

Project title	Internet Café Management
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1. Task Description

Here you shall describe in detail what the application must do, and how the user interacts with the application. A sketch of the GUI should also be presented. Should be about 3-4 pages. If group project then also task division should be included here.

This application has the role to ease the managing of the net café. The application will:

- Manage the products in the store (sell or supply products)
- Manage the funds of the NetCafe.
- Search and Register Customers in the list of the NetCafe,
- Make reservations based on the ID of the customer, Date, Start Time and End Time

And by clicking on the stations which are to reserved.

There are 2 main panels to work with: the "Store" and the "Manager" which can be selected by pressing on the respective button from the ones on top. Also in the middle there is a TextAre to show the current Balance of the NetCafe.

The Store

It is the first panel of the Application. There are 2 input texts : ID and QUANTITY and also 2 buttons : BUY and SELL. Below them there is table with all the products that we have in our shop like: the id of the products, name, quantity, buy price (from supplier) and sell price (the price we sell the product to customers).

The Manager

This is the panel responsible for the managing of the customers and reservations. There are 3 panels (sections) managed in this panel : *The Search Customer*, the *Register Customer* and the *Make Reservation*.

The Search Customer button on the left will open a panel where the Manager will have to insert either the email to search by or the ID to search by and which will provide the data for the given Customer. The found ID will be used to register the Customer for the reservation he is about to make.

The Register Customer button will open the panel where the user has to insert the First Name, Last Name and Email of the Customer, which will insert the Customer into the List of Customers. If in the List there already exists a customer with the given Mail, a message will be displayed and a new mail will have to be used to make the Registration. If the registration is done Succesfully the Customer's ID will be shown in the last box of the panel

















The Make Reservation Pane: here the Manager will have to insert the Date, Start Time, End Time and the Customer's ID in the Fields which will be used to make the reservation. After the inputs are inserted press the "Show Stations" button to see the available stations (in color green) and unavailable Stations (in color red). By pressing on a green Station the reservation for the given Station will be made for the Inputed Customer and by pressing on the "Show Stations" button again the Stations will refresh and the Selected Stations will now be colored RED which mark the unavailability of the Station.





Station	
<ul style="list-style-type: none"> • Know the stations at our disposal 	<ul style="list-style-type: none"> • GUI
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #1</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↓</div> </div>	
Customer	
<ul style="list-style-type: none"> • Have list of customers that came at our NetCafe and which customer made which reservation. 	<ul style="list-style-type: none"> • GUI
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #2</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">↑</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↓</div> </div>	
Product	
<ul style="list-style-type: none"> • To know the products available at our NetCafe, with the price 	<ul style="list-style-type: none"> • GUI
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #3</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">↑</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↓</div> </div>	
Reservation	
<ul style="list-style-type: none"> • To know which Stations are available based on the time of a reservation 	<ul style="list-style-type: none"> • GUI • Station • Customer
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #4</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">↑</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↓</div> </div>	
Main	
<ul style="list-style-type: none"> • To launch the application 	<ul style="list-style-type: none"> • GUI
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #5</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">↑</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↓</div> </div>	
GUI	
<ul style="list-style-type: none"> • To manage the NetCafe by: • - Selling and Suppling products • - Making Reservations • - Registering and searching for customers 	<ul style="list-style-type: none"> • Station • Main • Product • Reservation • Customer
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">Edit card #6</div> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">×</div> <div style="border: 1px solid #ccc; padding: 2px 5px;">↑</div> </div>	























3. Class Diagram























Product		
f	name	String
f	type	String
f	quantity	int
f	price_buy	double
f	price_sell	double
m	Product(String, String, int, double, double)	
m	getQuantity()	int
m	setQuantity(int)	void
m	getPrice_buy()	double
m	setPrice_buy(double)	void
m	getPrice_sell()	double
m	setPrice_sell(double)	void
m	getName()	String
m	setName(String)	void
m	getType()	String
m	setType(String)	void
m	buy(int)	double
m	sell(int)	double

Reservation		
f	date	String
f	start	String
f	end	String
f	customer	Customer
f	station	Station
m	Reservation(String, String, String, Customer, Station)	
m	getDate()	String
m	setDate(String)	void
m	getStart()	String
m	setStart(String)	void
m	getEnd()	String
m	setEnd(String)	void
m	getCustomer()	Customer
m	setCustomer(Customer)	void
m	getStation()	Station
m	setStation(Station)	void

		Station
		type String
		ID int
		Station(String, int)
		getType() String
		setType(String) void
		getID() int
		setID(int) void

		Main
		main(String[]) void

		Customer
		lastName String
		firstName String
		email String
		Customer(String, String, String)
		getLastName() String
		setLastName(String) void
		getFirstName() String
		setFirstName(String) void
		getEmail() String
		setEmail(String) void

		Customer
		lastName String
		firstName String
		email String
		Customer(String, String, String)
		getLastName() String
		setLastName(String) void
		getFirstName() String
		setFirstName(String) void
		getEmail() String
		setEmail(String) void

GUI		
f	balance	int
f	products	Product[]
f	customersVector	Vector<Customer>
f	reservationsVector	Vector<Reservation>
f	nrProducts	int
f	biggerFont	Font
f	biggerFontButSmaller	Font
f	biggerFontButEvenMoreSmaller	Font
f	frame	JFrame
f	home	JPanel
f	storePanel	JPanel
f	managerPanel	JPanel
f	manager	JButton
f	store	JButton
f	balField	TextField
f	tableModel	DefaultTableModel
f	scrollTable	JTable
f	scrollPane	JScrollPane
f	id	TextField
f	quantity	TextField
f	buy	JButton
f	sell	JButton
f	controlPanel	JPanel
f	searchCustomer	JButton
f	registerCustomer	JButton
f	makeReservation	JButton
f	searchCustomerPanel	JPanel
f	registerCustomerPanel	JPanel
f	makeReservationPanel	JPanel
f	inputEmail	TextField
f	inputID	TextField

f	◦	inputEmail	TextField
f	◦	inputID	TextField
f	◦	idSearch	Button
f	◦	emailSearch	Button
f	◦	outputID	TextField
f	◦	outputEmail	TextField
f	◦	outputFirstName	TextField
f	◦	outputLastName	TextField
f	◦	registerFirstName	TextField
f	◦	registerLastName	TextField
f	◦	registerEmail	TextField
f	◦	finishCustomerRegistration	Button
f	◦	registeredID	TextField
f	◦	nrRows	int
f	◦	nrCols	int
f	◦	stationsArray	Station[]
f	◦	buttonsArray	Button[]
f	◦	stationsPanel	Panel
f	◦	pricePerHour	double
f	◦	reservationDate	TextField
f	◦	reservationTimeStart	TextField
f	◦	reservationTimeEnd	TextField
f	◦	reservationCustomerID	TextField
f	◦	reservationPricePerHour	TextField
f	◦	showStations	Button
m	🔗	GUI(FileWriter)	
m	🔗	isNumeric(String)	boolean
m	🔗	initializeProducts()	void
m	🔗	initializeCustomers()	void
m	🔗	initializeTable(Product[], int)	void
m	🔗	searchByEmail(String)	int
m	🔗	searchById(int)	int
m	🔗	checkAvailability(String, String, String, int)	boolean