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2TI/4SO

Object Oriented System Analysis

14/12/2020

Complete analysis International Gladiator Association

Contract

1. Name of the team:

Shards of diversity

2. The team members

Members of the team:

- Evert Verrycken
- Lennert Nowak
- Thomas Van Gansen

3. Roles

• Project manager: Thomas

As project manager, Thomas has a broad overview of the project. Therefore, he will be in charge of dividing the tasks and making sure all team members do what is expected of them. He will also try to keep the team morale high by regularly checking in on everybody. Thomas will lead the company meetings and make sure everyone contributes.

• Secretary & planner: Evert

The secretary is in charge of all documents. He does the quality control, making sure the document is complete, easy to understand, available for the rest of the company, while making sure it seems written by one person instead of a group. Evert will also be the one writing the meeting reports and uploading all the assignments.

The planner is responsible for the company calendar. He sets the deadlines for all tasks and make sure everyone meets that deadline.

Communicator: Lennert

It's the communicator's job to handle the communications with all external parties. As the single point of contact, he will try to gain the trust of all clients and keep their good will. Doing so, we can bridge the gap between our company and the clients.

4. Collaboration:

What is considered to be a good teamwork for your project?

- Helping each other when needed
- · Everybody doing what's expected of him
- Being pro-active in taking on tasks
- Communicating with each other
- Being present as much as possible.

What is good collaboration (attitude, ...)?

- Staying friendly and patient with each other
- Keeping each other motivated
- Staying involved in the project

How to collaborate (tools, communication, file sharing, contact moments outside classes, what happens in case of absence...)?

- In case of absence: let the other team members know you're not going to be there and why. If the absentee is able to join the meeting online, he will do so. Otherwise, the team can then give him some info he missed and tasks to do from home
- Communication: group chat on Facebook Messenger
- Tools: group chat to stay in touch, calendar to plan meetings and deadlines, e-mail
- File sharing: through our Toledo group and OneNote project
- Contact moments outside of class will be planned if needed. We can meet at school between breaks or get together over voice chat.

What do you expect from the lecturer?

- Guiding us in the right direction
- Answering any questions we might have

Business Analysis

1. The business

The Gladiator Association in Belgium has become quite popular over the last few months. The CEO wants to take his idea internationally, adding arenas all over the world. Central management will remain in Leuven.

At the moment everything is organised on paper, without any kind of IT-system. This wouldn't work when they organise fights in different countries, different arenas, at different times, Therefore, he has asked us to provide his company with an IT-system that supports and automates his business as much as possible.

The organization has one arena, located in Leuven, Belgium. They have a basic website where the upcoming fights are displayed and where you can find the results of past fights.

At the moment, the only way to watch the fights is in the arena itself. Tickets for each fight can be bought at the box office at the arena entrance. The box office is open every day of the week so customers can buy their tickets in advance and not only on fight night. Customers have to be over 18 years of age.

In the arena itself, there are some extra activities customers can enjoy during fight night. There are food and drink stands, there's a spot where you can buy merchandise of your favourite gladiators and you can also bet on the fights. When a customer misbehaves during his visit, he will be blacklisted.

Just like in football, gladiators represent a team. They are not slaves, but employees of said team. The manager of the team enlists his gladiators for upcoming fight nights or tournaments. A gladiator must be recruited by a manager in order to participate to a fight. He/she can also choose to resign from a team.

Gladiators can be every gender, age, weight, ... To make the fights more interesting and diverse, they are sorted into different leagues and categories. The category defines what kind of fight it is going to be and which attributes can be used or what the environment in the arena is, for example:

- Gladiator vs gladiator
- Gladiator + animal vs gladiator + animal
- Group of gladiators vs group of gladiators
- ...

The gladiators are divided in four leagues, based on their skill and showmanship:

- S-league: the best of the best
- A-league: very good, but not yet at S-level
- B-league: up and coming gladiators
- C-league: amateur gladiators

2. The stakeholders

- Government: may change laws regarding stadium/fight conditions
- Gladiators: the ones fighting in the arena
- Managers: employees of a team, they manage their gladiators and enter them in fights
- Customers: come to watch the fights and enjoy all the extras the arena has to offer
- Shareholders: can come to watch the fights in our VIP-boxes
- Employees at the stadium: doctors, security, ticket sellers, animal trainers, marketing team
- Banks: money transfers to managers etc.
- Suppliers: food and drinks for the arena

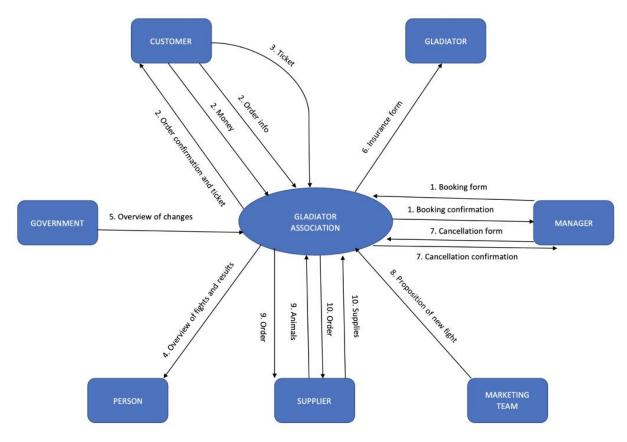
3. The PIECES framework

	Problem/opportunity	Solution		
Performance Tickets can only be bought from the box office Create a at the arena's entrance.		Create a website to allow customers to buy tickets online.		
Information and data	Signing up to participate in a fight is done on paper which makes it time consuming for the managers and less orderly for the Gladiators Association to make the schedule.	Creating an online sign-up sheet and database so managers can sign up from a distance. With the database a better overview of all the gladiators can be acquired.		
Economics, costs, profits	Before each fight both managers have to have the money on them to do the transaction. This money can ramp up if multiple fights are taking place with gladiators from the same manager.			
Control and security	Each customer has to be checked on an attendance list to see if they bought a ticket before entering the stadium.	Adding a QR code on the ticket, this way we just need to scan the tickets at the entrance.		
Efficiency, people, processes	Arranging the schedule for the fights takes a lot of time and effort.	Making an online matching system.		
Service	Waiting lines at the catering and merchandise stands are often very long and take longer than the breaks.	Creating an online web shop on the website where you can order your food and merchandise while still watching the fights, this can only be done while having an active QR code.		
	Placing bets and managing them can take a long time.	Creating an online betting platform so the customer doesn't have to wait. This will also reduce the time to manage it all.		

4. The business events

- 1. Manager books a fight for a gladiator
- 2. Customer orders a ticket
- 3. Customer enters arena with ticket
- 4. Person wants overview of all planned fights and results
- 5. Government changes laws
- 6. Gladiator gets hurt
- 7. Gladiator cancels fight due to being injured/sick
- 8. Marketing team makes up new kind of fight
- 9. Arena buys new animals
- 10. Arena places order with supplier

5. Context diagram



6. Business use-cases

- 1. Fight is added to the schedule, confirmation is sent to the manager
- 2. Print unique ticket (will be mailed when ordered online)
- 3. Employee checks ticket, customer is allowed to enter if it's valid
- 4. Generate overview of upcoming fights and results
- 5. Precautions are taken to abide by the law
- 6. Medics get sent to take care of him/her, insurance gets taken care of
- 7. Look for replacement, cancel the fight if no replacement found, customers get refund
- 8. Proposition will be reviewed and then approved or denied
- 9. Create order with animal supplier
- 10. Create order with supplier

7. TO BE situation

The Gladiator Association wants to become the International Gladiator Association (IGA). They will build arenas all around the world to make the fights accessible to more customers. The IT-system should support the scheduling of fights, takes care of the online ticket sale, support a betting platform and sell merchandise.

The customer has to be able to:

- Buy their tickets online through the website, the tickets bought will be for the entire night, not just for one fight.
- Buy merchandise through online shopping on the website.
- Place bets on gladiators through the online service that's provided on the website.

The company has to be able to:

- Schedule the fights through an AI and set up the most evenly matched fights for the most exiting battles.
- Schedule fights themselves so they can do it manually for when event organizers plan a big match.
- Display their upcoming fights on their website, this will be shown on the main page since it's the main selling point.
- Scan the QR-code on the tickets at the entrance of the arena.
- Display an advanced report of recent fights on their website including replays.

The managers have to be able to:

- Sign their gladiators up for fights through an online sign-up sheet.
- Sign out their gladiators in case of injuries, them quitting or death
- Make money transfers through online banking

Requirements Analysis

1. The scope of this project

At the moment everything is organised on paper, without any kind of IT-system. This wouldn't work when they organise fights in different countries, different arenas, at different times, Therefore, he has asked us to provide his company with an IT-system that supports and automates his business as much as possible.

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- B-league: up and coming gladiators
- C-league: amateur gladiators

The customer has to be able to:

- Buy tickets online
- Buy merchandise online
- Place bets online
- Order food online while watching the fight
- Watch overview of upcoming fights
- Look at the reports and replays of the previous fights
- Be able to get statistics about the gladiators, so they can make an evaluated and educated bet for profit

The company has to be able to:

- Schedule the fights through an AI and set up the most evenly matched fights for the most exciting battles
- Schedule fights themselves so they can do it manually for when event organizers plan a big match
- Have access to the AI which creates fights with equal chances for both parties, to make close battles
- Display the upcoming fights on their website
- Display reports and replays of the previous fights on their website
- Scan the QR-code on the tickets at the entrance

The managers have to be able to:

- Sign their gladiators up for fights through an online sign-up sheet
- Sign out their gladiators in case of injuries, them quitting or death
- Make money transfers through online banking, so the transactions can be done from a distance
- Look at the fight overview to be able to plan with their team and be able to organize their gladiators

The company is planning to establish all of these points by completing one big project

This project is divided up in three parts: Creating the gladiator database, designing the online website and making the advanced AI.

The website will be the main priority, having an online presence is important, being able to do sales online will be desired. Later on, the two other projects will be implemented into the website to completely automize it, but until then the website will have to be monitored.

The database will be the next project to be started, a database will have to be made to give info to the website. Without the website having to be edited every time the database is being altered. The AI will also have to make use of this database to correctly choose gladiators to compete with each other.

Lastly the AI will be made, it will use the data stored in the database to make interesting upcoming fights. The AI will compare gladiators' classes, win percentages in these classes, experience, physical abilities... to make an even battlefield for the participating gladiators. That way each fight will be unpredictable and unexpected. Of course, the event managers can still deny fights suggested by the AI or create their own tournaments.

2. The functionalities

Working dynamic website

- With login for managers
- Ticket selling
- Betting
- Overview
- Money transfers through online banking

Database

- Info about past fights
- All upcoming fights
- Info about each gladiator
- Info about arenas

Easy UI

- Add/remove gladiators
- Add/remove fights

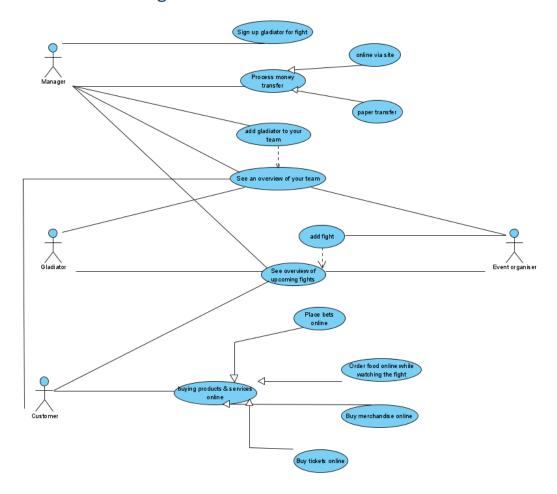
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- Match up gladiators against each other
- Controllable and able to be overwritten by event managers

3. The actors

- Managers who use the website to sign-up/get bank transfers
- Customers to buy tickets, see overview, see planned fights
- Gladiator can see overview
- Event organizers (employee) can use the AI or plan fights themselves and put on the site

4. The use-case diagram



5. Use-case descriptions

Name	Add gladiator to team
Summary	A manager can sign up a gladiator for his team with the association. From then on, he can participate in fights.
Actors	Manager
Precondition	Having employed a new gladiator to add to the system.
Scenario	A sign-up form will be sent to the manager, he will fill in that form and return it.
Exceptions	False/incomplete information given about the gladiator. The manager will be sent back to the sign-up page with errors about what went wrong.
Postcondition	Gladiator information is added in the system. If no suggested level he will automatically be a C-league fighter. Information page about the gladiator is added to the C-league. The gladiator will be able to participate in fights.

Name	Process money transfer
Summary	A manager can make money transfers either online or via paper
Actors	Manager
Precondition	/
Scenario	A bill will be send/given to the manager, he will have to pay it or contact the association to discuss the bill.
Exceptions	The managers denies paying the bill.
Postcondition	After processing the fee, the association finishes up the requested tasks for example: signing up the gladiator.

Name	See overview of fights.		
Summary	On the website people can access an overview of all upcoming fights, results and replays of previous fights.		
Actors	Anyone		
Precondition	/		
Scenario	You get an overview of upcoming fights. They will be ordered by date, from the earliest fight to the last. You can add a search condition to get a modified overview. You can also go to an overview of previous fights, where the results and replays of those fights are shown.		
Exceptions	/		
Postcondition	The actor has the requested overview, either the entire overview or a modified overview that meets their requirements.		

Name	Add fights
Summary	Event managers (employee) can add new fights to the overview
Actors	Event managers (employee)
Precondition	Having a fight that is accepted (by association and by the gladiator and his manager)
Scenario	A fight request is added to the system
Exceptions	A fight doesn't get acceptedeither bythe association (eg. it doesn't follow all the laws) or by the gladiator and/or his manager (e.g., a fight theyknow the gladiator can't win/gladiator is on vacation/is sick)
Postcondition	The fight is added to the system

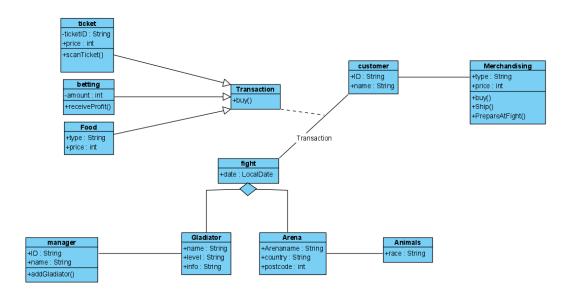
Name	Buying products & services online	
Summary	Customers can buy products like merchandise or food & drinks online. Or they can buy services like tickets to a fight/bet on fights	
Actors	Customer	
Precondition		
Scenario	A customer will get an overview of items they can buy. They can add items to their cart and buy them all at once. They are then redirected to their bank application and from there they can pay with whichever method their bank provides (e.g., QR-code, online banking)	
Exceptions	The payment gets rejected; the system will remove the purchase.	
Postcondition	They are sent an email with confirmation of the sale. If they bought merchandise it can be shipped to them or they can pick it up at the stadium. Tickets are added in the mail as a printable pdf, but the mail also has a QR-code which can be used to enter the stadium.	

Name	See overview of gladiator team		
Summary	Anyone can request an overview of the teams		
Actors	Anyone		
Precondition			
Scenario	You get an overview of all existing teams and which gladiators are associated with which teams.		
Exceptions			
Postcondition	The requested overview is sent to the actor.		

Name	Sign up gladiator for a fight
Summary	A manager can sign one of his gladiators up for an upcoming fight
Actors	Manager
Precondition	A gladiator is registered with to Association
Scenario	The system sends a sign-up form to the manager. When it is returned, a gladiator is added to that fight
Exceptions	The sign-up form is incomplete/contains false information: the sign-up form is resent to the manager with errors messages shown
Postcondition	The gladiator is added to that fight, the manager gets a confirmation message

Business Model

1. The class diagram



2. The model dictionary

Customer: is able to login or create an account, a new customer object is created when the account creation is complete. The login form contains an email address, a hidden account ID and a password. The customer can perform a transaction related to a fight, example: buy ticket to fight. They can also buy merchandise and choose whether it has to be shipped to them or they'll pick it up at a fight.

Fight: a new fight object is created when a fight is organised by the event managers. A fight will be at a specific arena and have one or more chosen gladiators.

Arena: whenever a new arena gets built, a new object will be created. In certain arenas, animals are available for fights.

Gladiator: a new gladiator object gets made when a manager adds a fighter to his team.

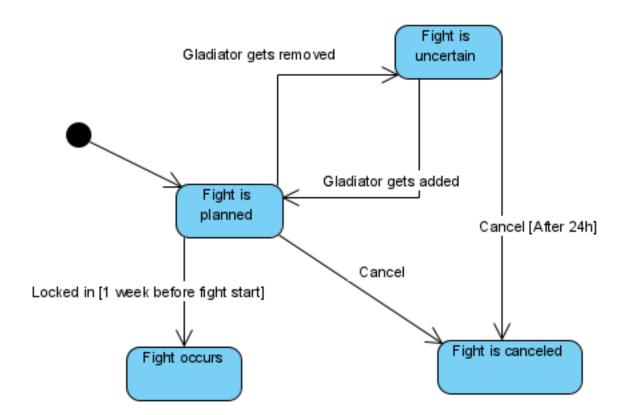
Manager: is able to login or create an account, the new object is made when the account is created. It's the same form as the customer plus an additional team name option. A manager should be able to register a new gladiator.

Dynamic layer

1. State diagram: name class

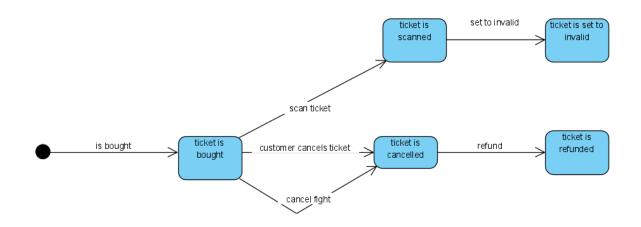
Dynamic classes: (Lennert)

- Fight is planned
- Fight gets a replacement gladiator
- Fight is cancelled



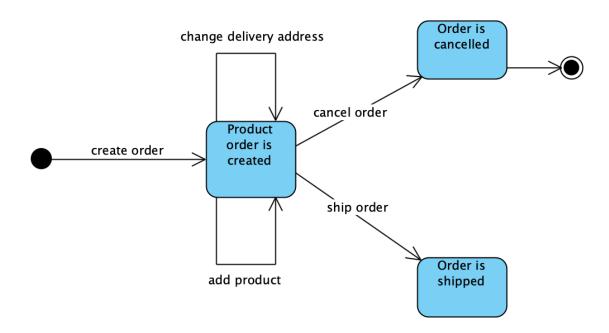
Dynamic classes: (Thomas)

- Ticket is bought
- Ticket is scanned
- Ticket is refunded

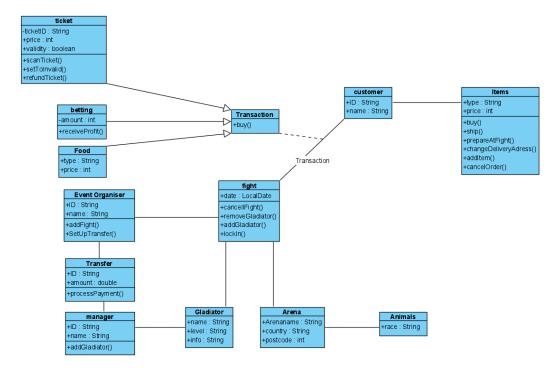


Dynamic classes: (Evert)

- Product is ordered
- Order is cancelled
- Shipping address gets changed
- Other products are added to the same order

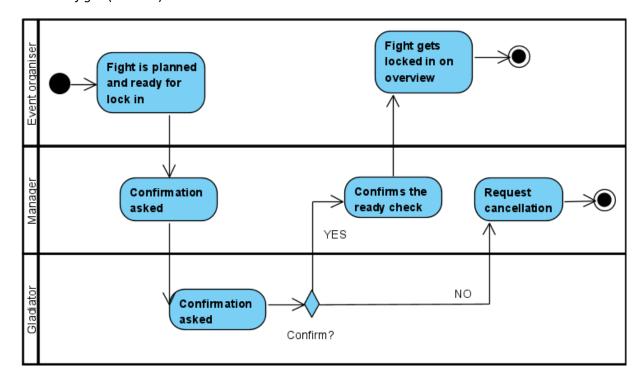


2. The class diagram V2

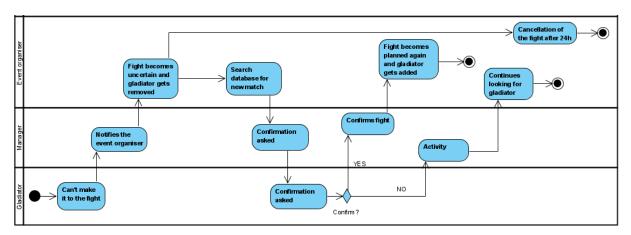


3. Activity diagram: name workflow

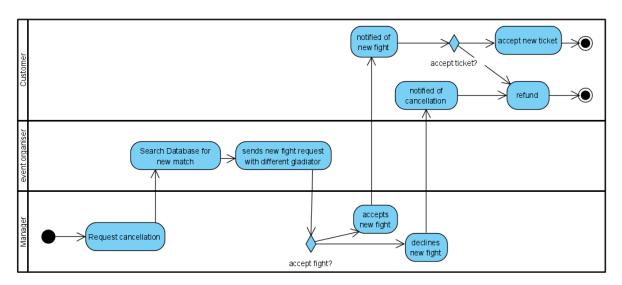
Lock in a fight (Lennert)



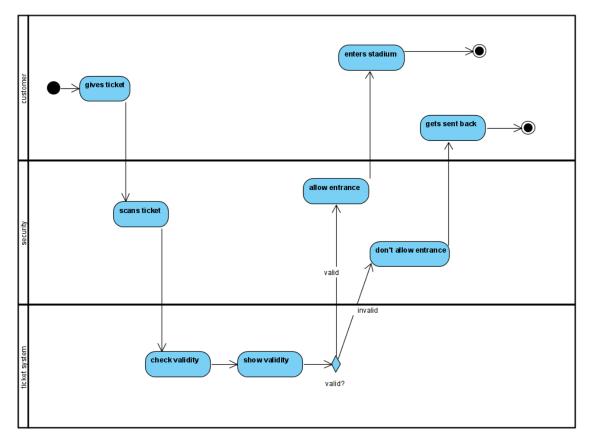
Add/remove gladiator from a fight (Lennert)



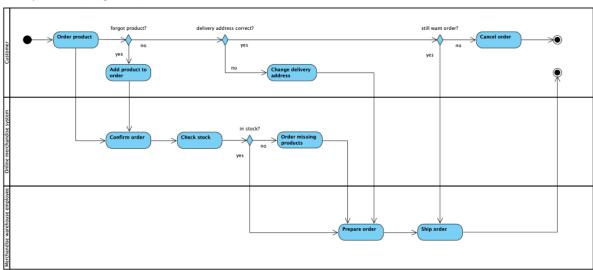
Cancel fight/Cancel ticket (Thomas)



Scan ticket (Evert)



Order product (Together)



User Stories

1. Product Backlog

ID	As a/an	I want to	so that	Priority	Story points
W01	Manager	Sign up one of my	He/she can fight in the	High	1
		gladiators for a fight	arena		
W02	Manager	Do online money transfers	I can receive money for	Normal	3
			fights, transfer money to		
			sign up a gladiator		
W03	Anyone	See the overview of fights	I can see which	Very high	1
			gladiators participate in		
			which fights and buy		
			tickets		
W04	Customer	Buy food and drinks online	I don't have to wait in	Low	3
			line and miss the fight		
W05	Customer	Place bets online	I can bet on fights from	Low	3
			home		
W06	Customer	Buy merchandise online	I don't have to wait in	Low	3
			line at the arena		
W07	Manager	Cancel a fight	I can deny the fight if my	High	2
			gladiator is injured		
W08	Administrator	Add animals	The bought animals can	Normal	1
			participate in fights		
W09	Administrator	Add arenas	Fights can be organised	Normal	1
			in new arenas		
W10	Security	Scan the QR-code on the	Names don't have to be	Normal	2
		tickets	checked on a long		
			entrance list		
W11	Customer	Buy tickets online	I don't have to go to the	High	3
			box office at the arena		
W12	Administrator	Schedule fights manually	I have control over the	High	1
			fights that are going to		
			take place		
W13	Administrator	Schedule fights through an	Matches are evenly	Low	6
		Al	matched and exciting		
W14	Administrator	Have access to the AI	I can change the	Very low	4
			behaviour of the AI		
W15	Administrator	Display reports and	Anyone can see what	Normal	2
		replays of the previous	fights recently took place		
		fights on our website	and how cool it was		
W16	Event Organiser	Be able to add a fight to	The fight gets added to	Very high	1
		the schedule	the overview and		
			customers can buy		
			tickets for it		

2. User Stories

Scan the QR-code on tickets (created by Thomas)

Story sentence:

As a security guard

I want to be able to scan the QR codes on tickets

So I can see if they're valid without having to check a long list.

Acceptance criteria:

- Security guards have an app that can scan tickets
- After scanning a screen will show up either saying it's a valid ticket or invalid
- Easy recognisable screen: valid = big green checkmark or a big red cross
- After the ticket is scanned the database will mark it as invalid so that it can't be used twice

Technical details:

- The validity of the ticket is a boolean (true or false)
- An HttpRequest will be sent to make the ticket invalid after scanning

Test design:

- Check if a ticket can be used multiple times
- Check if a valid ticket shows the is valid screen
- Check if an invalid ticket shows the is invalid screen

Cancel a fight (created by Thomas)

Story sentence:

As a manager

I want to be able to cancel a fight if my fighter gets sick/injured...

So that my fighters don't have to fight if they're not in a good condition

Acceptance criteria:

- As a manager can change the participation of gladiators in your team
- As a manager you can add other gladiators as possible replacement candidates if they choose to
- A message will be sent to the event organizers
- The event organizers can choose to plan a replacement fight or cancel it
- The customers will be refunded automatically if the fight is cancelled or get a refund request if there is a replacement fight
- If a manager tries to cancel a gladiator's fight who they're not in charge of, an error message is shown
- If a manager doesn't add a reason to the cancellation, an error message is shown
- If a manager adds gladiators not registered in the database as replacements an error message is shown

Technical details:

- The reason of cancellation is a String, so that the administrators can see why the fight was cancelled
- The replacement gladiator input is not mandatory, the form can be sent without filling it in
- If a new fight isn't organized within 2can4hours of the planning refunds will happen automatically

Test design:

- Write a test that checks if a manager can delete fighters not in his/her team
- Write a test that checks if messages gets sent to managers and customers after cancellation
- Write a test that checks if the cancellation can be sent without replacement gladiators
- Write a test that checks if error messages are shown when no reason is filled in
- Write a test that tries to add a gladiator that doesn't exist

Do online money transfers (created by Lennert)

Story sentence:

As a manager

I want to be able to do online money transfers

So that I can receive money for fights, transfer money to sign up gladiators.

Acceptance criteria:

- The amount of money being transferred can be any amount
- The money is transferred within a couple of seconds
- Once you press transfer it will ask if you typed in the correct amount
- If the money is not received it will show an error message
- When the money is different from the requested amount it will show an error message
- Each transfer has an ID

Technical details:

- The amount is always an integer that can't be negative.
- The card number is an integer with the correct length.
- Each transfer has an ID:
 - It starts with the date YYYY.MM.DD (i.e., It is the 29th of October in 2020 so: "2020.10.29")
 - Followed by the match number of that day (i.e., It is the 2nd match so: "2")
 - Ending with the managers ID (i.e., The managers ID is for this transfer 135 so: "135")
 - Between each criteria is dot (i.e., Combining all of the above will make the following: "2020.10.29.2.135")

Test design:

Write a test that:

- Tries a lower/higher amount then requested
- Tries a negative amount
- Tries the correct amount
- Tries something that's not an integer for the amount
- Tries a to short/long card number
- Tries a correct length card number
- Tries a card number that's not an integer

Add fights (created by Lennert)

Story sentence:

As an event organiser

I want to be able to add a fight to the schedule So that it gets added to the overview and customers can buy tickets

Acceptance criteria:

- After adding it the overview gets updated immediately
- After adding it there will be an option for customers to buy tickets to the fight
- Fights at the same place/arena cannot happen during the same time
- Only a fight can be made if all parameters are selected

Technical details:

- Each fight has a place, an arena, a time and the gladiators participating.
- All of them can only be selected from a drop-down menu.
- If a time is already taken, it will not show in the drop-down menu for that place/arena.

Test design:

Write a test that:

- Tries to make a fight without selecting a place
- Tries to make a fight without selecting an arena
- Tries to make a fight without selecting a time
- Tries to make a fight without selecting a gladiator
- Tries to make a fight with a time that is already in use
- Tries to make a fight with a time that is not already in use

Buy tickets online (created by Evert)

Story sentence:

As a customer

I want to be able to buy tickets online

So that I don't have to go to the box office at the arena

Acceptance criteria:

- A customer can select a specific fight in the fight overview
- A customer can reserve tickets for the selected fight
- A customer can fill in his information in a reservation form
- A customer can select the number of tickets he wants to buy
- A customer can select which seats he wants to reserve
- A customer can select the payment method

Technical details:

- A customer has to fill in all the required fields in the reservation form, otherwise errors are shown
- The tickets are reserved and sent to the customer when the payment is confirmed

Test design:

- Write a test that checks if a reservation form is shown when reserving tickets for the selected fight
- Write a test that checks if errors are shown when not all required fields of the form are filled in
- Write a test that checks if only available seats are shown
- Write a test that checks the tickets are only sent when the payment is received

Sign up a gladiator (created by Evert)

Story sentence:

As a manager

I want to be able to sign up one of my gladiators for a fight

So that he/she can fight in the arena

Acceptance criteria:

- A manager can go to the overview of upcoming fight nights
- A manager can sign up one or more of his gladiators for a fight
- The manager has to fill in a form with the information of the gladiator
- A gladiator has to meet the requirements of a specific fight
- The manager has to accept all the terms of the fight
- A confirmation is sent to the manager when all information is correct and all requirements are met

Technical details:

- A manager can only enter a gladiator in a fight with open spots
- A manager has to fill in all required fields in the form, otherwise errors are shown
- If a gladiator doesn't meet the requirements for that fight, the sign up is cancelled
- If the manager doesn't accept the terms of the fight, the sign up is cancelled
- A confirmation is sent to the manager when all information is correct and all requirements are met

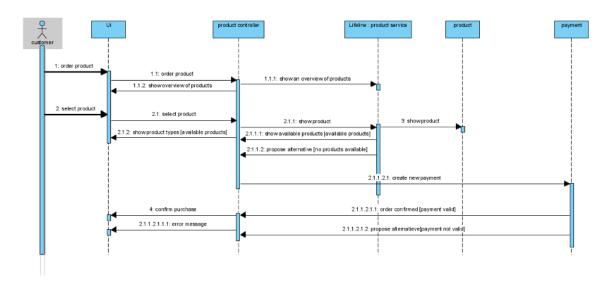
Test design:

- Write a test that checks if a manager can't enter his gladiators in a fight that's already full
- Write a test that checks if a reservation form is shown when signing up a gladiator for a fight
- Write a test that checks if errors are shown when not all required fields of the form are filled in
- Write a test that checks if the sign up is cancelled when a gladiator doesn't meet the requirements for that fight
- Write a test that checks if the sign up is cancelled when the manager doesn't accept the terms
- Write a test that checks if a confirmation is sent to the manager when the sign up is complete

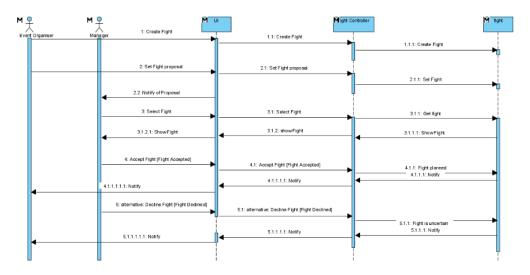
Application layer

1. Sequence diagram: name use-case

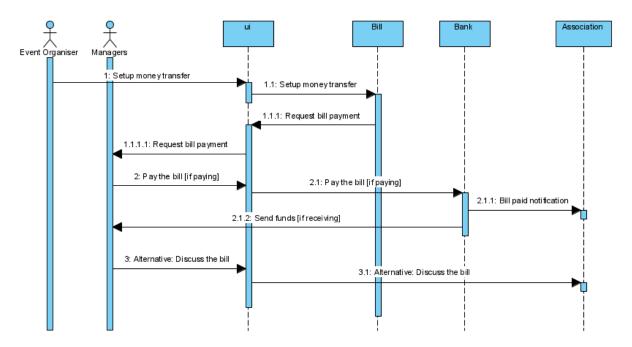
Buying products online (Thomas)



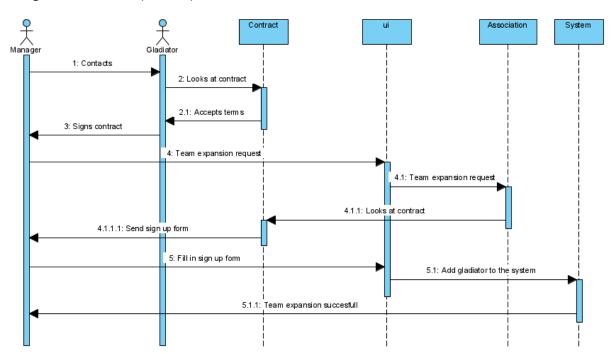
Sign up gladiator for fight (Thomas)



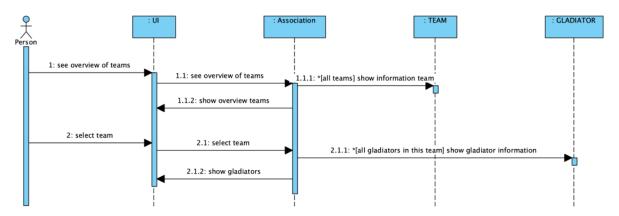
Process money transfer (Lennert)



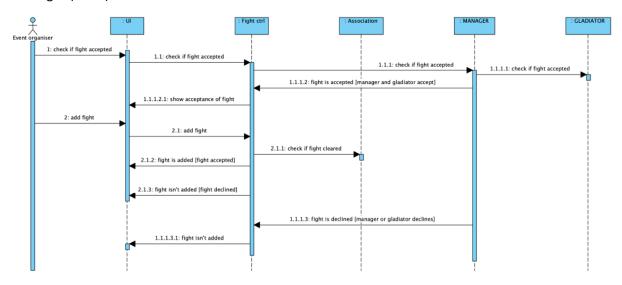
Add gladiator to team (Lennert)



See overview of gladiator teams (Evert)

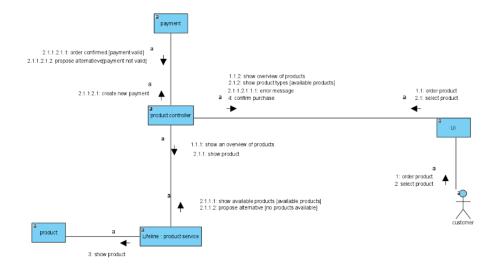


Add fight (Evert)

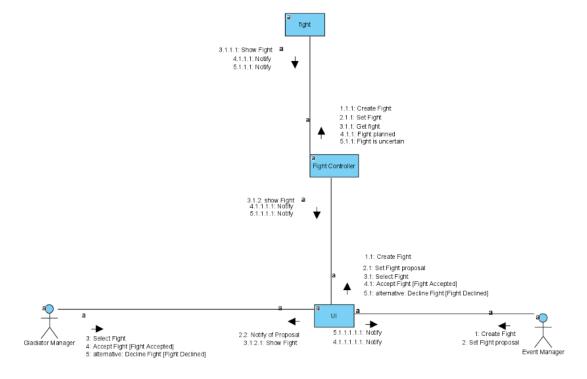


2. Collaboration diagram: name use-case

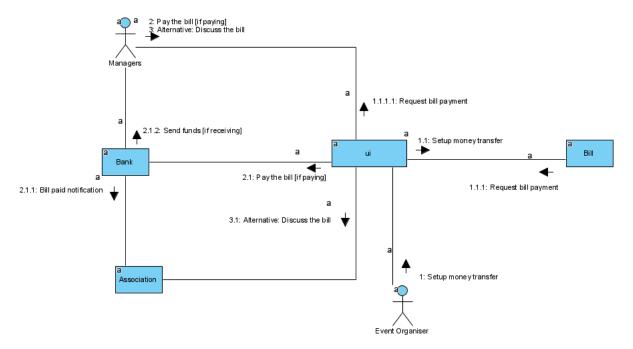
Buying products online (Thomas)



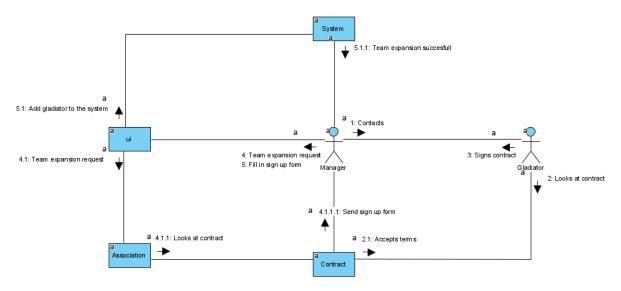
Sign up gladiator for fight (Thomas)



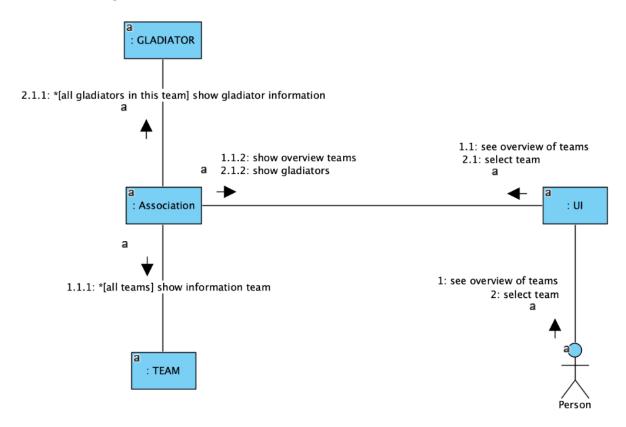
Process money transfer (Lennert)



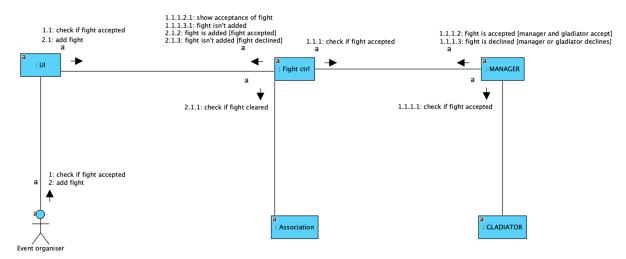
Add gladiator to team (Lennert)



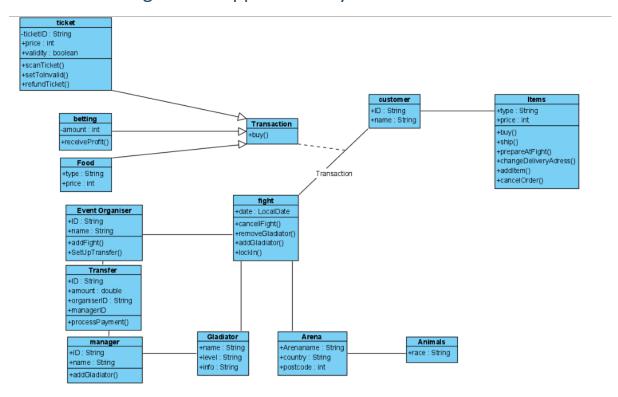
See overview of gladiator teams (Evert)



Add fight (Evert)



3. The class diagram for application layer



4. The model dictionary for application layer

Customer: is able to login or create an account, a new customer object is created when the account creation is complete. The login form contains an email address, a hidden account ID, and a password. The customer can perform a Transaction related to a fight, example: buy ticket to fight. They can also buy merchandising and choose whether it has to be shipped to them or they'll pick it up at a fight.

Fight: a new fight object is created when a fight is organized by the event managers. A fight will be at a specific arena and have one or more chosen Gladiators.

Arena: whenever a new arena gets built, a new object will be created. In certain arenas some animals are available for fights.

Gladiator: a new gladiator object gets made when a manager adds a fighter to their team.

Manager: is able to login or create an account, the new object is made when the account is created. It's the same form as the customer plus an additional team name option. A manager should be able to register a new gladiator.

Lock in: One week before the date of a fight, a fight that is valid is locked in. From that point onward, the fight can't change anymore. The gladiators, place, time and so on are all decided.

Team: gladiators are placed in teams which a manager manages.

Team expansion request: if a manager wants to recruit a new gladiator, he will need to send this request to the association. This request will be handled and the gladiator will get added to the system as a part of his manager's team.