



System Analysis Document prepared for Erasmus Club

**by IR-ENG-ADT-05 Group Erasmus
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1 | Introduction

Each semester, more than 1.000 ERASMUS students come to Sevilla in order to experience another culture, improve their Spanish language skills and take part in intercultural activities. The Erasmus Club Sevilla was founded in 2010 and aims to provide Erasmus Students with trips, parties and intercultural activities. At the moment, the interaction with students is mainly hold through the website and through an office situated in Triana. Nevertheless, many other information channels like WhatsApp groups and E-Mail exist in addition to the website and create a rather confusing user experience. It is the goal of this project to improve the communication with the customer (the students) and to provide a centralized, easy accessible and mobile application.

1.1 Scope

The goal of the project is the development of an application in which the customer can access all information in one central place. The scope of the application will therefore affect the following processes within the organization:

- Customer Relationship Management, including the sign-up for the club, the purchase of the ECS-Card, the communication of changes to the itinerary, the reminder process and the possibility of chatrooms with ECS-responsibles and other club-members
- Customer Order Management, including the payment process, cancellation process, selling process and the order history

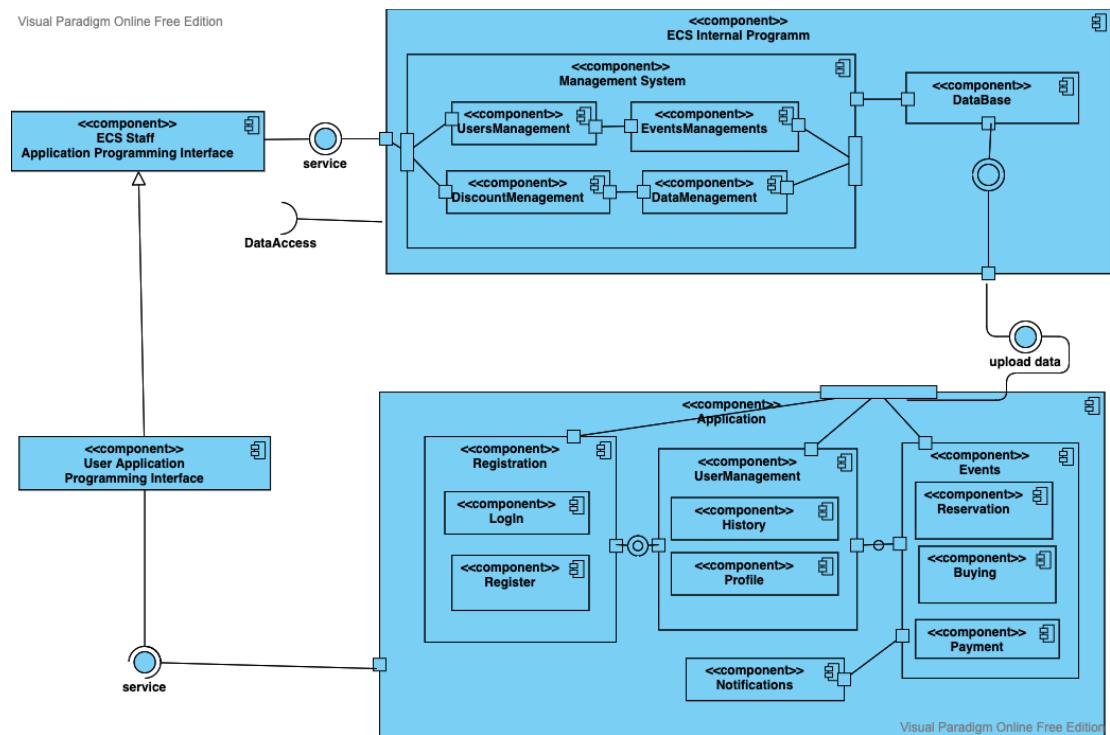
1.2 Objectives of the project

The main objects achieved by the development of the application are:

- Development of a central place for all information for the users
- Improvement of Sign-up and purchase-of-ECS-Card-process
- Development of a digital ECS-Card
- Establishment of a reminder process for events and trips
- Improvement of cancellation and selling process
- Establishment of an event-history
- Creation of chatroom to enable and improve communication

2 | Logical system architecture

2.1 Diagrams of the logical architecture of the system



2.2 Description of the logical architecture of the system

The most important part in our logical architecture is the connection between ECS Internal Programm and our application. Main components we have in our system:

- ECS Staff Application Programming Interface,
- User Application Programming Interface,
- ECS Internal Program,
- Application.

ECS Internal Program includes all the necessary systems to manage whole organisation and their own database system. Management system is used to manage users, events, discounts and data. This ECS Internal Program includes database and what is important, that database is strong connected with our Application. After upload data by ECS Staff, users can have access to specific data in application.

The Application component includes all systems needed to use application:

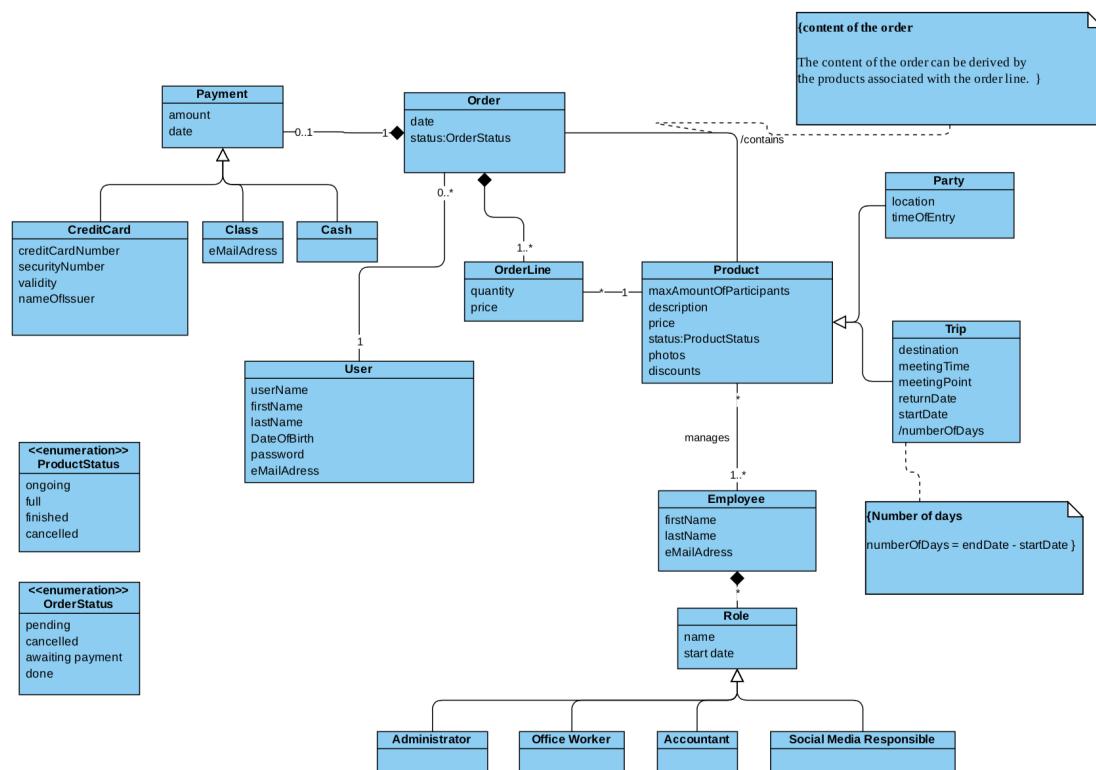
- Registration
- UserManagement
- Events
- Notification

Registration, UserManagement, Events are connected to each other and they have direct connection with database. Notification component also has access to database but it depends only on Events.

The Application component is used by users while they are using User Application Programming Interface. ECS Staff Application Programming is generalization of User Application Programming Interface and is used by ECS Staff while they are using ECS Internal Program.

3 | Model of the different classes of the system

3.1 System class diagram



3.2 Description of the system classes

DSA-0001	class User
Version	1.0
Description	This class implements a user of the ECS system:
attributes	<pre>String username; String password; // encrypted with PBKDF2 String firstName; String lastName; DateTime dateOfBirth; String eMailAdress;</pre>
Comments	No comments

VAL-0001	class Date
Version	1.0
Description	This class implements a date:
attributes	<pre>Integer day; Integer month; Integer year;</pre>
Comments	No comments

VAL-0002	class DateTime extends Date
Version	1.0
Description	This class inherits from Date and adds time.
attributes	<pre>Integer hour; Integer minutes;</pre>
Comments	No comments

DSA-0002	class Order
Version	1.0
Description	This class implements an order in the ECS system:
attributes	<pre>DateTime date; OrderStatus status; List<OrderLine> orderLines; Optional<Payment> payment;</pre>
Comments	No comments

VAL-0003	Enum OrderStatus
Version	1.0
Description	This Enum describes the different status of an order:
states	<pre>PENDING, CANCELLED, AWAITING_PAYMENT, DONE</pre>
Comments	No comments

DSA-0003	class Product
Version	1.0
Description	This class implements a product of ECS system
attributes	<pre> Integer maxAmountOfParticipants; String description; float price; boolean discount; // String would contain the path to each photo List<String> photos; ProductStatus status;</pre>
Comments	No comments

DSA-0004	class Trip extends Product
Version	1.0
Description	This class inherits from Product and stores additional information about a trip:
attributes	<pre> String destination; String meetingPoint; /* combines the date and the time */ DateTime meetingTime; Date returnDate;</pre>
Comments	No comments

DSA-0005	class Party extends Product
Version	1.0
Description	This class inherits from Product and stores additional information about a party:
attributes	<pre>Location location ; DateTime timeOfEntry ;</pre>
Comments	No comments

VAL-0004	Enum ProductStatus
Version	1.0
Description	This Enum describes the different status of a product:
states	<pre>ONGOING, FULL , FINISHED , CANCELLED</pre>
Comments	No comments

DSA-0006	class Employee
Version	1.0
Description	The system shall store information about the employee. In detail:
attributes	<pre>String First name; String Last name; String eMailAdress; List <Role > roles ;</pre>
Comments	No comments

DSA-0007	class Payment
Version	1.0
Description	This class shall store information about the payment. In detail:
attributes	<pre>Double amount; DateTime date;</pre>
Comments	No comments

DSA-0008	class CreditCard extends Payment
Version	1.0
Description	This class inherits from Payment and stores additional information for a payment made via credit card:
attributes	<pre>Integer creditCardNumber; Integer securityNumber Date validity; String nameOfTheIssuer;</pre>
Comments	No comments

DSA-0009	class PayPal extends Payment
Version	1.0
Description	This class inherits from Payment and stores additional information for a payment made via PayPal:
attributes	<pre>String eMailAdress;</pre>
Comments	No comments

DSA-0010	class OrderLine
Version	1.0
Description	This class implements the order line in the ECS system:
attributes	<pre>Integer quantity; float price;</pre>
Comments	No comments

VAL-0005	enum Role
Version	1.0
Description	This enum implements the different roles of an employee
attributes	<pre>ADMINISTRATOR, OFFICE WORKER, ACCOUNTANT, SOCIAL_MEDIA_RESPONSIBLE</pre>
Comments	No comments

3.3 State diagrams of the system classes

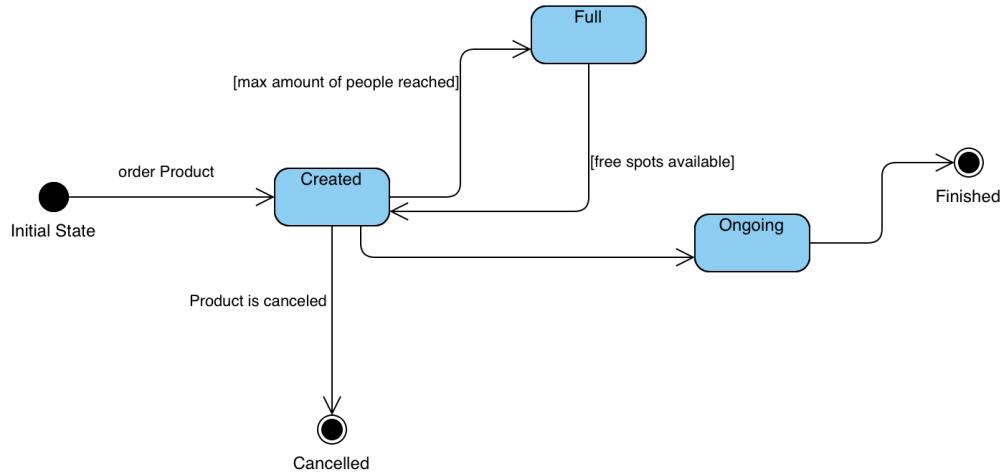


Figure 1: State diagram of the Product entity

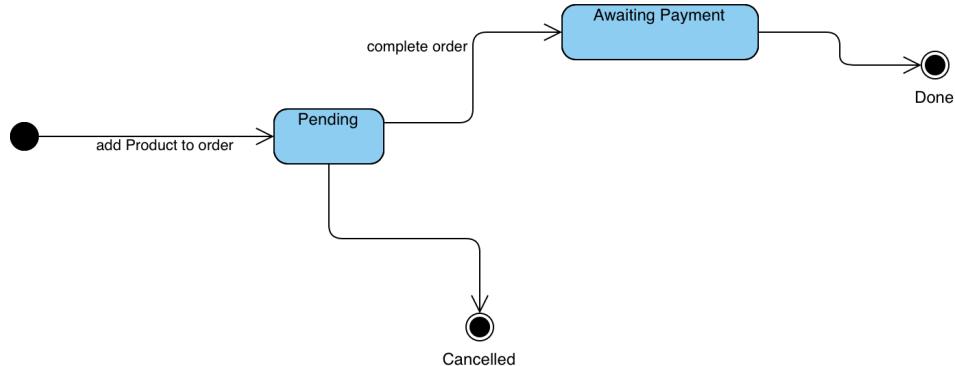


Figure 2: State diagram of the Order entity

4 | Use Case models

4.1 Sequence Diagramms

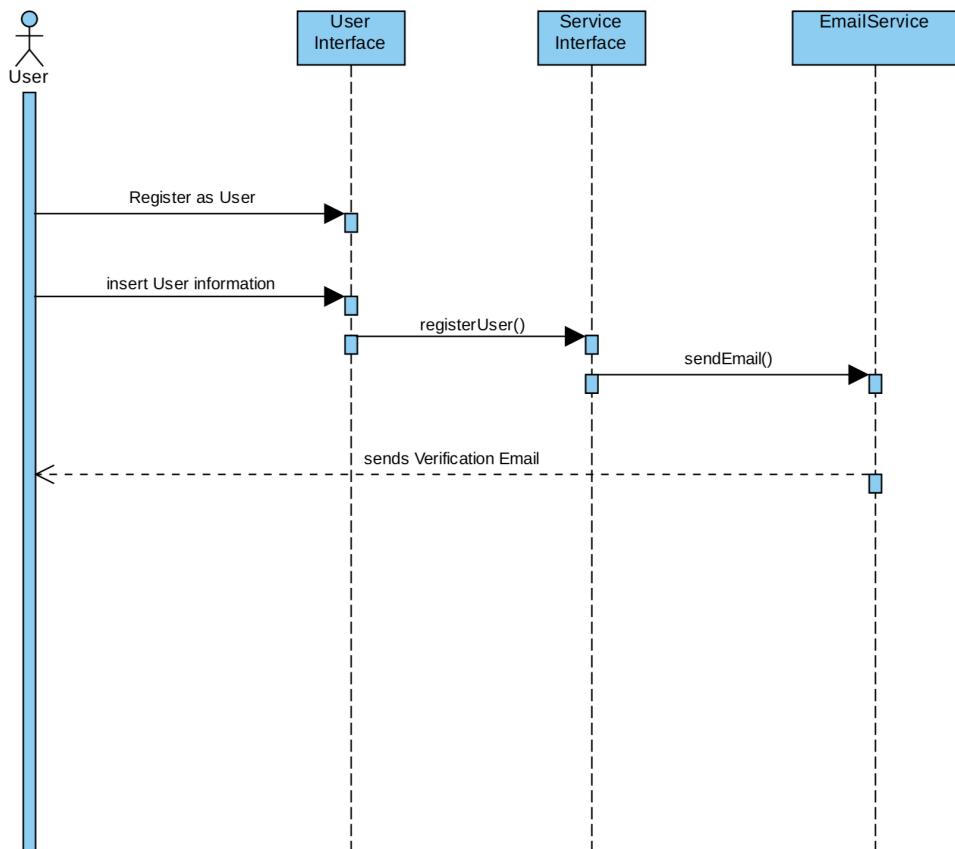


Figure 3: State diagram of the account registering process. The user registers with his name, username, email, password etc. After a successful registration, the user receives a confirmation e-mail.

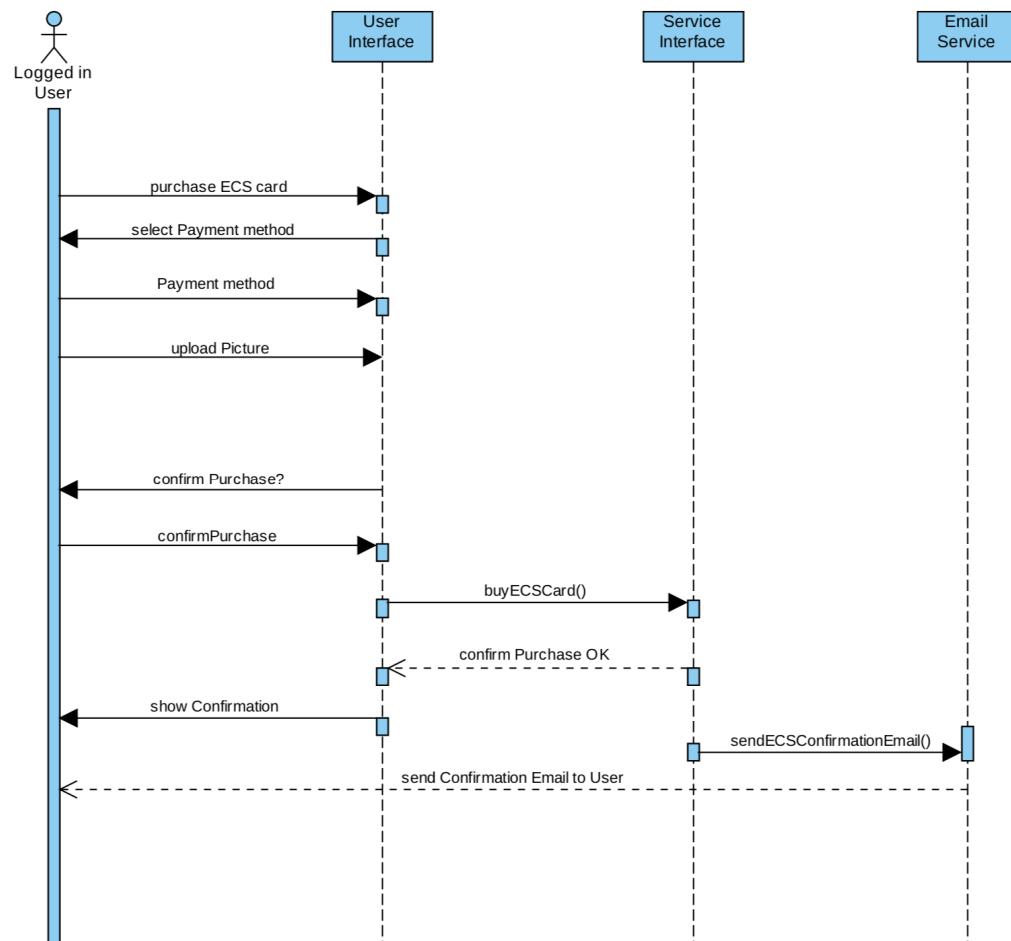


Figure 4: State diagram of the ECS card buying process. The user chooses the payment method, uploads a picture and confirms the purchase. If the process was successful, the user receives a confirmation email.

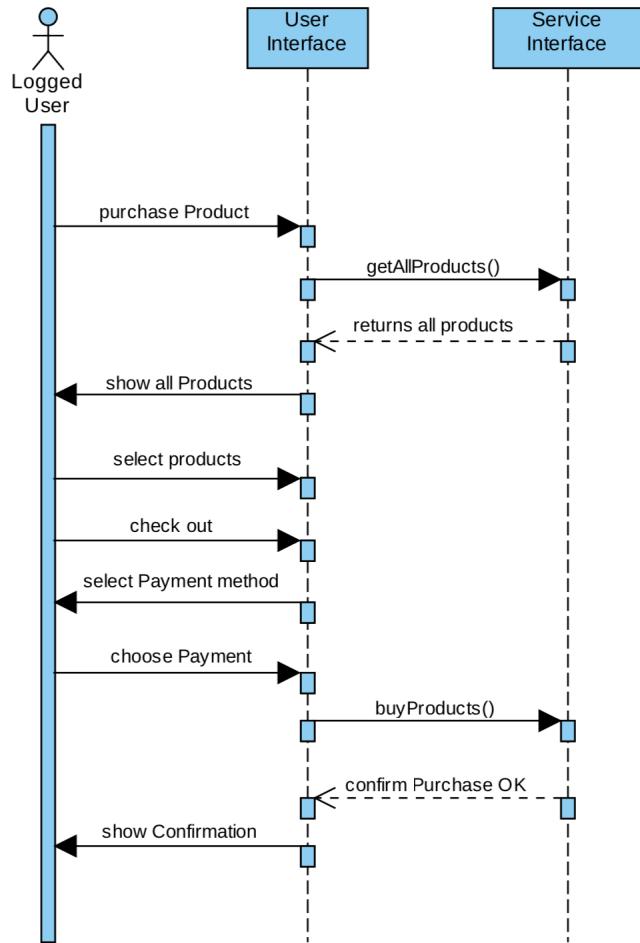


Figure 5: State diagram of product purchase process. A list of all products is presented to the user. Subsequently, the user can select the products that he wants to buy and checks out. He can then choose between multiple payment methods. When the payment was chosen and the purchase was processed by the system, he receives a confirmation.

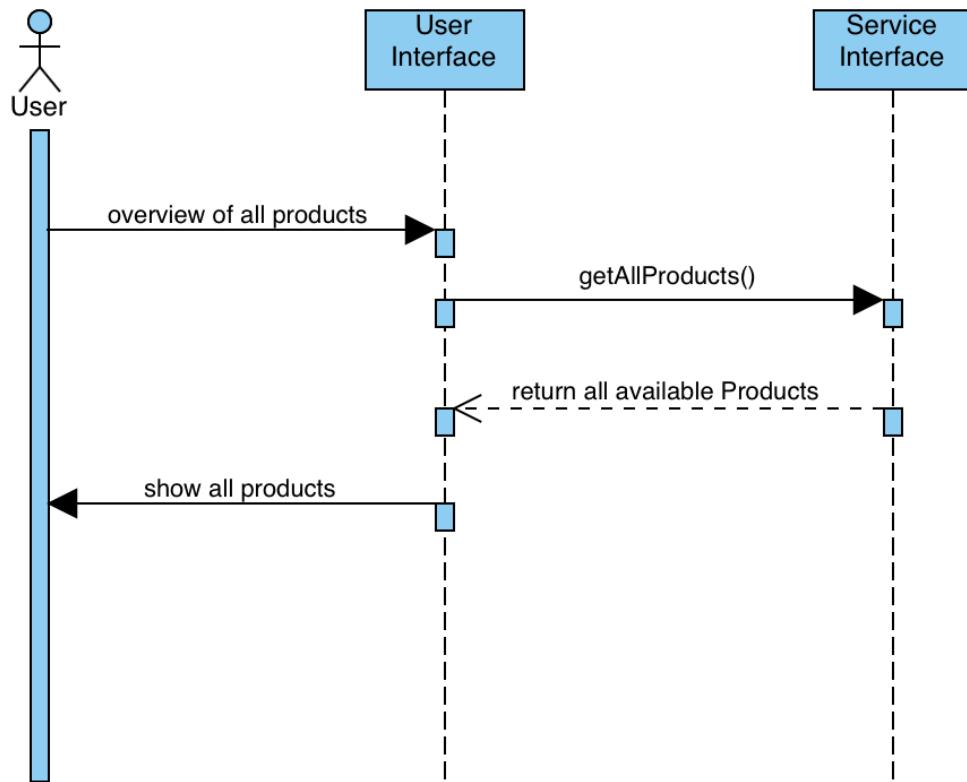


Figure 6: State diagram of showing all products process. The user receives a list of all available products.

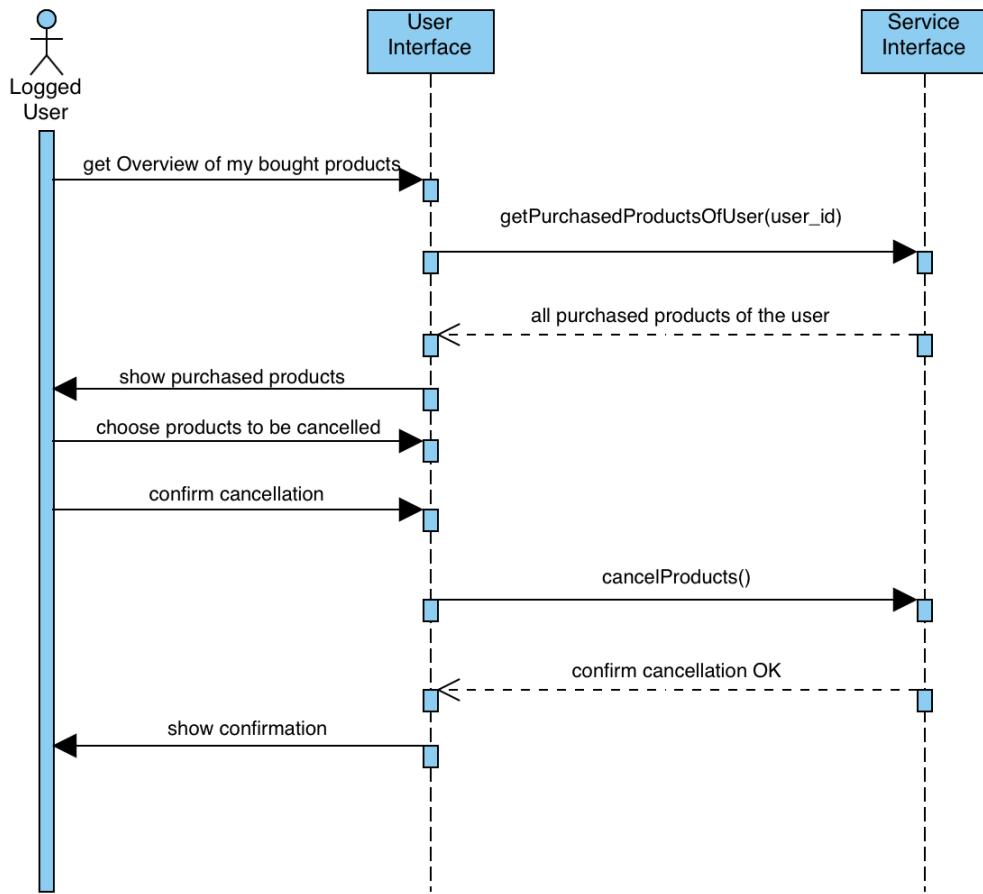


Figure 7: State diagram of the cancellation process. An overview of all bought products is presented to the user. The user can then choose which products he wants to cancel. If the cancellation process was successful, the user receives a confirmation.

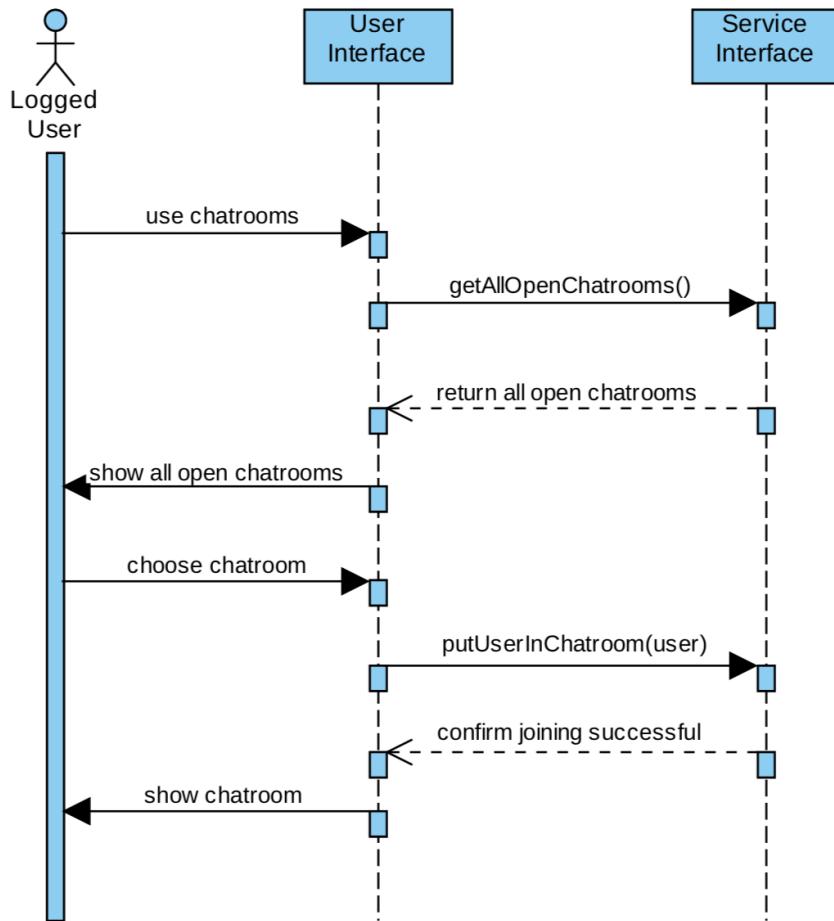


Figure 8: State diagram of the joining a chat room process. An overview of all available chat rooms is presented to the user. The user can then choose which chatroom he wants to join. If the join request was successful, the user is redirected to the appropriate room.

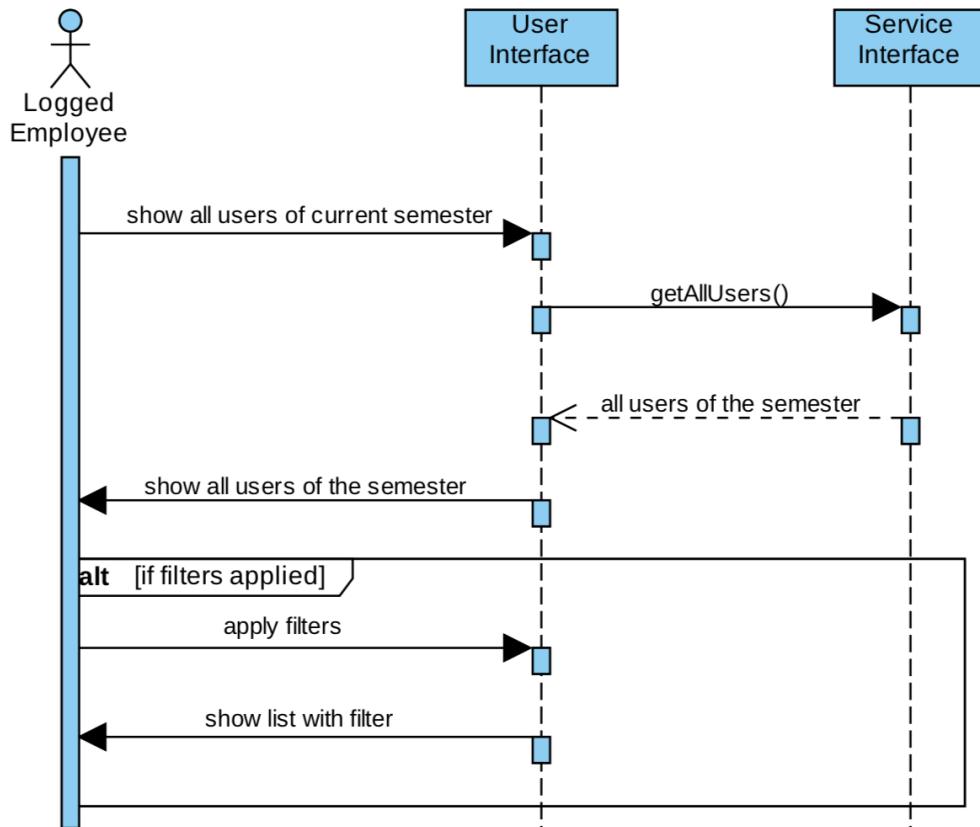


Figure 9: State diagram of showing all users of the current semester process. An overview of all users of ECS of the current semester is presented to the employee. The employee can also apply filters.

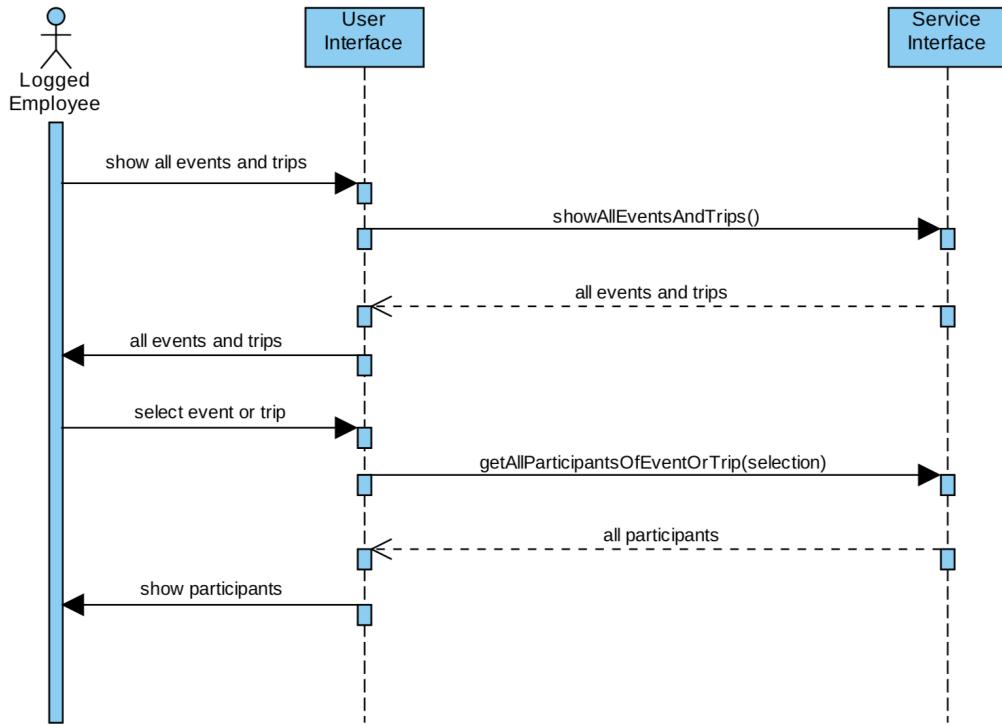


Figure 10: State diagram of showing all participants of an event or trip. An overview of all events and trips of ECS is presented to the employee. The employee can then choose the event or trip and receives a list of all participating users.

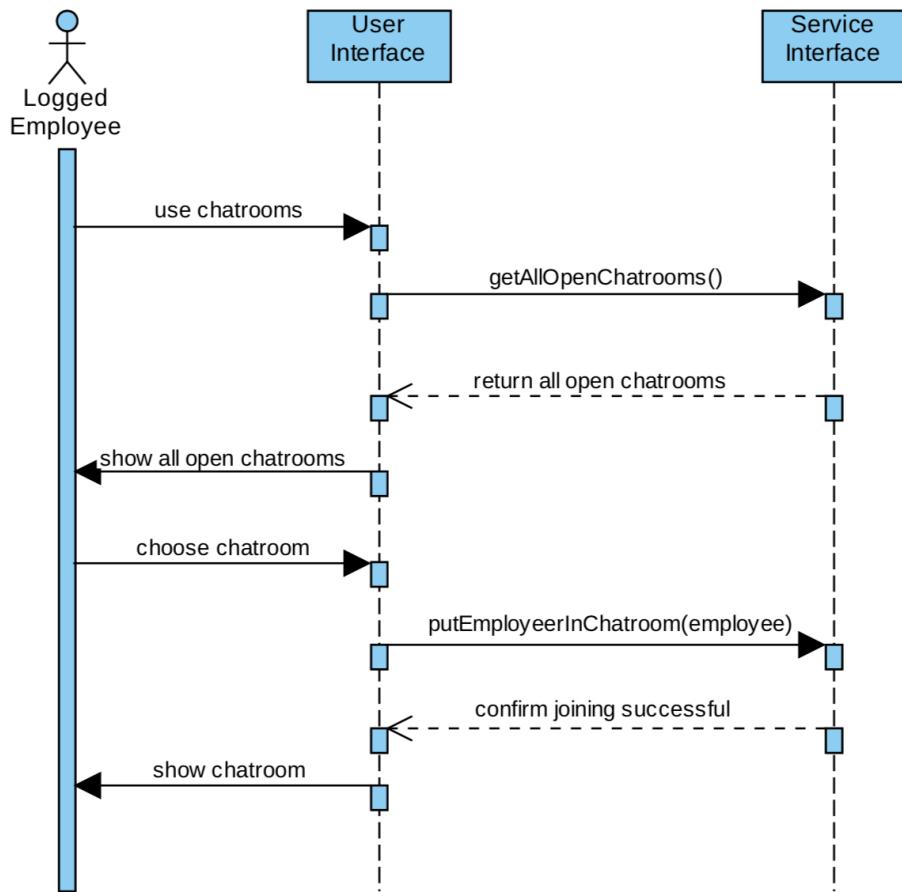


Figure 11: State diagram of joining a chatroom as an employee. An overview of all available chat rooms is presented to the employee. The employee can then choose which chat room he wants to join.

5 | System User Interface

5.1 System navigation diagrams

ND-0001	Navigation Diagram
Version	1.0
Description	The following Diagram shows the interaction between the screens. It must be noted that in order to keep the overview of the diagram some navigations have been left out. For example the "Notification" screen and the "Shopping cart" can be reached from all the user screens. The blue screens are the ones for employees, all the others are user screens.

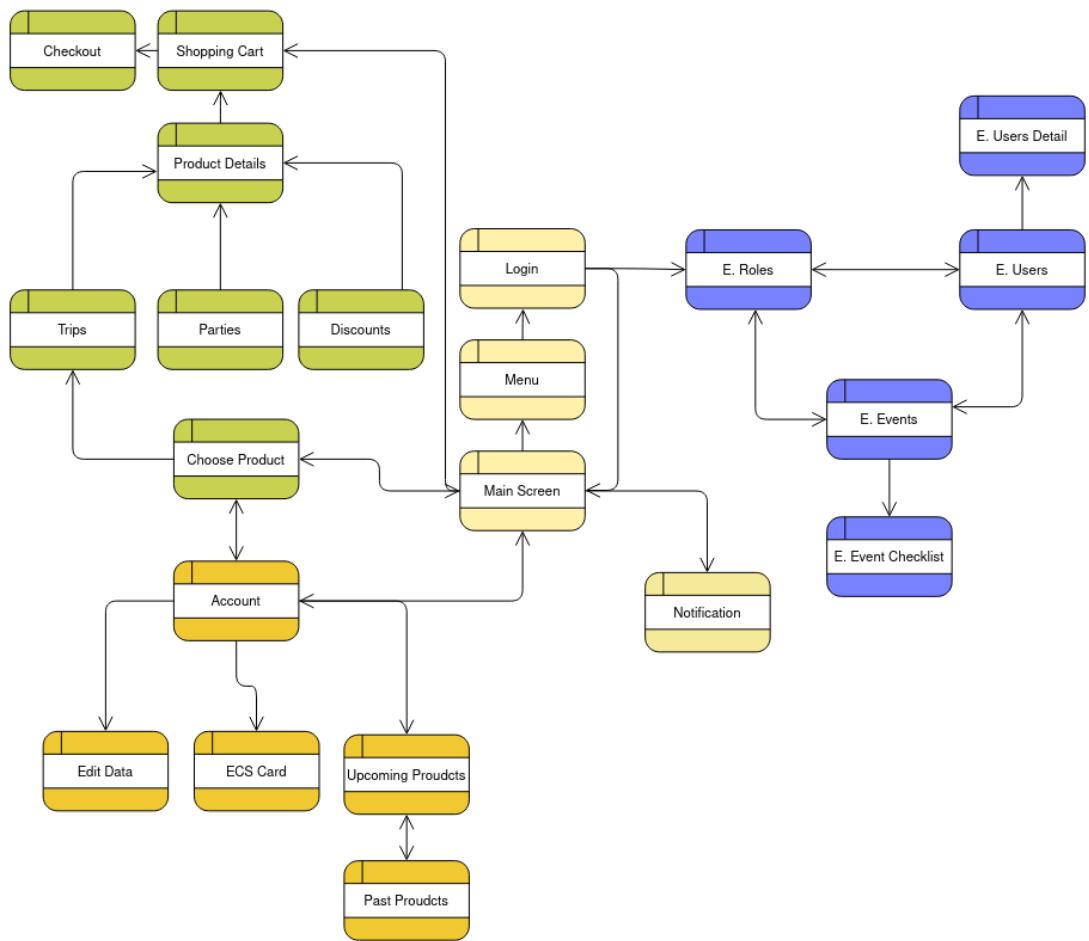
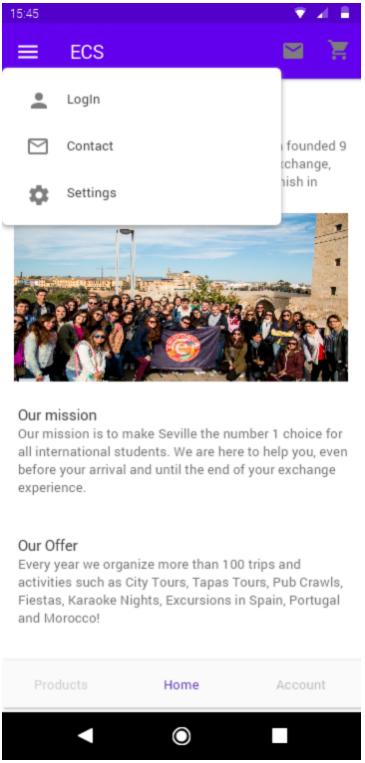
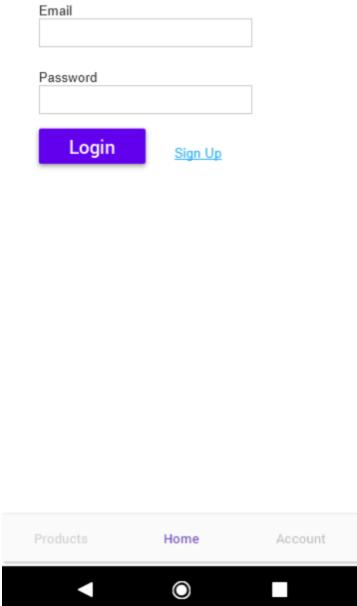


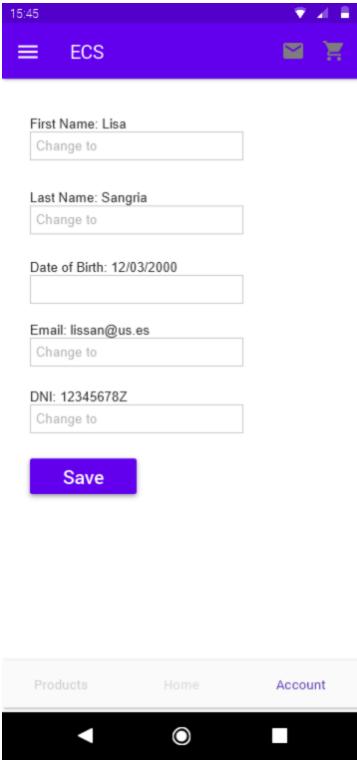
Figure 12: System Navigation Diagram

5.2 Schematics of the system user interface

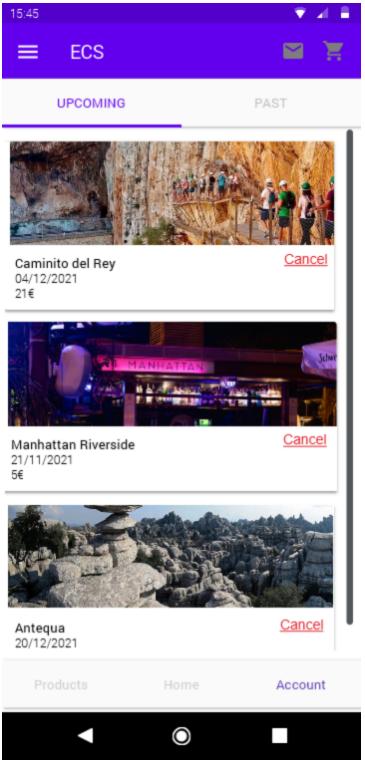
IF-0001	Main Screen
Version	1.0
Diagram	<p>Welcome to ECS! We are an international student organization founded 9 years ago. Are you coming from Erasmus, Exchange, Internship, as an AuPair or just learning Spanish in Seville? WE ARE HERE FOR YOU!</p>  <p>Our mission Our mission is to make Seville the number 1 choice for all international students. We are here to help you, even before your arrival and until the end of your exchange experience.</p> <p>Our Offer Every year we organize more than 100 trips and activities such as City Tours, Tapas Tours, Pub Crawls, Fiestas, Karaoke Nights, Excursions in Spain, Portugal and Morocco!</p> <p>Products Home Account</p> <p>◀ ◎ ▶</p>
Description	The user is provided general information about the company. From this screen they can navigate to every possible feature.

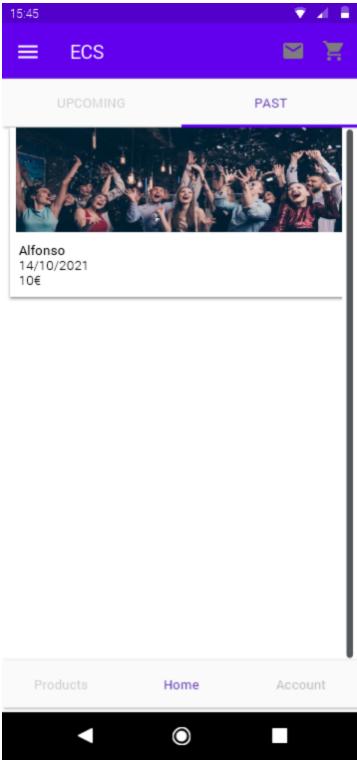
IF-0002	Menu
Version	1.0
Diagram	 <p>The screenshot shows the mobile application interface for 'ECS'. At the top, there is a purple header bar with the time '15:45' and icons for signal strength, battery level, and notifications. Below the header is a navigation bar with three items: 'Login', 'Contact', and 'Settings'. A white overlay window is displayed over the main content area, containing these three items. The main content area features a large image of a group of people posing outdoors in front of a building. Below the image, there is a section titled 'Our mission' with a short paragraph of text. Further down, there is a section titled 'Our Offer' with another short paragraph of text. At the bottom of the screen, there is a navigation bar with three tabs: 'Products', 'Home' (which is highlighted in blue), and 'Account'. Below the navigation bar is a black footer bar with three icons: a left arrow, a circle, and a square.</p>

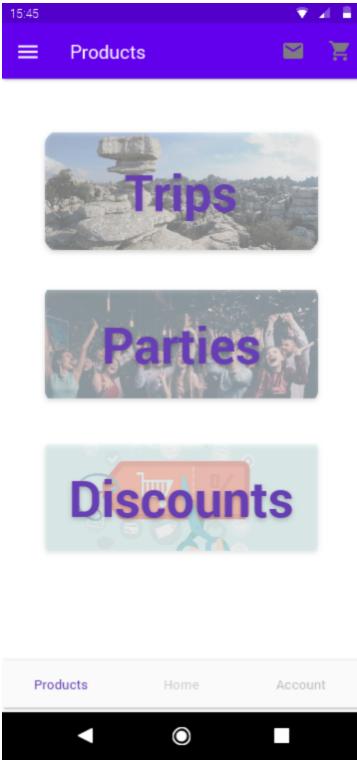
IF-0003	Login
Version	1.0
Diagram	 
Description	Basic login screen, that differs between employees and Students. If students want to SignUp they have to click the "Signup"-link provided.

IF-0004	Edit Data
Version	1.0
Diagram	 A screenshot of a mobile application interface titled "ECS". The screen displays five input fields for user data: First Name (Lisa), Last Name (Sangria), Date of Birth (12/03/2000), Email (lissan@us.es), and DNI (12345678Z). Each field has a "Change to" button next to it. Below the fields is a blue "Save" button. At the bottom of the screen, there is a navigation bar with links for "Products", "Home", and "Account", along with standard Android navigation icons (back, home, recent apps).
Description	Users can edit their data. The input fields are restricted to input depending on the type of data. After entering the data the user has to click on the save button.

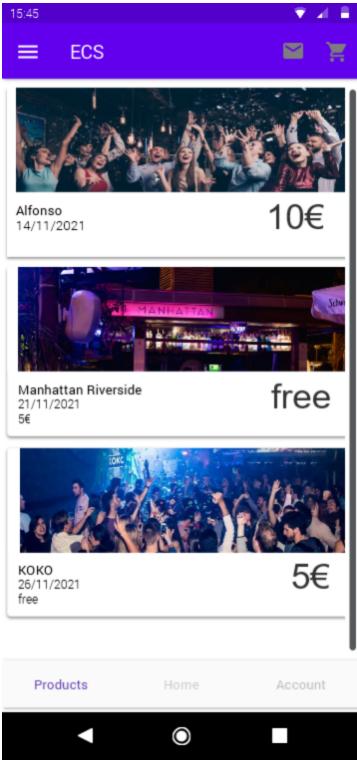
IF-0005	ECS-Card
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface. At the top, there is a purple header bar with the text "15:45" on the left, a menu icon, the word "ECS" in the center, and two small icons on the right. Below the header, the text "Your ECS Card" is displayed. A large rectangular box contains a digital representation of an ECS card. The card features a photo of a woman with blonde hair, the text "Erasmus Club Sevilla", "NAME: Lisa Sangria", "NAT: Portugal", "ECS NR.: 12346", and "VALIDITY: 13/09/2022". At the bottom of the card, there is a circular logo. Below the card, there is a navigation bar with three items: "Products", "Home" (which is highlighted in blue), and "Account". Underneath the navigation bar is a black bar with three white icons: a triangle pointing left, a circle, and a square.</p>
Description	This digital version of the ECS Card replaces the physical one. Therefore students can show it at the entrance to parties or trips.

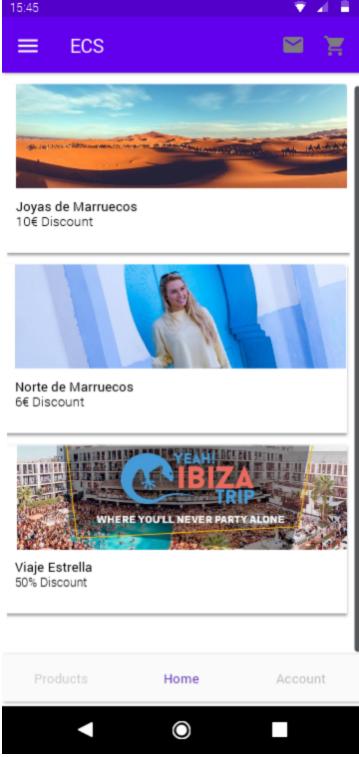
IF-0006	Student Upcoming Products
Version	1.0
Diagram	
Description	<p>Students can view all the events they have once bought. In the "upcoming" tab they can see their events that will yet take place. They can start the cancellation process by clicking on "Cancel".</p>

IF-0007	Student Past Products
Version	1.0
Diagram	
Description	Students can view all the events they have once bought. In the "past" tab they can see their events that have already taken place.

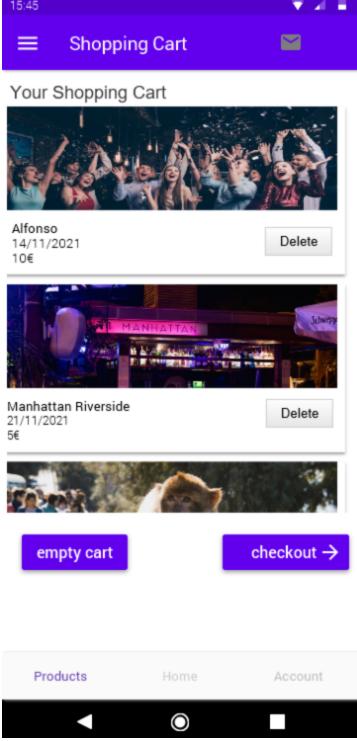
IF-0008	Choose Product
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface. At the top, there is a purple header bar with the time '15:45' and icons for signal strength, battery level, and notifications. Below the header is a navigation bar with three items: 'Products' (highlighted in blue), 'Home', and 'Account'. A bottom navigation bar features three icons: a left arrow, a circle, and a square. The main content area displays three cards, each representing a product category: 'Trips' (with an image of a rocky landscape), 'Parties' (with an image of a group of people), and 'Discounts' (with an image of shopping bags). Each card has its name in large, bold, purple text.</p>
Description	When clicking on "Products" in the bottom bar, users can choose between trips, parties or discounts depending on the kind of product they want to buy.

IF-0009	Trips
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface for travel trips. At the top, there is a purple header bar with the text "ECS". Below the header, there is a large image of a colorful town (Porto). Underneath the image, the trip details are listed:</p> <ul style="list-style-type: none"> Porto (96€) - Date: 21/11/2021-22/11/2021 Gibraltar (45€) - Date: 27/11/2021 Caminito del Rey (20€) - Date: 04/12/2021 <p>At the bottom of the screen, there is a navigation bar with three items: "Products" (highlighted in blue), "Home", and "Account". Below the navigation bar is a black footer bar with three icons: a left arrow, a circle, and a square.</p>
Description	A scrollable list of all announced trips is shown to the student. Each trip is described by a short overview consisting of Name, date, price and picture. By clicking on it, the user is led to a more detailed description.

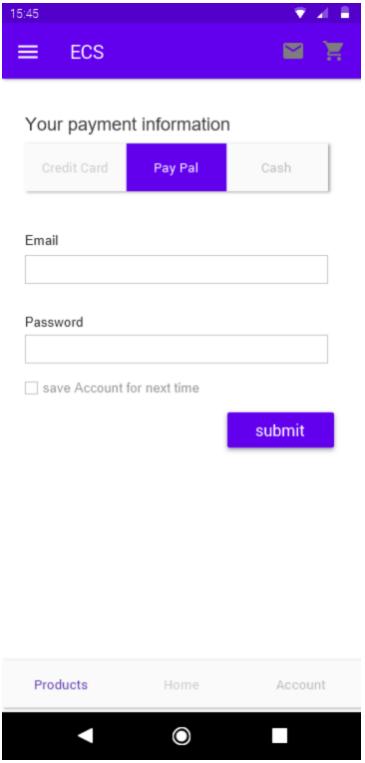
IF-0010	Parties
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface for a party booking system. The top bar is purple with the text "ECS". Below it is a grid of three cards, each representing a party:</p> <ul style="list-style-type: none"> Alfonso (14/11/2021) - 10€ Manhattan Riverside (21/11/2021) - free KOKO (26/11/2021) - 5€ <p>At the bottom is a navigation bar with "Products", "Home", and "Account" buttons.</p>
Description	A scrollable list of all upcoming parties is shown to the student. Each party is described by a short overview consisting of location, date, ticket price and picture. By clicking on it, the user is led to a more detailed description.

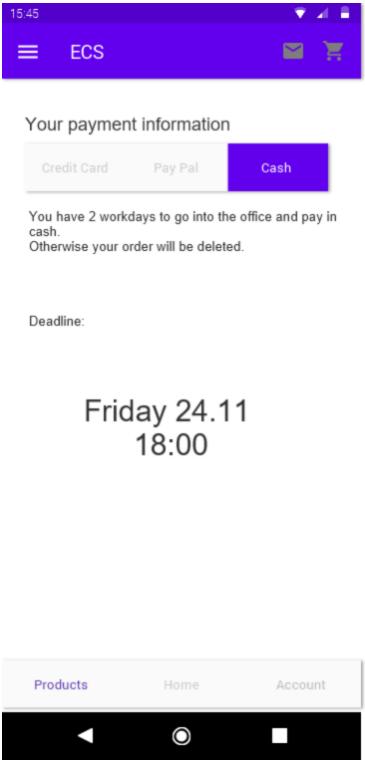
IF-0011	Discounts
Version	1.0
Diagram	
Description	A scrollable list of all available discounts is shown to the user. Only users with an ECS card can profit of these discounts. By clicking on it, the user is led to a more detailed description.

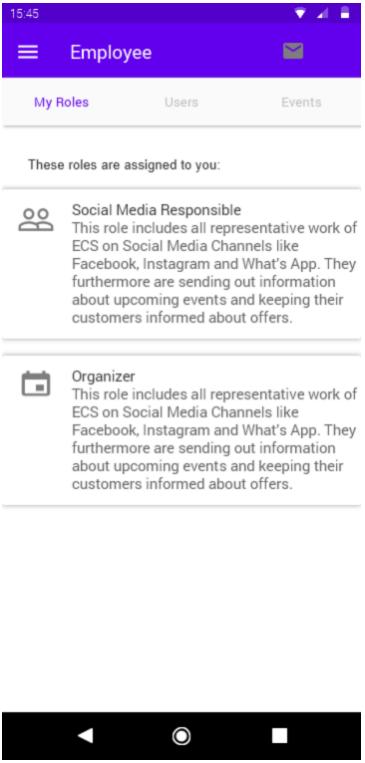
IF-0012	Trip Info
Version	1.0
Diagram	 <p>We invite you to explore Gibraltar the British colony in Europe and enjoy spectacular views of Africa and Spain from the Europa Point, the Cueva de San Miguel and meet the monkeys at the top of the Rock of Gibraltar.</p> <p>INCLUDES:</p> <ul style="list-style-type: none"> • Transport 1: Seville – Gibraltar. Ida 6h45 and round trip 20h30 by bus • Transportation 2: Private minibus in Gibraltar for the tour • Culture: Visit and entrance to the following attractions: Europa Point, Cueva de San Miguel, time with the Monkeys on the Rock. • Official Map Included • Leisure: Free time to tour the city and buy souvenirs at great prices. • Fun: Music By Erasmus Club Seville
Description	This is an example of a more detailed description of a product. There is also the possibility to add it to the shopping cart by clicking on the respective button.

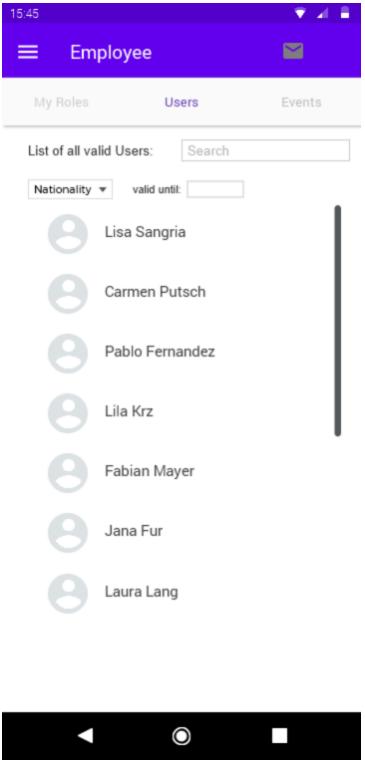
IF-0013	Shopping Cart
Version	1.0
Diagram	
Description	The shopping cart consists of a list with all the products that have been added to the cart by a user. The list can be emptied or the user can proceed to the checkout.

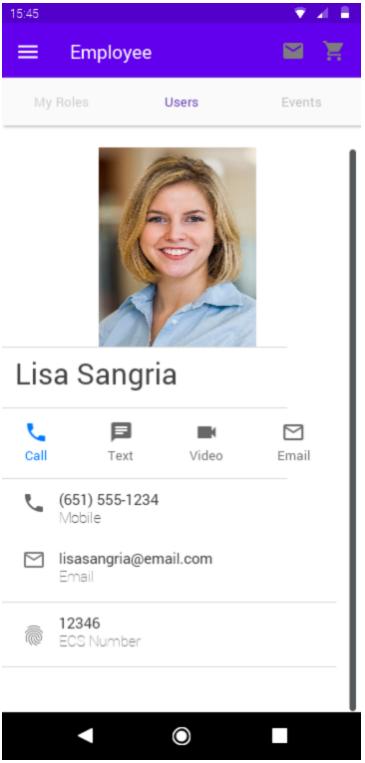
IF-0014	Checkout Credit Card
Version	1.0
Diagram	
Description	The checkout provides different payment options to the user. In order to pay with credit card the user has to enter their card number, expiration date and CVV.

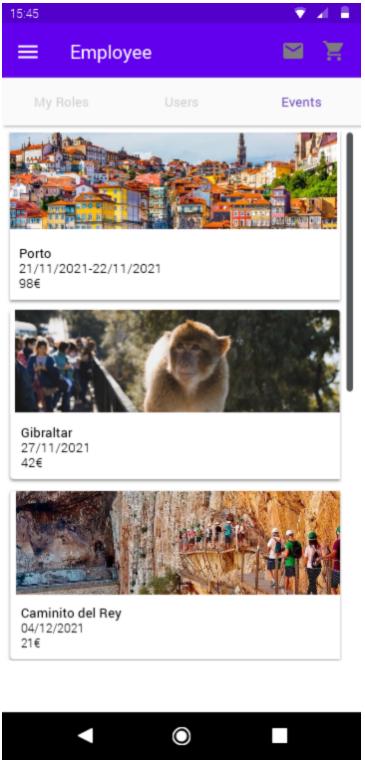
IF-0015	Checkout Paypal
Version	1.0
Diagram	 A screenshot of a mobile application interface titled "ECS". At the top, there is a navigation bar with icons for menu, home, and account. Below the navigation bar, the title "Your payment information" is displayed. Underneath this, there is a horizontal button bar with three options: "Credit Card", "Pay Pal" (which is highlighted in blue), and "Cash". Below the button bar, there are two input fields: one for "Email" and one for "Password", both represented by empty text boxes. Below these fields is a small checkbox labeled "save Account for next time". A large blue "submit" button is centered below the password field. At the bottom of the screen, there is a navigation bar with links for "Products", "Home", and "Account", followed by a black decorative bar with three white icons.
Description	The checkout provides different payment options to the user. In order to pay with PayPal, the user has to enter email and password.

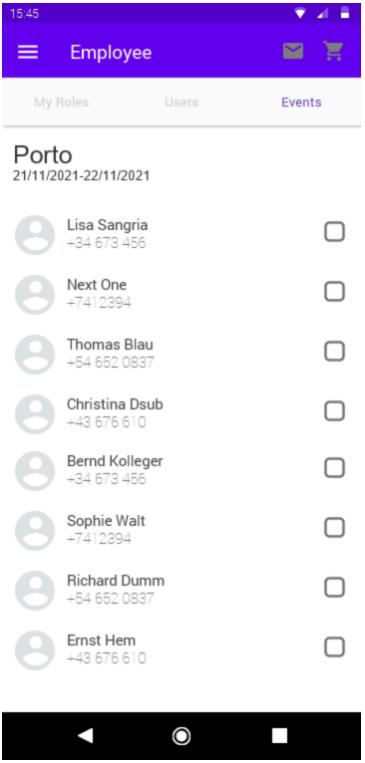
IF-0016	Checkout Cash
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface. At the top, it displays the time '15:45' and the title 'ECS'. Below the title are icons for email and shopping cart. A section titled 'Your payment information' contains three buttons: 'Credit Card', 'Pay Pal', and 'Cash', with 'Cash' being highlighted. A message below states: 'You have 2 workdays to go into the office and pay in cash. Otherwise your order will be deleted.' Underneath this, the text 'Deadline:' is followed by the date and time 'Friday 24.11 18:00'. At the bottom of the screen, there is a navigation bar with tabs for 'Products', 'Home', and 'Account', and a black control bar with three icons.</p>
Description	To checkout with cash the user is given a timeframe until when they have to pay in cash at the ECS office. Up to this deadline the products are reserved for the student.

IF-0017	Employee Roles
Version	1.0
Diagram	 A screenshot of a mobile application interface titled "Employee". The top bar is purple with the title "Employee" and icons for notifications and settings. Below the bar, there is a navigation bar with three items: "My Roles" (highlighted in blue), "Users", and "Events". The main content area has a light gray background and displays the text "These roles are assigned to you:". Below this, there are two entries, each with an icon and a role name. The first entry is "Social Media Responsible" with a person icon, and the second is "Organizer" with a calendar icon. Both entries have a detailed description below them. At the bottom of the screen is a black navigation bar with three white icons: a triangle pointing left, a circle, and a square.
Description	This is the first screen an employee sees when they log in. It shows all the business roles that have been assigned to them.

IF-0018	Employee Users																
Version	1.0																
Diagram	 <p>The screenshot shows a mobile application interface titled "Employee". The top navigation bar includes "My Roles", "Users", and "Events". Below this is a search bar labeled "List of all valid Users:" with a "Search" button. A dropdown menu for "Nationality" is open. A "valid until:" field is also present. The main content area displays a list of users with their names and profile icons:</p> <table border="1"><thead><tr><th>User</th><th>Action</th></tr></thead><tbody><tr><td>Lisa Sangria</td><td></td></tr><tr><td>Carmen Putsch</td><td></td></tr><tr><td>Pablo Fernandez</td><td></td></tr><tr><td>Lila Krz</td><td></td></tr><tr><td>Fabian Mayer</td><td></td></tr><tr><td>Jana Fur</td><td></td></tr><tr><td>Laura Lang</td><td></td></tr></tbody></table> <p>At the bottom is a standard Android navigation bar with back, home, and recent apps buttons.</p>	User	Action	Lisa Sangria		Carmen Putsch		Pablo Fernandez		Lila Krz		Fabian Mayer		Jana Fur		Laura Lang	
User	Action																
Lisa Sangria																	
Carmen Putsch																	
Pablo Fernandez																	
Lila Krz																	
Fabian Mayer																	
Jana Fur																	
Laura Lang																	

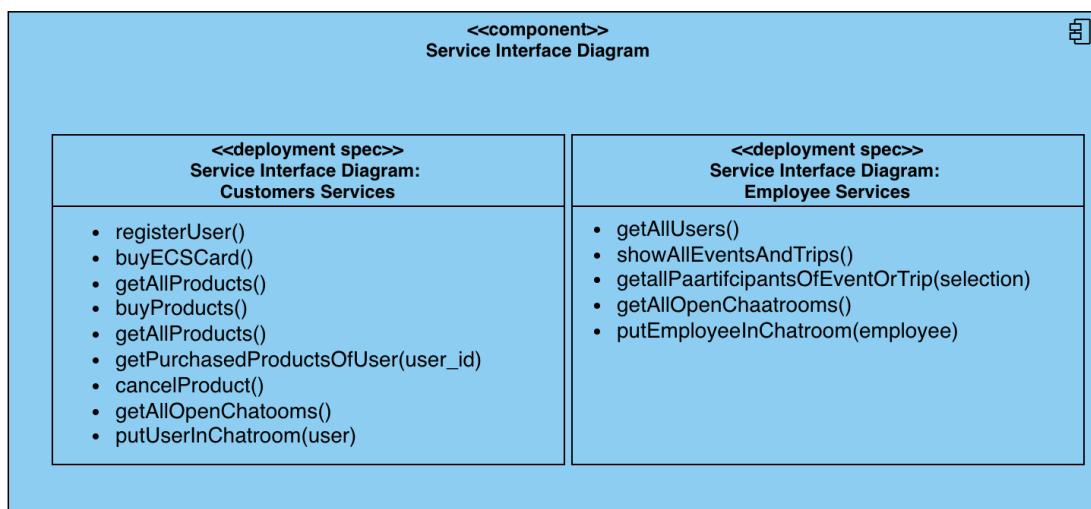
IF-0019	Employee User Detail
Version	1.0
Diagram	 A screenshot of a mobile application interface titled "Employee". The top navigation bar includes icons for My Roles, Users (selected), and Events. Below the bar is a large portrait of a woman with blonde hair, identified as "Lisa Sangria". Underneath the portrait are four interaction buttons: "Call", "Text", "Video", and "Email". Below these buttons are two lines of contact information: "(651) 555-1234" and "lisasangria@email.com". At the bottom of the screen is a black navigation bar with three white icons: a left arrow, a circle, and a square.
Description	In the tab "Users" employees can view a scrollable list of users. Moreover they can filter it by validity date and nationality as well as search for specific names.

IF-0020	Employee Events
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface titled "Employee". At the top, there are navigation icons for "My Roles", "Users", and "Events". Below this, there are three cards representing travel events:</p> <ul style="list-style-type: none">Porto 21/11/2021-22/11/2021 98€ Gibraltar 27/11/2021 42€ Caminito del Rey 04/12/2021 21€  <p>At the bottom of the screen, there is a black navigation bar with three icons: a left arrow, a circle, and a square.</p>
Description	In this screen employees can see all the upcoming events.

IF-0021	Employee Event Checklist
Version	1.0
Diagram	 <p>The screenshot shows a mobile application interface. At the top, there's a purple header bar with the text "Employee" in white. Below the header, there are three tabs: "My Roles", "Users", and "Events". The "Events" tab is currently selected. The main content area displays a list titled "Porto" with the date range "21/11/2021-22/11/2021". Below the title, there is a list of eight attendees, each with a small profile icon, their names, phone numbers, and a checkbox to the right. The attendees are:</p> <ul style="list-style-type: none"> Lisa Sangria +34 673 456 Next One +7412394 Thomas Blau +54 652 0837 Christina Dsub +43 676 610 Bernd Kolleger +34 673 456 Sophie Walt +7412394 Richard Dumm +54 652 0837 Ernst Hem +43 676 610 <p>At the bottom of the screen, there is a black navigation bar with three icons: a left arrow, a circle, and a square.</p>
Description	<p>By clicking on a event in the "Events" screen employees are led to a list of all users that will attend this event. The phone number and a checkbox, that helps the employee to note attendance, is provided for each student.</p>

6 | System Service Interface

6.1 System Services Interface Diagrams



6.2 Description of the system services interface

- User Interface

- registerUser() - the goal of the function is to register as a User; by clicking on the button, the registerUser() function is triggered. When the user introduced all information needed the new account is created.
- buyECSCard() - the idea of that function is to purchase an ECS Card; the result of that function is confirmation of purchase and after that, the user can have their ECS card.
- getAllProducts() - the purpose of that function is to show all available products in order to view them or make a purchase; the function is going through all products and as an output returns a list of all products available to buy.
- buyProducts() - after choosing a product logged in users can buy them; the result of that function is confirmation of the purchase and after that the user can view their purchased products.
- getPurchasedProductOfUser(userid) - the idea of the function is to get an overview of the bought products; input of that function is userid, the function is going through all products that this user has bought and returns as an output a list of all purchased products of that user.
- cancelProduct() - the idea of that function is to cancel a purchase; to invoke that function we need to choose what product we want to delete and the output of that function is confirmation of the cancellation;
- getAllOpenChatrooms() - the goal of that function is to show all chatrooms, to which the user or employee can join; the function goes trough all chatrooms and returns a list of open ones
- putUserInChatroom(user) - this function allows the user to join chatroom; user has to choose the chatroom and the result of that function is the user is entering the chatroom and receies a confirmation of successful joining

- Employee Interface

- getAllUsers() - the idea of that function is to show all users registered in the system; the function goes through all registered users and the output is the list of the users who are in Seville during the current semester
- showAllEventsAndTrips() - the idea of the function is to show all the events and trips (past ones too); the function selects all events and trips and returns them

- getAllParticipantsOfEventOrTrip(selection) - the goal of that function is to show the list of the participants who attended a particular event; the function takes as an input the chosen event, and returns a list of participants
- getAllOpenChatrooms() - the goal of that function is to show all chatrooms, which the user or employee can join; the function goes through all chatrooms and returns a list of open one
- putEmployeeInChatroom(employee) - this function allows the employee to join chatrooms; the employee has to choose the chatroom and the result of that function is the employee entering the chatroom and getting a confirmation of successful joining

6.3 Services consumed by the system

RQI	Name	Organisation	Documentation
RQI-0001	Backend Program	Cerotec estudios	https://www.cerotec.net/privacidad/
RQI-0002	Payment	PayPal	https://developer.paypal.com/api/rest/

7 | Information about Traceability

	IRQ-0001 User	IRQ-0002 Order	IRQ-0003 Product	IRQ-0004 Payment	IRQ-0005 Employee	CRQ-0001 only one card per user	CRQ-0002 Booking only for user himself	CRQ-0003 booking only if limit not reached
DSA-0001 class User	x	x				x	x	
DSA-0002 class Order	x	x	x	x			x	x
DSA-0003 class Product			x	x		x		
DSA_0004 class Trip extends Product				x				
DSA-0005 class Party extends Product				x				
DSA-0006 class Employee				x		x		
DSA-0007 class Payment		x		x				
class CreditCard extends Payment					x			
DSA-0009 class PayPal extends Payment					x			
DSA-0010 class OrderLine			x	x				
VAL-0001 class Date	x	x	x	x				
VAL-0002 class DateTime extends Date		x	x	x				
VAL-0003 Enum OrderStatus		x						
VAL-0004 Enum ProductStatus			x					
VAL-0005 enum Role						x		

Figure 13: Traceability Matrix: IRQ and CRQ - Class Diagram Items