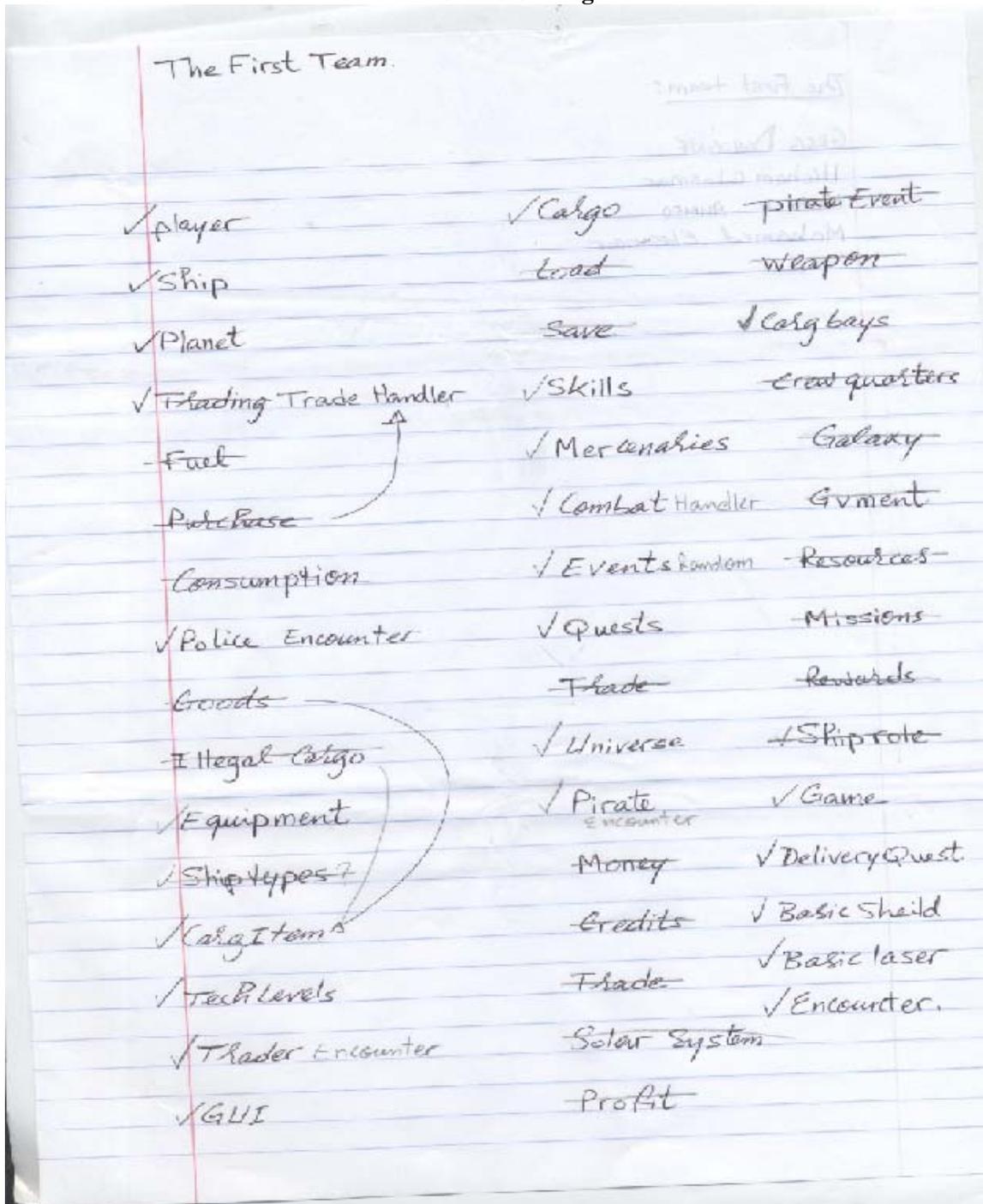


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CS 2340

Extra Credit: Team Case

Our Design: Space Trader

The brainstorming



Our CRC Cards

TECH LEVEL	
KNOWS NAME	
KNOWS AVAILABLE GOODS FOR SALE	CARD TECH
KNOWS GOODS TO BUY	CARGO ITEM
KNOWS SHIPS AVAILABLE TO HIRE	SHIP
KNOWS EQUIPMENT TO SELL	EQUIPMENT
KNOWS WHETHER A SHIP/YARD IS PRESENT	

COMBAT MANUEVER	
KNOWS SHIP INVOLVED	SHIP
KNOWS SHIP SKILLS AND SHIP ATTACK POWER / HEALTH POINTS	SHIP SKILLS
KNOWS WHO WINS	SHIP

PLANET	
KNOWS NAME	
KNOWS ITS CARGO (ITEMS FOR SALE)	CARGO
KNOWS POSITION	
KNOWS FLEETS / TECH LEVEL, TECH LEVEL	TECH LEVEL
KNOWS SHIPS FOR SALE, MERCHANDISE FOR HIRE, UPGRADES / EQUIPMENT FOR SHIP, QUANTS AVAILABLE	SHIP, MERCHANDISE, EQUIPMENT, QUANTS, CARGO
KNOWS GOVERNMENT	

SHIP	
KNOWS NAME, SIZE, SKILLS, POWER, TYPE, RANGE, CARGO	PLAYER, MERCHANDISE, SKILLS, CARGO
KNOWS ATTACK POWER	
KNOWS	
KNOWS / PLAYS CARGO ITEM WITH SHIP	CARGO
KNOWS THE UNIVERSE	UNIVERSE
KNOWS PLANET IN ITS RANGE	PLANET
KNOWS CARGO CAPACITY	
TRAVEL FROM PLANET TO PLANET	PLANET UNIVERSE, UNIVERSE EQUIPMENT
KNOWS EQUIPMENT SHIP & EQUIPMENT	
KNOWS HEALTH POINTS	

PLAYER	
KNOWS NAME, SKILLS, MONEY	SKILLS
KNOWS ITS SHIP	SHIP
BUY SHIP	SHIP
HIRE / FLEET MERCHANDISE	MERCHANDISE, PLANET, SHIP
BUY / SELL GOODS	TRADE UNIVERSE, PLANET, CARGO ITEM
BUY SHIP EQUIPMENT	EQUIPMENT, SHIP
KNOWS QUANTS	QUANTS
ADD QUANTS	QUANTS, PLANET
KNOWS POSITION IN UNIVERSE	UNIVERSE, PLANET
BUY FULL	SHIP

CARGO ITEM	
KNOWS NAME, BASE COST	
KNOWS LOGICAL STATUS	

EQUIPMENT (ABSTRACT)	
KNOWS THE PRICE	SHIP
KNOWS THE NAME	
KNOWS THE DESCRIPTION	

CARGO BAY	
SUPERCLASS: EQUIPMENT	
ADDS CARGO SLOTS TO A SHIP'S CARGO	SHIP CARGO

TRADER ENCOUNTER	
SUPERCLASS: ENCOUNTER	
<p>KNOWS GOODS FOR SALE</p> <p>KNOWS WHAT IS WANTED TO BUY</p> <p>KNOWS VALUE EACH GOOD COSTS</p> <p>BE ATTACKED BY PLAYER</p> <p>- FLEE OR ATTACK</p>	<p>PLAYER, SHIP, TRADE HANDLER</p> <p>CARGO</p> <p>CARGO ITEM</p> <p>PLAYER, SHIP</p>

POLICE ENCOUNTER	
SUPERCLASS: ENCOUNTER	
<p>Check Cargo</p> <p>Attack Player</p> <p>Take illegal cargo</p> <p>Fine Player</p> <p>ALLOW SURRENDER!</p>	<p>Ship</p> <p>Player</p> <p>Cargo items, Cargo</p> <p>Player</p> <p>Player</p>

PIRATE ENCOUNTER	
SUPERCLASS: ENCOUNTER	
<p>ATTACKS PLAYER</p> <p>ACCEPTS SURRENDER</p> <p>(TAKES CARGO ITEMS)</p> <p>ALLOWS FLEE</p> <p>ALLOWS ATTACK BY PLAYER</p>	<p>PLAYER, SHIP, COMBAT HANDLER</p> <p>PLAYER, SHIP, CARGO</p> <p>COMBAT HANDLER</p> <p>COMBAT HANDLER</p> <p>COMBAT HANDLER</p>

ENCOUNTER (ABSTRACT)	
SUBCLASS: Police Encounter, Trader encounter, Pirate encounter	
<p>KNOWS ENCOUNTER DESCRIPTION</p> <p>KNOWS POSSIBLE ACTIONS</p> <p>ALLOWS COMBAT</p> <p>KNOWS SHIP.</p>	<p>COMBAT HANDLER</p>

GIVE	
<p>DISPLAY THE VIEW OF THE GAME</p>	<p>Game</p>

CARGO	
<p>KNOWS CURRENT GIVE</p> <p>KNOWS CARGO ITEMS</p> <p>KNOWS MAX CAPACITY</p>	<p>CARGO ITEM</p>

TRADE HANDLER	
<p>EVENTS CARGO INVOLVED WITH THE TRADE</p> <p>KNOWS VALUE OF ITEMS AVAILABLE FOR TRADE</p> <p>HANDLES BUYING AND SELLING ITEMS</p> <p>UPDATE PLANET'S GOODS COST/VALUE, BASED ON AVAILABILITY & I</p>	<p>CARGO, SHIP, PLANET</p> <p>PLAYER, CARGO, PLANET, SHIP</p> <p>PLANET, CARGO, CARGO ITEM, GAME</p>

UNIVERSE	
<p>HOLDS PLANETS</p> <p>GENERATES PLANETS</p>	<p>PLANET</p> <p>PLANET</p>

QUESTS (ABSTRACT)	
KNOWS NAME AND DESCRIPTION	
CHECKS FOR QUEST (COMPLETION CONDITIONS NEEDS TO BE OVERRIDDEN BY EACH QUEST)	DEPENDS ON QUEST
KNOWS REQUIRED CREDITS TO BE OVERRIDDEN	DEPENDS ON QUEST

MERCENARIES	
KNOWS ITS SKILLS	SKILLS
KNOWS ITS SALARY	
CREDIT PAID	PLAYER

RANDOM EVENT	
INITIATES ENCOUNTERS (POLICE, PRIVATE, TRADERS)	PLANET, ENCOUNTER

DELIVERED QUEST	
SUPERCLASS: QUESTS	
ADD SOME AMOUNT OF GOODS TO TIGER'S SHIP'S CARGO	SHIP, CARGO, CARGO ITEM
CHECKS TO SEE IF THE GOODS HAVE BEEN ADDED TO A PLANET'S CARGO (CHECKS FOR QUEST COMPLETION)	PLANET, SHIP, CARGO, CARGO ITEM
ADDS MONEY TO PLAYER'S MONEY AS REQUIRED	PLAYER
REMOVES ITSELF FROM PLAYER'S QUESTS	PLAYER

BASIC SHIELD	
SUPERCLASS: EQUIPMENT	
ADDS TO THE SHIP'S HEALTH POINTS	SHIP

BASIC LASER	
SUPERCLASS: EQUIPMENT	
ADDS TO THE SHIP'S ATTACK POWER	SHIP

SKILLS	
KNOWS TRADE, ENGINEER, PILOT, FINANCE SKILL LEVEL (value)	

GAME	
LOAD GAME	
SAVE GAME	
KNOWS RANDOM EVENTS	RANDOM EVENT
KNOWS ALL SHIPS AVAILABLE	SHIP
KNOWS ALL CARGO ITEMS AVAILABLE	CARGO ITEM
KNOWS ALL TECH LEVELS AVAILABLE	TECH LEVEL
KNOWS ALL EQUIPMENT AVAILABLE	EQUIPMENT
KNOWS ALL MERCENARIES AVAILABLE	MERCENARY
CREATE UNIVERSE, PLAYER (NEW GAME)	UNIVERSE, PLAYER, SHIP, SCREW
KNOWS TRADE HANDLER	TRADE HANDLER
KNOWS COMBAT HANDLER	COMBAT HANDLER
KNOWS ALL QUESTS AVAILABLE	QUESTS

*** Our Scenarios***

Scenario 1:

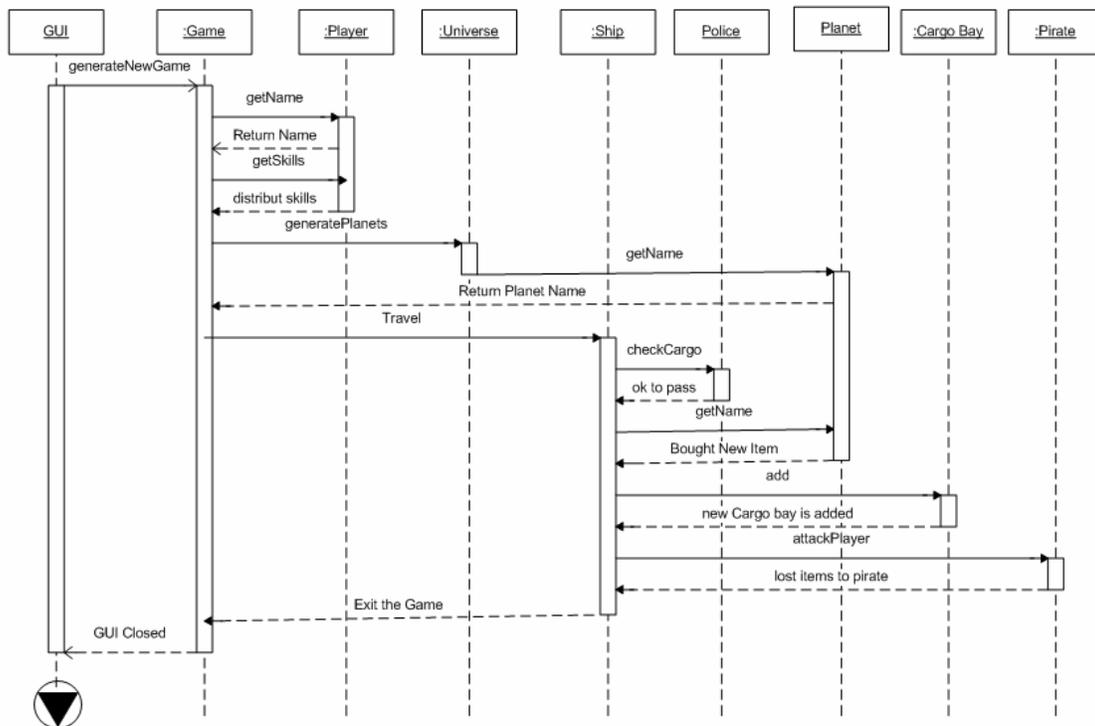
Bob starts Space Trader. He selects to start a new game. He distributes skills and chooses as a name TheBobOne. Starting from planet earth, Bob buys 20 units of waters and fills the ship with fuel. He travels to planet Mars, which has high police activity. Along the way he was pulled over by Officer Sally who wants to check his cargo. Bob

decides to submit to the cargo check. After the cargo check was clear, Bob continues to planet Mars. Bob sells all his cargo items in Mars for a profit 1019 credits. With the new credits he decides to buy a new cargo bay. By him buying the new cargo bay, he now has added five cargo item slots to his ship. Bob decides to travel to planet Saturn. On his way to Saturn, he encounters a trader who wants to trade 500 of RUBBER for 400 credits. Bob decides to buy just the half of the RUBBER. Bob is stopped again by a pirate. Knowing his ship can stand a chance against the pirate ship. He surrenders his ship to the pirate. So, the pirate takes away all the items in the cargo bay and lets Bob go. After arriving at Saturn, Bob decides to save and quit the game.

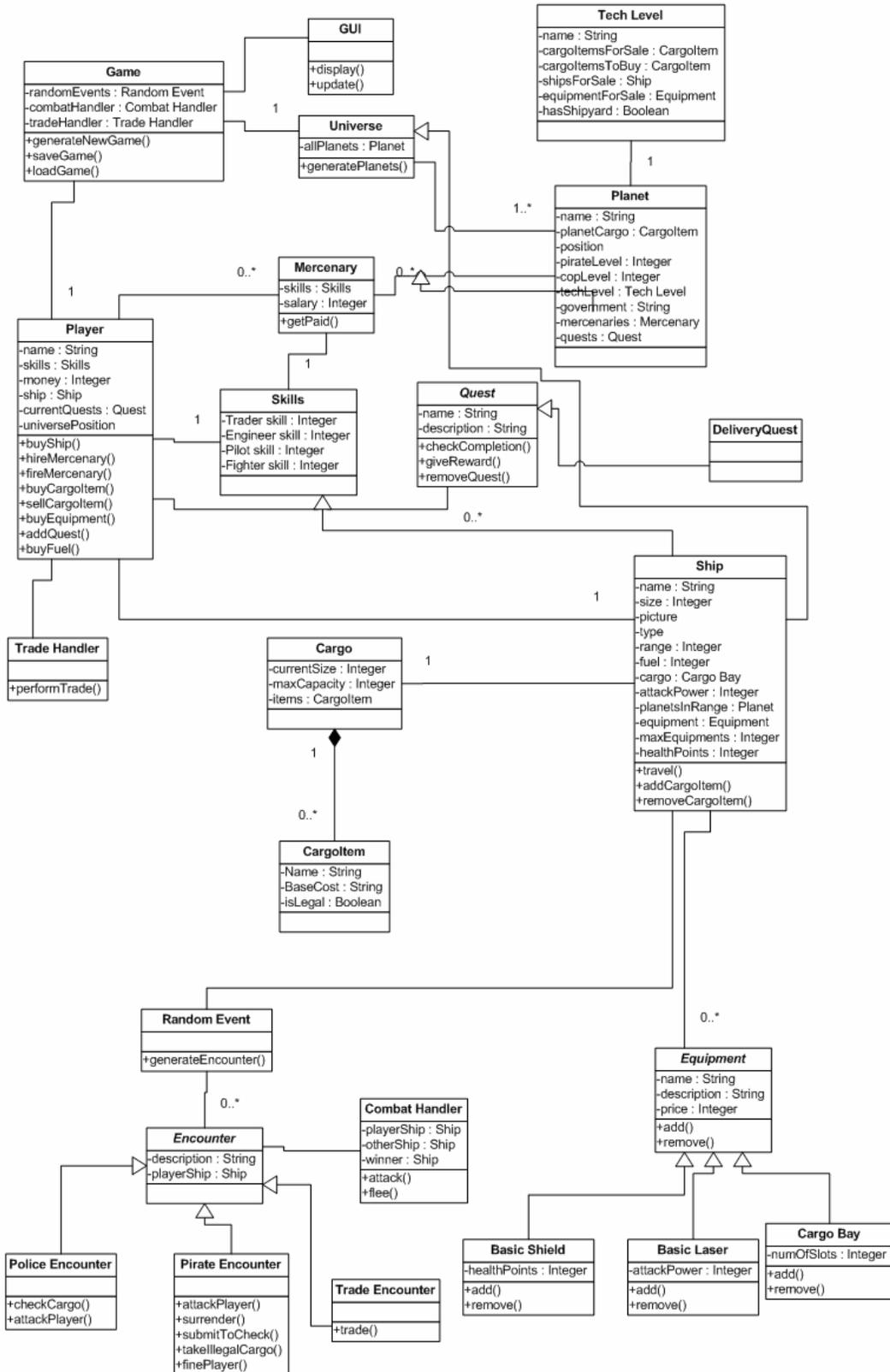
Scenario 2:

Moh starts a new game. He chooses to name himself Moh. For skills, he chooses 3 pilot points, 4 fighter skill points, 9 trader points and 4 engineer skill points. By default, Moh had a full tank enabling him to fly 14 parsecs, strength of 100% and an empty cargo. Currently Moh is on planet Mars. He decides to check planet Earth as he wants to buy some food. He then decides to stop by and buy some. Moh then travels to Andromeda and trade his food for water. At Andromeda, Moh decides to buy the new fast and sleek Ship S2000. Moh suddenly realizes it was 2 am and reluctantly saves and quits this awesome game.

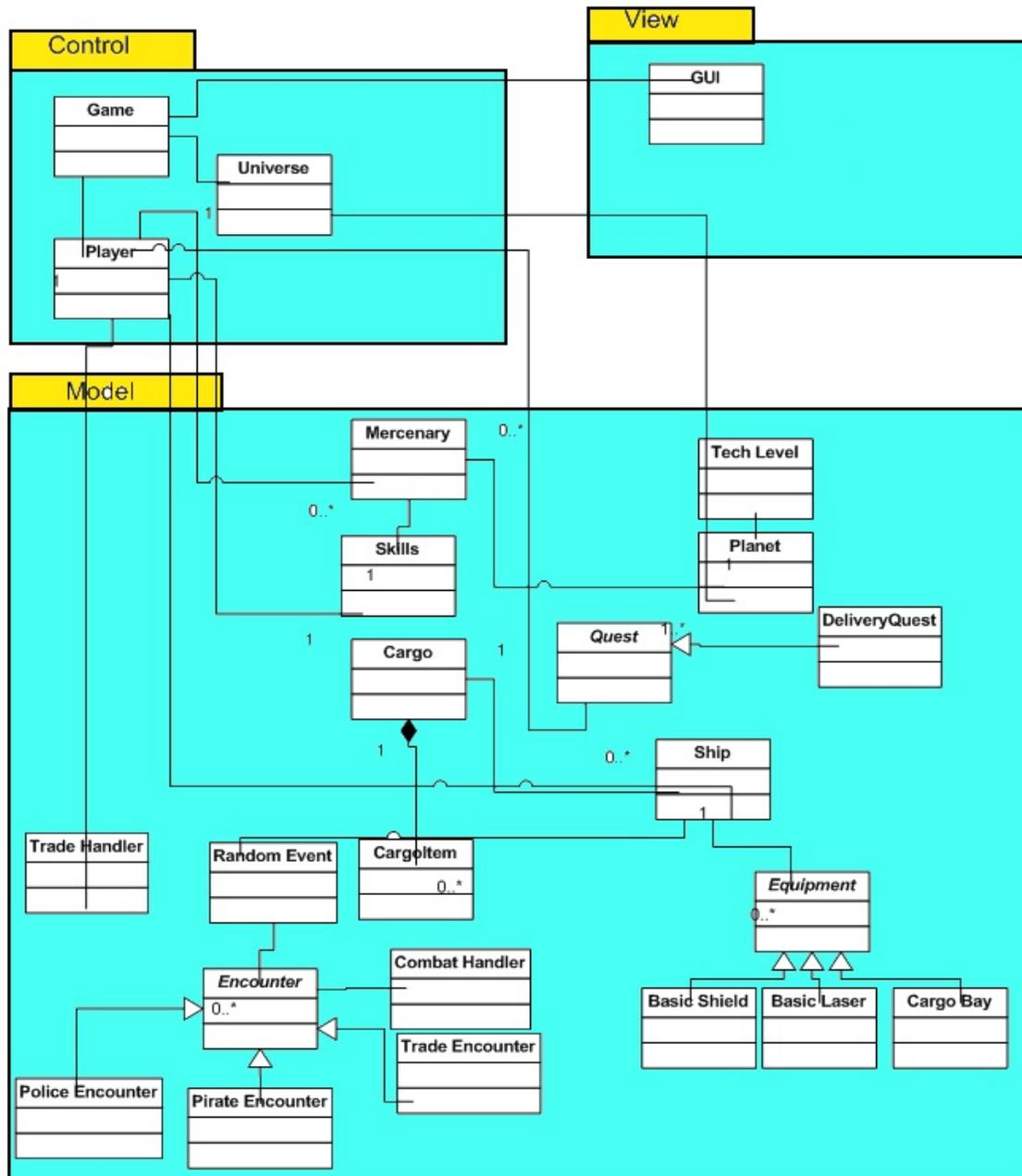
*** Our Sequence Diagram***



*** Our UML diagram***



Our architecture/Trust boundaries



Lessons learned

1: Attend lectures:

Be on time (beginning of class is the most important part in Bob's lecture)

Ask questions.

Take notes.

Read the book (If you want to Ace the test).

Run the code Bob demonstrates in class.

Treat Bob's advises very seriously.

2: How to choose good team members:

- Please trust Professor Bob Waters, when he talks about it in the beginning of the semester (He really gives a good advice, and we learned that the hard way.)
- Don't choose somebody just because he or she is sitting next to you in class.
- Don't be fooled by people who talk a lot (Especially, the show offs).

Look at this person as he identifies himself:

“If I'm not coding or singing, I like to hang out, make messes, throw paper airplanes, and climb rocks.”

This person actually **didn't code a single line in our project**.

3: How you make your Group productive:

- I suggest announcing one member to be the manager of the team (everybody has to accept his decisions and follow them.)
- Don't be easy on each other (don't accepts excuses especially if they seem lame.)
- Don't have only guys in your team (*****Please have some female members***** in your teams. That it would spice up the other members and motivate them work harder. Girls are hard working in general where boys are slacker in general (they always need some motivation).

4: Group meetings:

Every meeting is very important

Seriously *punish* who ever misses meetings

Plan your meeting before you start

Get something done before leaving

Set a time frame for the meeting in advance

Set meetings on regular basis

Set meeting time for next meeting

5 :1st meeting:

Has to be very early in the semester

Has to be at least one hour long (no less)

Obtain **all** contact info (names, e-mails, cell #, home#...)

Know your teammates (classes' loads, schedules, personality, nationality...)

Set the second meeting time before you leave.

6 : Coding assignments:

Use your TA and Bob advice about your design; it makes a huge difference to have a good design

Plan before you start

Assign each member a task and help each other

Code together individually

Test every single new method you add

Comment Code together

Code on regular basis

Consider what is easy to implement
 Follow the requirements.
 Break down the requirements into little pieces.

We suggest a 1st meeting form that each teammate has to fill up. Everyone is to add anything that is relevant and may be of any use to your team.

1st meeting Form:

Name					
E-mail					
E-mail					
Cell #					
Home #					
Major					
Classes taken	Class				
	Time				
How far do U live from COC(time)					
Hobbies					
Programming languages					
Best meeting times					
Expected grade					
Talk about yourself					

M5:

M5 is very important because it affects the outcome of your product. It is very important than M6 (the coding and testing) and the rest. The team has to discuss the way they want to implement their design, there is no right or wrong but there are easy ways and hard ways. Consider what makes scene, easy to implement, follow the requirements, and look ahead. What limits the user has, what he can do, what cannot do, what can damage your application.

You need much more scenarios than the required number to test your design and see if it solves most cases. Play your CRC cards carefully and modify them as you play. A good thing to do is to get Bob and TA's opinions, it is very profitable.

User Interface Screen Prototypes, Contract, and Exception Handling were not worth so many points but they are as important as the other parts of M5, so treat them as such.

Things that helped us & things that hurt us.

M4 & M5:

1:

Our team was ahead of all other teams, we started very early and we got so much done way before the deadlines.

We asked TA's and Bob's for their opinions. They were very helpful.

We did more scenarios that required and we played CRC cards a lot, and that helped us identify areas that we did not consider or overlooked during brainstorming.

We did most of M4 and M5 together, we met before every class and we made sure to show our results to our TA.

2:

We used some ideas that most of our team did not agree on. (1 against 3)

We got way too confident after M5.

M6 & M7:

1:

We started early

We used tools in Visual works such as high lighting code ...

We forced commenting our code

2:

We had one group member missing meetings.

We did not plan before starting to code. (We did not talk about methods we needed, methods would have made our lives easier)

We assumed that we are on the same page

We started coding individually.

We divided the work all wrong (based on requirements)

M8:

1:

We considered most functionalities and showed them in our GUI

We used as a guide line previous semesters User interface evaluations

We made use of the other team comments

We thought of the evaluators as our products testers

2:

We did not talk about simple things like colors, buttons, positions...

We did not consider the audience or the product target.

We did not keep in mind the simplicity of GUI.

M9:

1:

We took notes in class, they were very useful

The TA was very useful to us

2:

We did not start early

We did not plan ahead what we want to do, we just started coding. It took us more than what we expected

We coded this part individually

Our Initial User Interface

