

AYDIN ADNAN MENDERES UNIVERSITY

SOFTWARE ENGINEERING PROJECT REPORT

Name : Atıl Kurtulmuş
(181805033@stu.adu.edu.tr)

Student no : 181805033

Team Name : ACK

Course : CSE305 - Software Engineering

Instructor : Ahmet Çağdaş Seçkin
(acseckin@adu.edu.tr)

Project Name : YurtLife

Aydın Province Dormitory Guide

November 2020

Contents

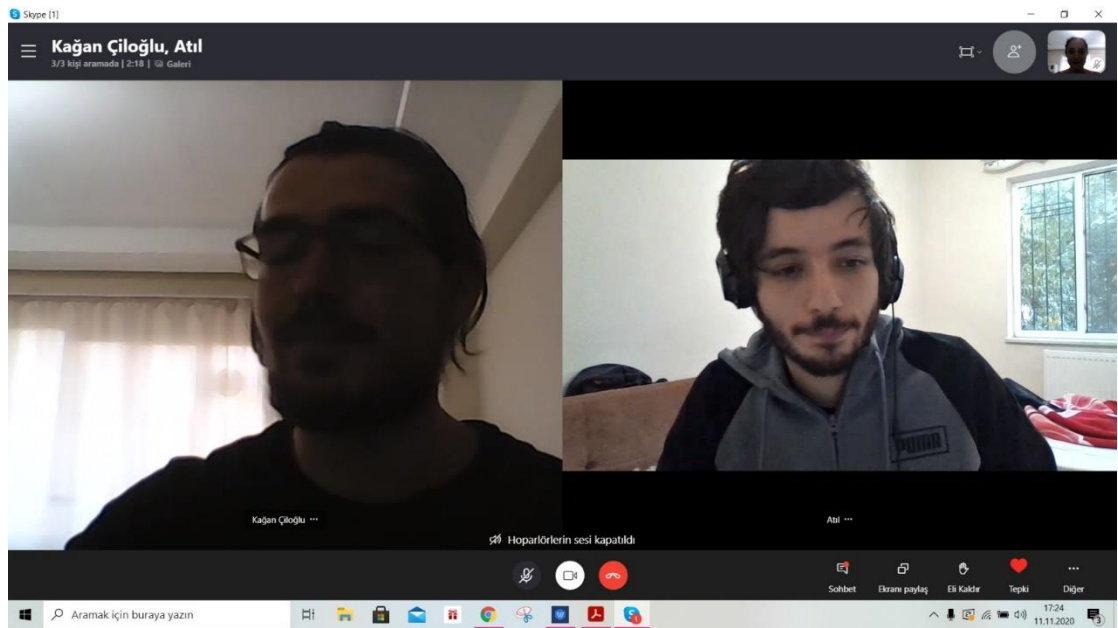
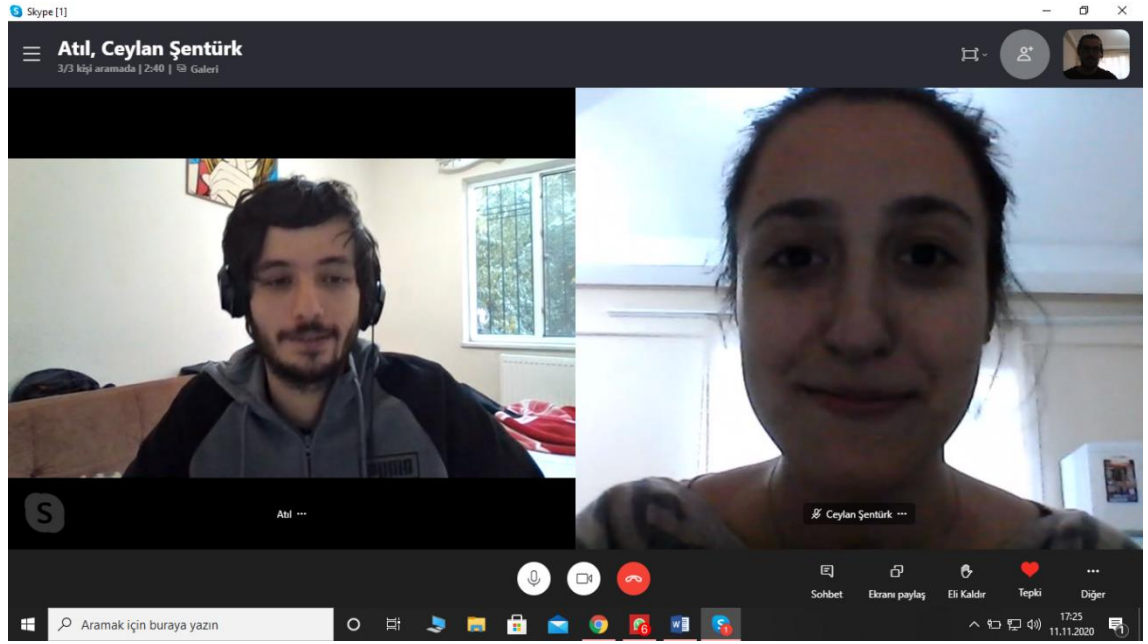
Introduction.....	3
Team Information.....	3
Team Members Information.....	4
Biographies.....	4
First Meeting and Team Organization.....	5
First Meeting Reports.....	5
Github Accounts.....	5
 Project Scope and Description.....	 6
Project Purpose.....	6
Project Goals.....	6
Components of Software.....	6
 System Requirements.....	 7
General Overview.....	7
UML Use Case Diagram.....	7
Detailed UML System Descriptions.....	8
User Stories.....	9
Non-functional Requirements.....	10
Glossary.....	11
 Product Backlog.....	 12

Introduction

Team Information

The name of the group is ACK and the strengths of the group are:

- We manage to work in harmony. Everyone does their duties on time.
- We adapt quickly to changing situations.
- We use the time efficiently.





Team Members Information

Biographies

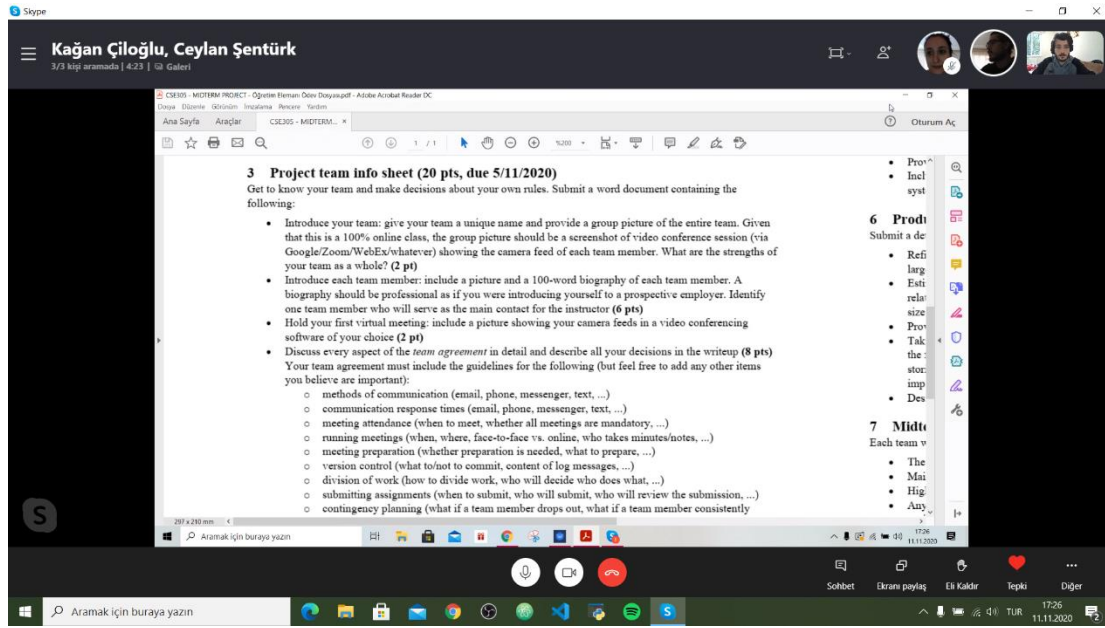
Ceylan Şentürk is a forth-year student at Aydın Adnan Menderes University's faculty of engineering, where she is pursuing a degree in Computer Engineering. Although she has yet to declare a major, she's considering database or natural language programming. She is currently working on a senior project involving NLP and Machine Learning. She works to improve herself in programming languages such as Python and Java. She is also interested in computer graphics and game programming. Upon completion of her undergraduate studies, she intends to apply to schools to further her knowledge of database systems or other subjects.

Kağan Çiloğlu is a senior student at Aydın Adnan Menderes University's faculty of engineering, where he is pursuing an undergraduate degree in Computer Science. He is very excited to seize every opportunity to improve himself in database management, natural language programming and web applications. He is currently working on a senior project that involves natural processing language, machine learning and web ontology. He especially loves to work on Python and c#. He is also interested in artificial intelligence, economics and finance. After completing his undergraduate degree, he intends to apply to another university to pursue for a graduate degree.

Atil Kurtulmus is a computer engineering student in ADU. His area of interests include systems engineering, compiler development, computer graphics and physics simulations. As these areas require, he has a proficient knowledge in C++ and is on the path to become a decent Rust developer as well. He has written a toy [game engine](#) using the low-level graphics API [Vulkan](#). He is currently working on a programming language named Slang, which focuses on providing fine-grained control over the system resources that would enable low-level optimizations, at the same time having the productivity levels of an high-level language.

Kağan Çiloğlu will serve as the main contact for the instructor.

First Meeting and Team Organization



First Meeting Reports

1. Group members communicate by email, Whatsapp, phone, Discord and Skype.
2. Daytime working hours are between 8.00 am and 17.00 pm. E-mails and messages should be answered within 2 hours during working hours. If a message, e-mail or request isn't sent in working hours, response should be made until 10:00 am in the next morning.
3. It is mandatory to attend all meetings. Meetings will hold on Monday, Wednesday and Thursday.
4. The meeting will always hold at 10:00 am via Skype. All meetings will hold online until the end of the project. Writing the meeting report and time tracking will be done by Ceylan Şentürk.
5. Each member of the group will prepare reports of the tasks that was assigned to them. The report will include the parts of the project that completed, errors and ideas about the next stage of the project.
6. In the distribution of tasks, volunteerism is essential. If no one is volunteering, the group leader will share the tasks.
7. Submission of assignments will be done before the deadline. Atıl Kurtulmuş reviews it for the last time and Kağan Çiloğlu delivers it.
8. If a member leaves the group, tasks will be shared among other members. Members who do not fulfill their responsibilities and act inappropriately will be warned. (Penalties will be determined by the group leader.)

Github Accounts

Atıl Kurtulmuş : <https://github.com/atkurtul>

Ceylan Şentürk : <https://github.com/ceysenturk>

Kağan Çiloğlu : <https://github.com/KaganCiloglu>

Project Scope and Description

Project Purpose

Aydin Province Dormitory Guide provides freshmen and their families with information regarding dormitories located in the city of Aydin as well as help them with pre-registration process. Pre-registration is needed for booking a room until the student contacts with the dormitory and completes registration. The pre-registration fee might be refunded if the student opts out with a reason. The registration process takes place face-to-face.

Project Goals

Aydin Province Dormitory Guide is a website which provides the following services:

- Dormitory exploration
- Information on specific dormitories
- Registration
- Pre-Registration

In the front page of the website, every dormitory is gathered under 3 categories. Flats, male and female dorms. The dorms can be filtered within these categories. Also dormitories could be searched by their names.

The customer can look up further information about the dormitory on the its page. The information includes: room capacity, price, address, phone number and link to the dorm's website. This content helps customer have an idea about the dorm and compare it to the alternatives.

The customer must sign up on the website in order to be able to bookmark or pre-register to the dormitories. Bookmarked dormitories helps customers make a throughout decision about which dorm to register.

The customer should pre-register in order to book a room. There is a button that links to the pre-registration page on the homepage and the dorm's info page. The pre-registration can be processed by providing the required personal and the payment info.

The customer might cancel the pre-registration before the final registration with a refund on the same page.

Components of Software

MVC was used for developing the system. Model is made by MSSQL, the other parts are made in .NET environment.

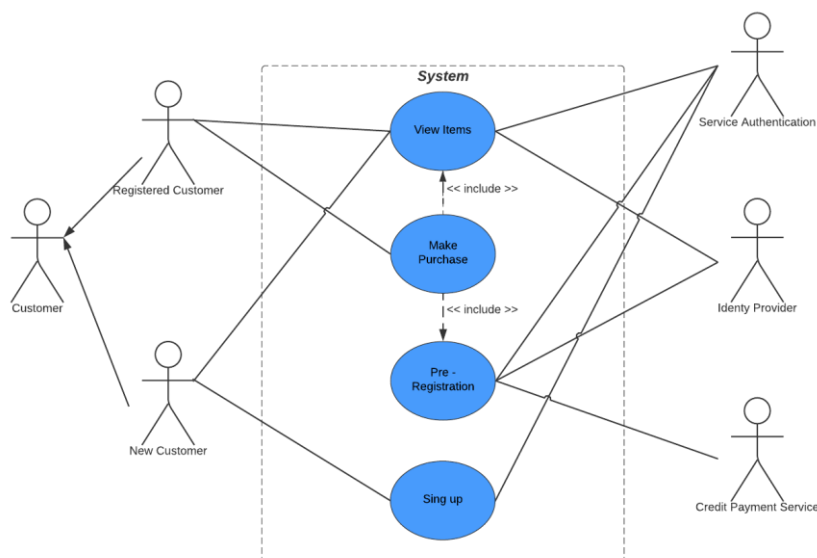
System Requirements

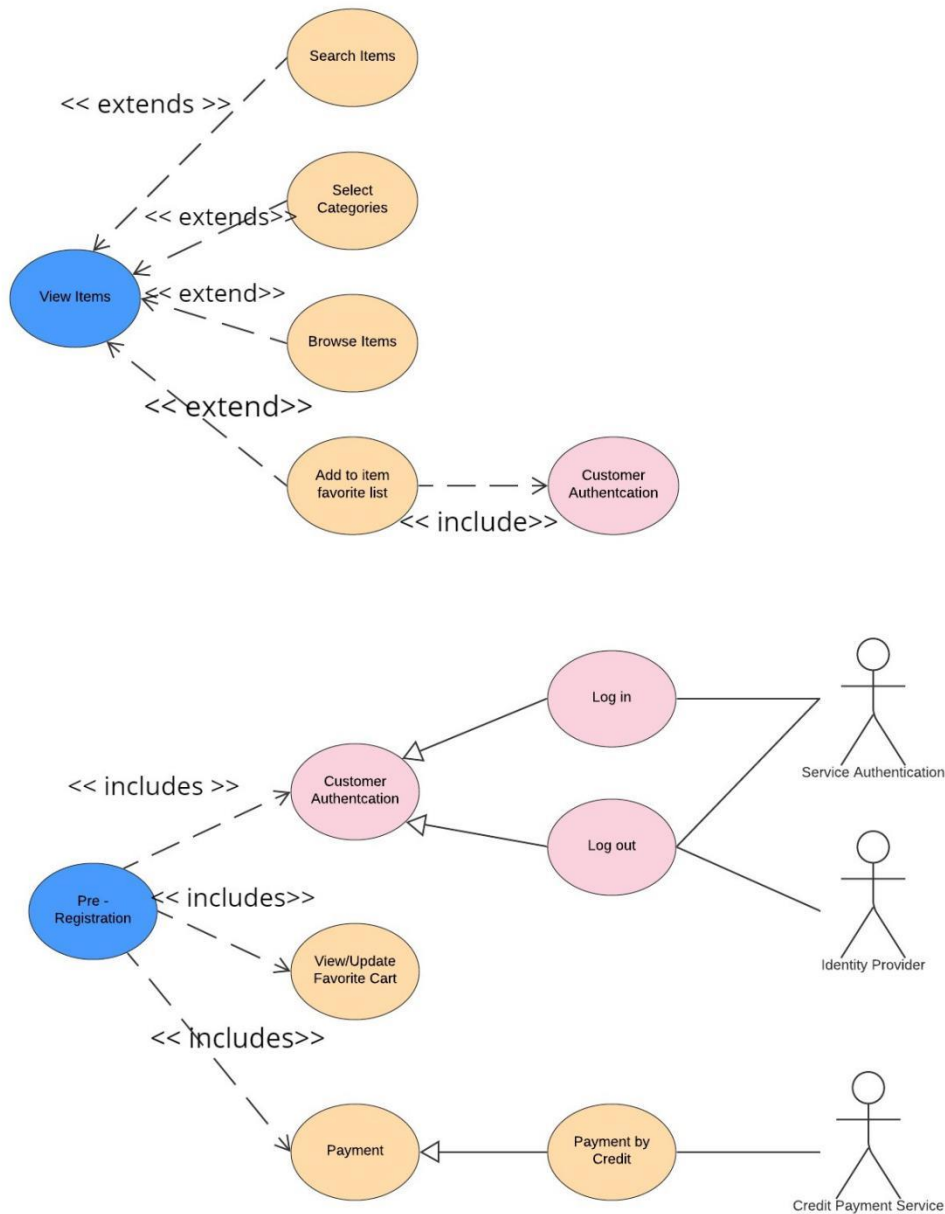
	Windows	Mac	linux
OS	Windows 8 or later	macOS Sierra 10.12 or later	64-bit Ubuntu 14.04+, Debian 8+, openSUSE 13.3+, or Fedora Linux 24+
CPU	Intel Pentium 4 or later	Intel	Intel Pentium 4 or later
Memory	2 GB minimum, 4 GB recommended	2 GB minimum, 4 GB recommended	2 GB minimum, 4 GB recommended
Screen resolution	1280x1024 or larger	1280x1024 or larger	1280x1024 or larger
Windows size	1024x680 or larger	1024x680 or larger	1024x680 or larger
Internet connection	Required	Required	Required

General Overview

Aydın Province Dormitory Guide is a website which has searching dorms, viewing details of dorms, adding to/deleting from favorites, online pre-registration as the main functions. The system has two kinds of customers. Capabilities of each customer types and details of use cases are explained below.

UML Use Case Diagrams





Detailed UML System Descriptions

1. Customer

Customer is the person who is looking for a room. Customers are split into 2 groups.

- **Registered Customer**
The customers who have already signed-up. They can fully access the features of the website.
- **Potential Customer**
New customers can use the some features of the website as well. Further functionality requires a sign-up.

1. View Items

The process of exploration and gathering information about the accessible dormitories.

- Search Items
Looking-up dormitories by name in the search bar.
- Select Categories
Choosing a relevant category. One of the 3.
- Browse Items
All dormitories are listed under the relevant categories. Customer can find an appealing dorm.
- Bookmark Items
Save potential purchases into favourites list. This action requires login.

2. Make Purchase

In order to pre-register to the desired dormitory, the monthly fee must be paid as a deposit. Membership and card information are required for this transaction.

3. Pre - Registration

The student information and the pre-registration fee are required to complete this step.

- Custom Authentication
The customer can sign-in and sign-out with the email and password registered to the website.
- View/Update Favorite List
Dorms added to the favourites list can be viewed/updated.

4. Payment

The customer completes the payment by entering the card information in order to pre-register in the dormitory.

5. Sign up

New customers must sign up to be able to bookmark and pre-register.

User Stories

1. The student or one of his/her family members logs in to the website, gathers general information about the dormitories located in Aydin.

- Pre - condition : None
- Post - condition : User has successfully browsed the site.

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

2. The user logs in. Selects the relevant category, male or female dorms, or flats. After browsing the options, clicks on the dormitory they like the best from the pictures.

- Pre - condition : None
- Post - condition : The user filtered the results and displayed the detailed information.

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

3. The user logs in. Searches for a specific dormitory by name from the searchbar. Browses the results. This features saves time to the user.

- Pre - condition : None
- Post - condition : The search was resulted in a match or the search criteria did not find a relevant dorm

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

4. The user logs in and wants to save an appropriate dormitory for themselves. From the dorm's page, clicks on the "Add to favourites" button, this leads to the log-in page. In this page, unregistered user clicks on the sign-up button. After filling in the information, the sign-up process is completed and the user can access the features of the website.

- Pre - condition : User account exists.
- Post - condition : User has succesfully added the dorm in bookmarks.

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

5. User logs into his/her account. To pre-register to the dormitory of his/her choice, he/she clicks "Pre-registration". Card information is requested for payment on the page that customer directed. After a valid card is entered, the transaction is completed.

- Pre - condition : User account exists.
- Post - condition : The transaction could not be performed due to incorrect card information or the transaction was completed successfully as all information entered was correct.

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

6. Already registered user logs in. On the chosen dorm's page, clicks on the "pre-register" button. This leads to the payment page, where they are required to complete the online payment. After providing a valid credit card, the transaction is completed.

- Pre - condition : User account exists and "favorites" has items in it.
- Post - condition : The user was succesfully directed to the payment page.

(This user story is basic enough, it shouldn't be decomposed into smaller user stories.)

Non-functional Requirements

Accessibility

- a) Any graphical user interfaces of YurtLife to display graphical contents of the dormitory, will be editable by the manager
- b) Any graphical user interfaces of YurtLife to display daily income report, addition information of a table, or of a customer will be available to the dormitory

- c) Any graphical user interfaces of YurtLife to view/update the customer preferences, to make an online reservation will be used by the people who has customer ids

Maintainability

- a) YurtLife architecture permits the swapping and upgrade of hardware without down time. YurtLife architecture permits the upgrade of software without down time.
- b) The Mean Time to Fix (MTTF) will not exceed two work days.

Performance

- a) A customer will be able to sign in the system from the internet for within 10 seconds.
- b) A customer will be able to sign in the system and make an online payment from the internet for within 1 minute (assuming that the customer knows what to rent)
- c) A customer will be able to sign in the system and make an online reservation from the internet for within 1 minute (assuming that the customer knows what to do) No system responses will occur exceeding 1 minute.

Glossary

Address : Physical place of the dorm.

Authentication : The process or action of proving or showing something to be true, genuine, or valid.

Browse : to search for information on a computer or on the Internet.

Categories : a group of dormitories that are all of the same type.

Customer : a student or student's family member

Deposit : Price paid while confirming pre-registration

Dormitory : a large building at a college or university where students live.

Favorite list : Favorite dorms lists that chosen by customer.

Log in : to do the necessary action on a website that will allow you to begin using it

Log out : to do the actions that are necessary when you finish using special user actions

Monthly price : Monthly fee paid by customer

Payment : the act of paying for something

Post - condition : The outcome of the use case.

Pre - condition : What the system needs to be true before running the use case.

Room capacity : Maximum number of students allowed to stay at that room

Search button : a component of user interface that searches for keywords

Sign up : act of registration.

Use case diagram : can summarize the details of your system's users (also known as actors) and their interactions with the system.

User : someone or something that uses a product, service etc

User account : an arrangement by which a user is given personalized access to a computer, website, or application, typically by entering a username and password.

Website : a place on the Internet where you can find information about something, especially a particular organization

Product Backlog

User Type	Story	Task	Estimation	Priority
Customer/Student	As a future ADU student, i'd like to be able to explore dormitories in Aydin	Make the website accessible	1	1
Customer/Student	As a logged in user i would like to compare available dormitories in Aydin.	Provide info about the dorms.	2	2
Customer/Student	I have already found a place. I would like to contact the dormitory	Arrange the communication between the student and the dorm.	4	3
Customer/Student	I would like to make the final payment online.	Provide an online payment service	7	5
Customer/Dorm	As a dormitory owner, i would like to see my competitor	Accept advertisements from dorms. Provide an information flow platform	9	8