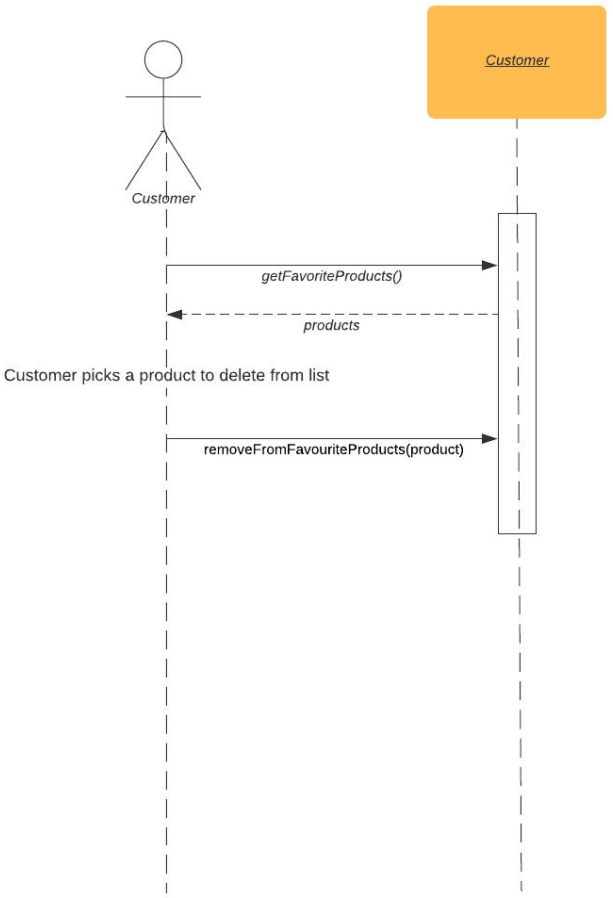
- **Searching Products with Keyword**



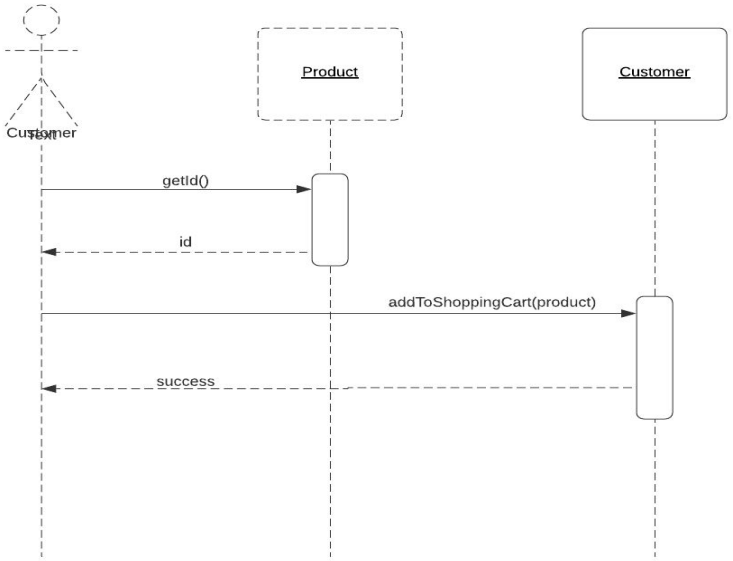
- **Returning an Order**



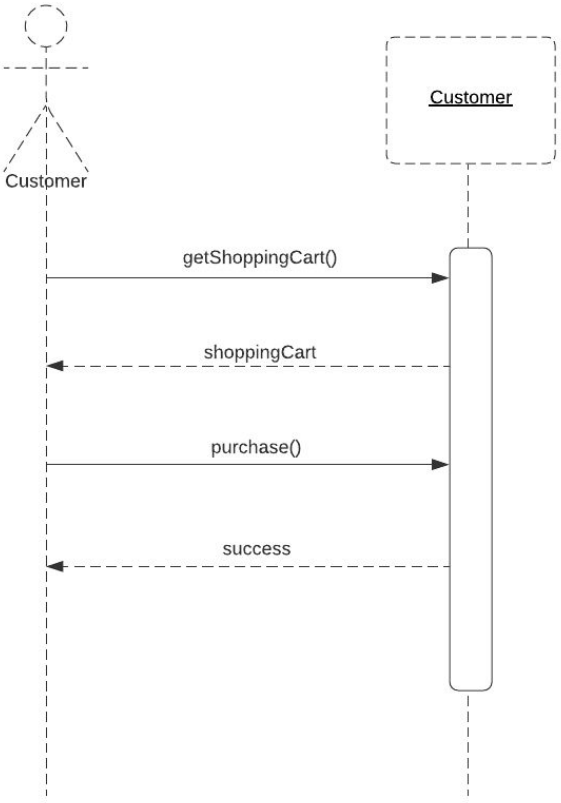
- **Delete from Shopping List**



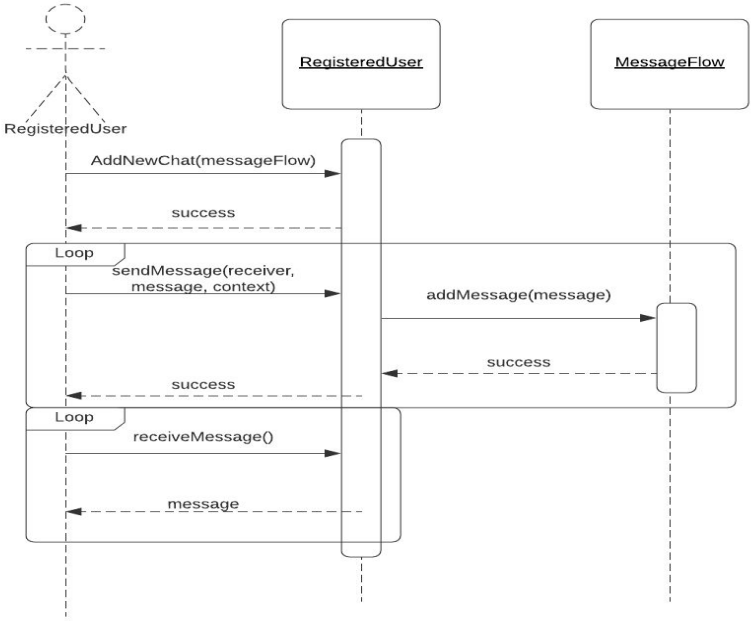
- **Add Product to Shopping Cart**



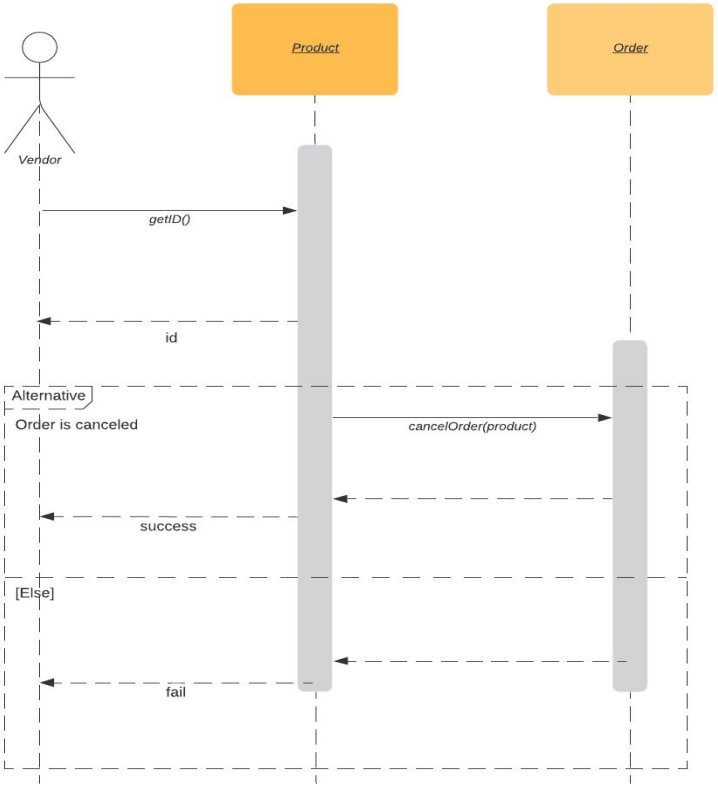
- **Buy a Product that is in the Shopping Cart**



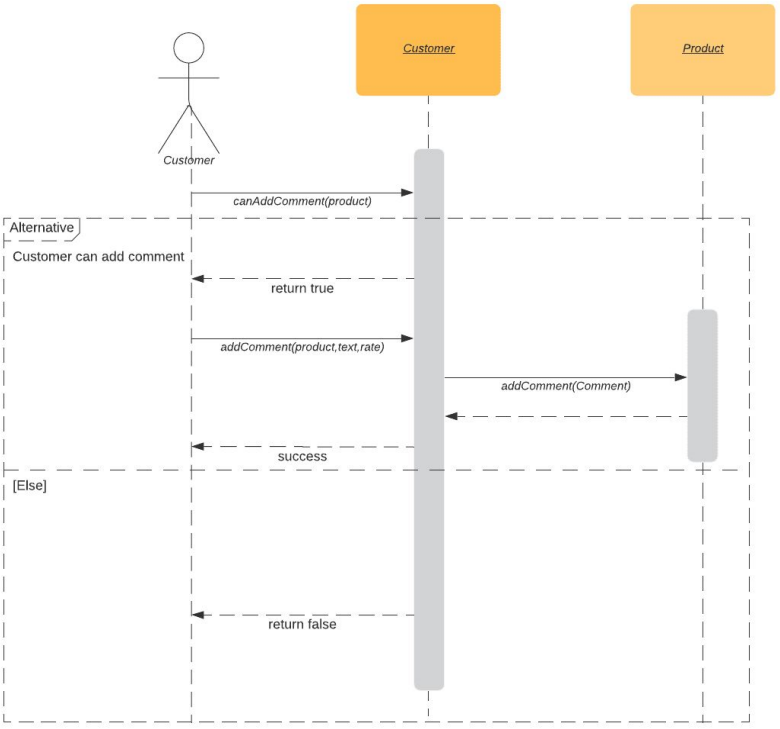
- **Direct Messaging**



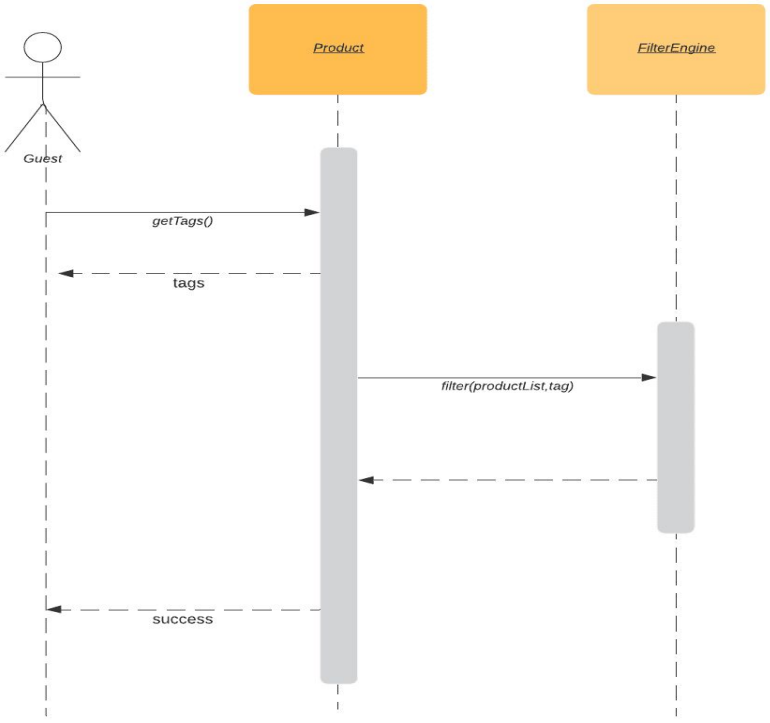
- **Cancel a Product**



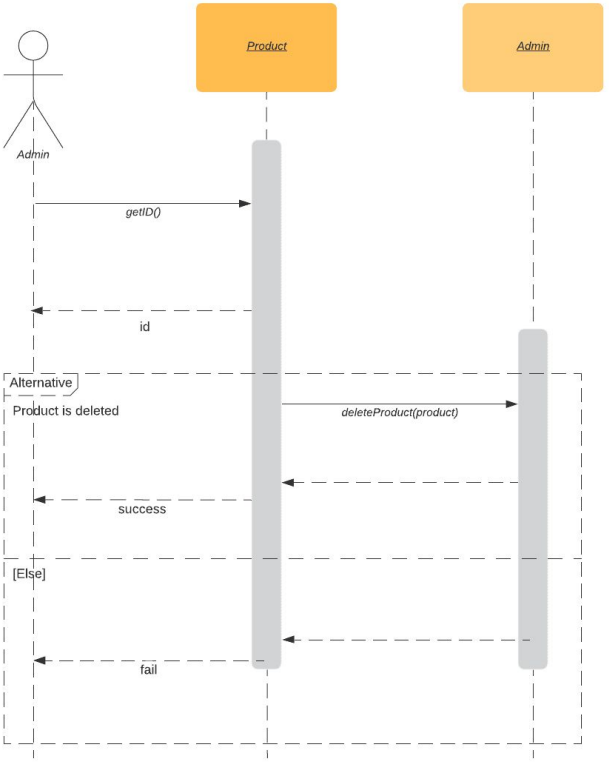
- **Comment a Product**



- **Filtering by Brand**



- **Delete a Product**



10. Project Plan and RAM

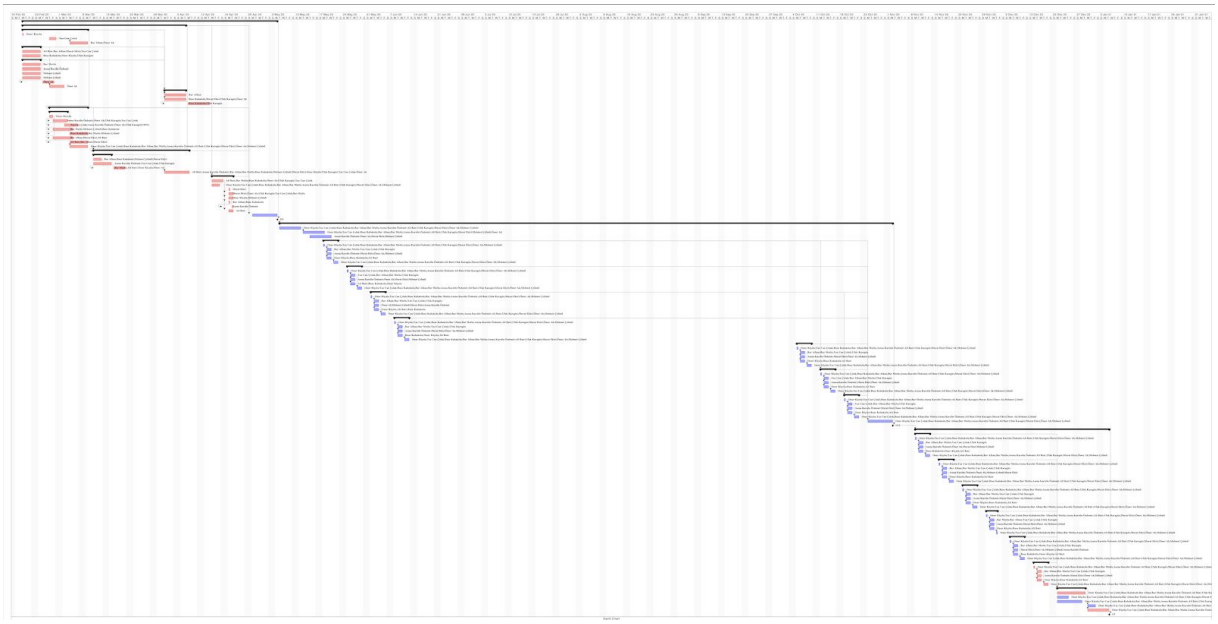
10.1. Project Plan

		Name	Duration	Start	Finish	Predecessors	Resource Names
1		**Preparing Deliverables for Milestone 1**	**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 m...	1 day?	2/19/20 8:00 AM	2/19/20 4:00 PM		Onur Klçolu
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;Mu...
9		System Requirements	4 days?	2/19/20 8:00 AM	2/24/20 5:00 PM		Buse Kabakolu;Onur 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 Requiremen...	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 ...
20		Update the Categorization	10 days?	4/1/20 8:00 AM	4/7/20 5:00 PM	19	Buse Kabakolu;Ufuk K...
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 pag...	2 days?	2/27/20 8:00 AM	2/28/20 8:01 AM		Onur Klçolu
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...
25		Creating persona, story and actions for th...	6.998 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	24	Yaz Can Çolak;Asena ...
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 Çel...
27		Creating persona, story and actions for th...	8 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	26	Buse Kabakolu;Bar ...
28		Preparing the "Make Comment About a De...	5.002 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	23	Bar Alhan;Murat Ekici;...
29		Creating persona, story and actions for th...	8 days?	2/27/20 8:00 AM	3/3/20 5:00 PM	28	Ali Batr;Bar Alhan;Mu...
30		Reviewing the mockups	4 days?	3/4/20 8:00 AM	3/9/20 5:00 PM	22	Onur Klçolu;Yaz Ca...
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**		
33		Preparation of Class Diagram	3 days?	3/11/20 8:00 AM	3/13/20 5:00 PM		Bar Alhan;Buse Kabak...
34		Preparation of Use Case Diagram	4 days?	3/11/20 8:00 AM	3/16/20 5:00 PM		Asena Karolin Özdemir...
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;On...
36		Revising Design Documents	6 days?	4/1/20 8:00 AM	4/8/20 5:00 PM	32	Ali Batr;Asena Karolin ...
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 ..	3 days?	4/15/20 8:00 AM	4/18/20 5:00 PM		Ali Batr;Bar Mutlu;Bus...
39		Thinking about how to organize milestones	3 days?	4/15/20 8:00 AM	4/18/20 5:00 PM		Onur Klçolu;Yaz Ca...
40		Revising the prepared project plan and ma...	1 day?	4/18/20 8:00 AM	4/20/20 5:00 PM		Murat Ekici
41		Create and fill the Project Plan Document fo...	2 days?	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Murat Ekici;Ömer Ak;Uf...
42		Create and fill the Project Plan Document fo...	2 days?	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Onur Klçolu;Mehmet ...
43		Create and fill the Project Plan Document fo...	1 day?	4/18/20 8:00 AM	4/20/20 5:00 PM	39	Bar Alhan;Buse Kabak...
44		Reviewing the project plan document and a...	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 ix..	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 ...
48		**Preparing Deliverables for Milestone 2**	**130 days?**	**5/5/20 8:00 AM**	**11/2/20 5:00 PM**	**47**	
49		Researching and deciding on the tech stack o...	5 days?	5/5/20 8:00 AM	5/11/20 5:00 PM		Onur Klçolu;Yaz Ca...
50		Learning the tech stack	5 days?	5/12/20 8:00 AM	5/18/20 5:00 PM	49	Onur Klçolu;Yaz Ca...
51		Setting up the server and app environment	5 days?	5/14/20 8:00 AM	5/20/20 5:00 PM		Asena Karolin Özdemir...

		Name	Duration	Start	Finish	Predecessors	Resource Names
52		**Implementation of Sign-up and Login**	**5 days?**	**5/18/20 8:00 AM**	**5/22/20 5:00 PM**		
53		End-point decisions: Sign-up and Login	1 day?	5/18/20 8:00 AM	5/18/20 5:00 PM		Onur Klçolu;Yaz Ca...
54		Front-End Implementation: Sign-up and Log..	2 days?	5/19/20 8:00 AM	5/20/20 5:00 PM	53	Bar Alhan;Bar Mutlu;...
55		Back-End Implementation: Sign-up and Login	2 days?	5/19/20 8:00 AM	5/20/20 5:00 PM	53	Asena Karolin Özdemir...
56		Android Implementation: Sign-up and Login	2 days?	5/19/20 8:00 AM	5/20/20 5:00 PM	53	Onur Klçolu;Buse Ka...
57		Testing: Sign-up and Login	2 days?	5/21/20 8:00 AM	5/22/20 5:00 PM	56;55;54	Onur Klçolu;Yaz Ca...
58		**Implementation of Homepage**	**5 days?**	**5/25/20 8:00 AM**	**5/29/20 5:00 PM**		
59		End-point decisions: Homepage	1 day?	5/25/20 8:00 AM	5/25/20 5:00 PM		Onur Klçolu;Yaz Ca...
60		Front-End Implementation: Homepage	2 days?	5/26/20 8:00 AM	5/27/20 5:00 PM	59	Yaz Can Çolak;Bar ...
61		Back-End Implementation: Homepage	2 days?	5/26/20 8:00 AM	5/27/20 5:00 PM	59	Asena Karolin Özdemir...
62		Android Implementation: Homepage	2 days?	5/26/20 8:00 AM	5/27/20 5:00 PM	59	Ali Batr;Buse Kabakol...
63		Testing: Homepage	2 days?	5/28/20 8:00 AM	5/29/20 5:00 PM	60;61;62	Onur Klçolu;Yaz Ca...
64		**Implementation of Product Page**	**5 days?**	**6/1/20 8:00 AM**	**6/5/20 5:00 PM**		
65		End-point decisions: Product Page	1 day?	6/1/20 8:00 AM	6/1/20 5:00 PM		Onur Klçolu;Yaz Ca...
66		Front-End Implementation: Product Page	2 days?	6/2/20 8:00 AM	6/3/20 5:00 PM	65	Bar Alhan;Bar Mutlu;...
67		Back-End Implementation: Product Page	2 days?	6/2/20 8:00 AM	6/3/20 5:00 PM	65	Ömer Ak;Mehmet Çeli...
68		Android Implementation: Product Page	2 days?	6/2/20 8:00 AM	6/3/20 5:00 PM	65	Onur Klçolu;Ali Batr;...
69		Testing: Product Page	2 days?	6/4/20 8:00 AM	6/5/20 5:00 PM	66;67;68	Onur Klçolu;Yaz Ca...
70		**Implementation of Payment Page**	**5 days?**	**6/8/20 8:00 AM**	**6/12/20 5:00 PM**		
71		End-point decisions: Payment Page	1 day?	6/8/20 8:00 AM	6/8/20 5:00 PM		Onur Klçolu;Yaz Ca...
72		Front-End Implementation: Payment Page	2 days?	6/9/20 8:00 AM	6/10/20 5:00 PM	71	Bar Alhan;Bar Mutlu;...
73		Back-End Implementation: Payment Page	2 days?	6/9/20 8:00 AM	6/10/20 5:00 PM	71	Asena Karolin Özdemir...
74		Android Implementation: Payment Page	2 days?	6/9/20 8:00 AM	6/10/20 5:00 PM	71	Buse Kabakolu;Onur K...
75		Testing: Payment Page	2 days?	6/11/20 8:00 AM	6/12/20 5:00 PM	72;73;74	Onur Klçolu;Yaz Ca...
76		**Implementation of Order Page**	**5 days?**	**10/5/20 8:00 AM**	**10/9/20 5:00 PM**		
77		End-point decisions: Order Page	1 day?	10/5/20 8:00 AM	10/5/20 5:00 PM		Onur Klçolu;Yaz Ca...
78		Front-End Implementation: Order Page	2 days?	10/6/20 8:00 AM	10/7/20 5:00 PM	77	Bar Alhan;Bar Mutlu;...
79		Back-End Implementation: Order Page	2 days?	10/6/20 8:00 AM	10/7/20 5:00 PM	77	Asena Karolin Özdemir...
80		Android Implementation: Order Page	2 days?	10/6/20 8:00 AM	10/7/20 5:00 PM	77	Onur Klçolu;Buse Ka...
81		Testing: Order Page	2 days?	10/8/20 8:00 AM	10/9/20 5:00 PM	78;79;80	Onur Klçolu;Yaz Ca...
82		**Implementation of Admin Panel**	**5 days?**	**10/12/20 8:00 AM**	**10/16/20 5:00 PM**	**52**	
83		End-point decisions: Admin Panel	1 day?	10/12/20 8:00 AM	10/12/20 5:00 PM		Onur Klçolu;Yaz Ca...
84		Front-End Implementation: Admin Panel	2 days?	10/13/20 8:00 AM	10/14/20 5:00 PM	83	Yaz Can Çolak;Bar ...
85		Back-End Implementation: Admin Panel	2 days?	10/13/20 8:00 AM	10/14/20 5:00 PM	83	Asena Karolin Özdemir...
86		Android Implementation: Admin Panel	2 days?	10/13/20 8:00 AM	10/14/20 5:00 PM	83	Onur Klçolu;Buse Ka...
87		Testing: Admin Panel	2 days?	10/15/20 8:00 AM	10/16/20 5:00 PM	84;85;86	Onur Klçolu;Yaz Ca...
88		**Implementation of Product Display Pages**	**5 days?**	**10/19/20 8:00 AM**	**10/23/20 5:00 PM**	**64**	
89		End-point decisions: Product Display Pages...	1 day?	10/19/20 8:00 AM	10/19/20 5:00 PM		Onur Klçolu;Yaz Ca...
90		Front-End Implementation: Product Display ..	2 days?	10/20/20 8:00 AM	10/21/20 5:00 PM	89	Yaz Can Çolak;Bar ...
91		Back-End Implementation: Product Display ...	2 days?	10/20/20 8:00 AM	10/21/20 5:00 PM	89	Asena Karolin Özdemir...
92		Android Implementation: Product Display P...	2 days?	10/20/20 8:00 AM	10/21/20 5:00 PM	89	Onur Klçolu;Buse Ka...
93		Testing: Product Display Pages (Pages for S...	2 days?	10/22/20 8:00 AM	10/23/20 5:00 PM	90;91;92	Onur Klçolu;Yaz Ca...
94		Milestone 2 Report	6 days?	10/26/20 8:00 AM	11/2/20 5:00 PM	52;58;64;70;76;82;88	Onur Klçolu;Yaz Ca...
95		Milestone 2	0 days?	11/2/20 5:00 PM	11/2/20 5:00 PM	48	Ali Batr;Asena Karolin ...
96		**Preparing Deliverables for Milestone 3**	**42 days?**	**11/9/20 8:00 AM**	**1/5/21 5:00 PM**	**95**	
97		**Implementation of Search Engine**	**5 days?**	**11/9/20 8:00 AM**	**11/13/20 5:00 PM**		
98		End-point decisions: Search Engine	1 day?	11/9/20 8:00 AM	11/9/20 5:00 PM		Onur Klçolu;Yaz Ca...
99		Front-End Implementation: Search Engine	2 days?	11/10/20 8:00 AM	11/11/20 5:00 PM	98	Bar Alhan;Bar Mutlu;...
100		Back-End Implementation: Search Engine	2 days?	11/10/20 8:00 AM	11/11/20 5:00 PM	98	Asena Karolin Özdemir...
101		Android Implementation: Search Engine	2 days?	11/10/20 8:00 AM	11/11/20 5:00 PM	98	Buse Kabakolu;Onur K...
102		Testing: Search Engine	2 days?	11/12/20 8:00 AM	11/13/20 5:00 PM	99;100;101	Onur Klçolu;Yaz Ca...

		Name	Duration	Start	Finish	Predecessors	Resource Names
103		**Implementation of Filtering and Sorting Sy...**	**5 days?**	**11/16/20 8:00 AM**	**11/20/20 5:00 PM**		
104		End-point decisions: Filtering and sorting sy..	1 day?	11/16/20 8:00 AM	11/16/20 5:00 PM		Onur Klçolu;Yaz Ca...
105		Front-End Implementation: Filtering and sor..	2 days?	11/17/20 8:00 AM	11/18/20 5:00 PM	104	Bar Alhan;Bar Mutlu;...
106		Back-End Implementation: Filtering and sort..	2 days?	11/17/20 8:00 AM	11/18/20 5:00 PM	104	Asena Karolin Özdemir...
107		Android Implementation: Filtering and sortin.	2 days?	11/17/20 8:00 AM	11/18/20 5:00 PM	104	Onur Klçolu;Buse Ka...
108		Testing: Filtering and sorting system	2 days?	11/19/20 8:00 AM	11/20/20 5:00 PM	105;107;106	Onur Klçolu;Yaz Ca...
109		**Implementation of Notification System**	**5 days?**	**11/23/20 8:00 AM**	**11/27/20 5:00 PM**		
110		End-point decisions: Notification System	1 day?	11/23/20 8:00 AM	11/23/20 5:00 PM		Onur Klçolu;Yaz Ca...
111		Front-End Implementation: Notification Syst..	2 days?	11/24/20 8:00 AM	11/25/20 5:00 PM	110	Bar Alhan;Bar Mutlu;...
112		Back-End Implementation: Notification Syster	2 days?	11/24/20 8:00 AM	11/25/20 5:00 PM	110	Asena Karolin Özdemir...
113		Android Implementation: Notification System	2 days?	11/24/20 8:00 AM	11/25/20 5:00 PM	110	Onur Klçolu;Buse Ka...
114		Testing: Notification System	2 days?	11/26/20 8:00 AM	11/27/20 5:00 PM	111;112;113	Onur Klçolu;Yaz Ca...
115		**Implementation of Messaging System**	**4 days?**	**11/30/20 8:00 AM**	**12/3/20 5:00 PM**		
116		End-point decisions: Messaging System	1 day?	11/30/20 8:00 AM	11/30/20 5:00 PM		Onur Klçolu;Yaz Ca...
117		Front-End Implementation: Messaging Systen	2 days?	12/1/20 8:00 AM	12/2/20 5:00 PM	116	Bar Mutlu;Bar Alhan;...
118		Back-End Implementation: Messaging System	2 days?	12/1/20 8:00 AM	12/2/20 5:00 PM	116	Asena Karolin Özdemir...
119		Android Implementation: Messaging System	2 days?	12/1/20 8:00 AM	12/2/20 5:00 PM	116	Onur Klçolu;Buse Ka...
120		Testing: Messaging System	1 day?	12/3/20 8:00 AM	12/3/20 5:00 PM	117;118;119	Onur Klçolu;Yaz Ca...
121		**Implementation of Recommendation Syste...**	**5 days?**	**12/7/20 8:00 AM**	**12/11/20 5:00 PM**		
122		End-point decisions: Recommendation Syst...	1 day?	12/7/20 8:00 AM	12/7/20 5:00 PM		Onur Klçolu;Yaz Ca...
123		Front-End Implementation: Recommendatio...	2 days?	12/8/20 8:00 AM	12/9/20 5:00 PM	122	Bar Alhan;Bar Mutlu;...
124		Back-End Implementation: Recommendatio...	2 days?	12/8/20 8:00 AM	12/9/20 5:00 PM	122	Murat Ekici;Ömer Ak;M...
125		Android Implementation: Recommendation ...	2 days?	12/8/20 8:00 AM	12/9/20 5:00 PM	122	Buse Kabakolu;Onur K...
126		Testing: Recommendation System	2 days?	12/10/20 8:00 AM	12/11/20 5:00 PM	124;123;125	Onur Klçolu;Yaz Ca...
127		**Implementation of Commenting and Ratin...**	**5 days?**	**12/14/20 8:00 AM**	**12/18/20 5:00 PM**		
128		End-point decisions: Commenting and Ratin..	1 day?	12/14/20 8:00 AM	12/14/20 5:00 PM		Onur Klçolu;Yaz Ca...
129		Front-End Implementation: Commenting an...	2 days?	12/15/20 8:00 AM	12/16/20 5:00 PM	128	Bar Alhan;Bar Mutlu;...
130		Back-End Implementation: Commenting an...	2 days?	12/15/20 8:00 AM	12/16/20 5:00 PM	128	Asena Karolin Özdemir...
131		Android Implementation: Commenting and ...	2 days?	12/15/20 8:00 AM	12/16/20 5:00 PM	128	Onur Klçolu;Buse Ka...
132		Testing: Commenting and Rating System	2 days?	12/17/20 8:00 AM	12/18/20 5:00 PM	129;130;131	Onur Klçolu;Yaz Ca...
133		**System Testing**	**7 days?**	**12/21/20 8:00 AM**	**12/29/20 5:00 PM**	**127;121;115;109;103;...**	
134		Testing: Integration Test	7 days?	12/21/20 8:00 AM	12/29/20 5:00 PM		Onur Klçolu;Yaz Ca...
135		Testing: Usability Testing	4 days?	12/21/20 8:00 AM	12/24/20 5:00 PM		Onur Klçolu;Yaz Ca...
136		Performance Testing	6 days?	12/21/20 8:00 AM	12/28/20 5:00 PM		Onur Klçolu;Yaz Ca...
137		Deployment Preparation	3 days?	12/30/20 8:00 AM	1/1/21 5:00 PM	133	Onur Klçolu;Yaz Ca...
138		Milestone 3 Report	5 days?	12/30/20 8:00 AM	1/5/21 5:00 PM	133	Onur Klçolu;Yaz Ca...
139		Milestone 3	0 days?	1/5/21 5:00 PM	1/5/21 5:00 PM	96	Ali Batr;Asena Karolin ...

Gantt Chart - page3



10.2. RAM

Kinds of role assignments Approval : Approves the item as complete Lead : Final responsibility Secondary : Lead person's backup, else C and R Contributor : Physically contributes to item Reviewer : Only reviews None	Ömer Ak	Barış Alhan	Ali Batır	Yağız Can Çolak	Murat Ekici	Buse Kabakoğlu	Ufuk Karagöz	Onur Kılıçoğlu	Barış Mutlu	Asena Karolin Özdemir	Mehmet Çelimli
Repository											
-Personal Wikipages	C	C	C	C	C	C	C	C	C	C	C
-Communication Plan	N	N	N	N	N	N	N	C	N	N	N
-Repository Research	C	C	C	C	C	C	C	C	C	C	C
Project Requirements											
-Glossary	N	N	N	C	N	N	N	L	N	R	C
-Functional Requirements	L	C	C	C	C	C	C	C	C	R	C
-Nonfunctional Requirements	L	N	N	N	N	N	L	C	N	C	C
Scenario and Mockups											
-"Buying a Product"	C	N	N	C	N	N	L	C	N	S	N
-"Cancelling a order"	N	N	N	N	N	C	N	C	C	R	C
-"Make a comment about a delivered product"	N	C	C	N	C	N	N	C	N	R	N
UML Diagrams											
-Use Case Diagram	N	N	N	C	N	N	C	R	N	L	N
-Class Diagram	N	C	R	N	C	C	N	C	N	N	C
-Sequence Diagram	C	R	C	N	N	N	N	C	C	N	N
Project Plan											
-Milestone 1	C	N	C	C	C	N	C	N	C	R	N
-Milestone 2	N	N	N	N	N	N	N	C	N	R	C
-Milestone 3	N	C	N	N	N	C	N	C	N	R	N
-Ram	C	N	L	C		C	C	N		C	N