Requirement 3

MagicTactil

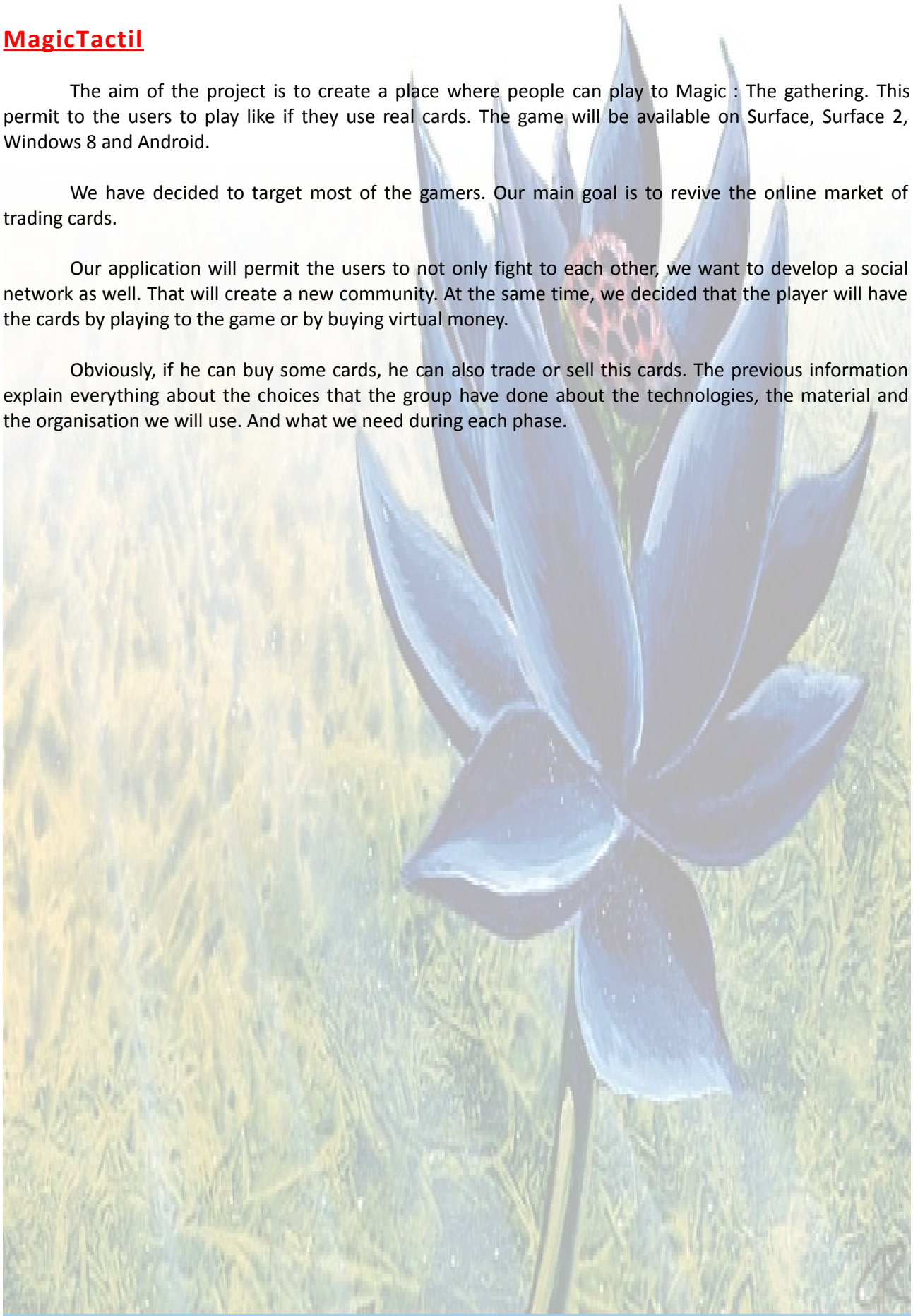
MagicTactil

The aim of the project is to create a place where people can play to Magic : The gathering. This permit to the users to play like if they use real cards. The game will be available on Surface, Surface 2, Windows 8 and Android.

We have decided to target most of the gamers. Our main goal is to revive the online market of trading cards.

Our application will permit the users to not only fight to each other, we want to develop a social network as well. That will create a new community. At the same time, we decided that the player will have the cards by playing to the game or by buying virtual money.

Obviously, if he can buy some cards, he can also trade or sell this cards. The previous information explain everything about the choices that the group have done about the technologies, the material and the organisation we will use. And what we need during each phase.



Description of the file

Title	**2014 CDC_Magictactil**
Date	12/04/2012
Author	MagicTactil
Leader of the group	Periph_a
Members of the group	Pucheu_m, periph_a, jaber_a, barouk_r, labori_b, farsi_m, jouhri_o
Version	3

Versionning

Date	Auteur	Commentaitre
13/04/12	MagicTactil	Fin du cahier des charges
27/04/12	MagicTactil	Orthographe
14/05/12	MagicTactil	Texte de présentation
15/05/12	MagicTactil	Ajout de l'étude de l'existant
16/05/12 06/06/12 07/06/12 22/06/12	MagicTactil MagicTactil MagicTactil MagicTactil	Modification de la conclusion Modification de la forme Modification de la forme Modification de l'étude de l'existant
23/06/12 30/06/12 18/07/12	MagicTactil MagicTactil MagicTactil	Ajout des annexes Traduction en anglais de la version 3 Ajout de nouveaux paragraphes

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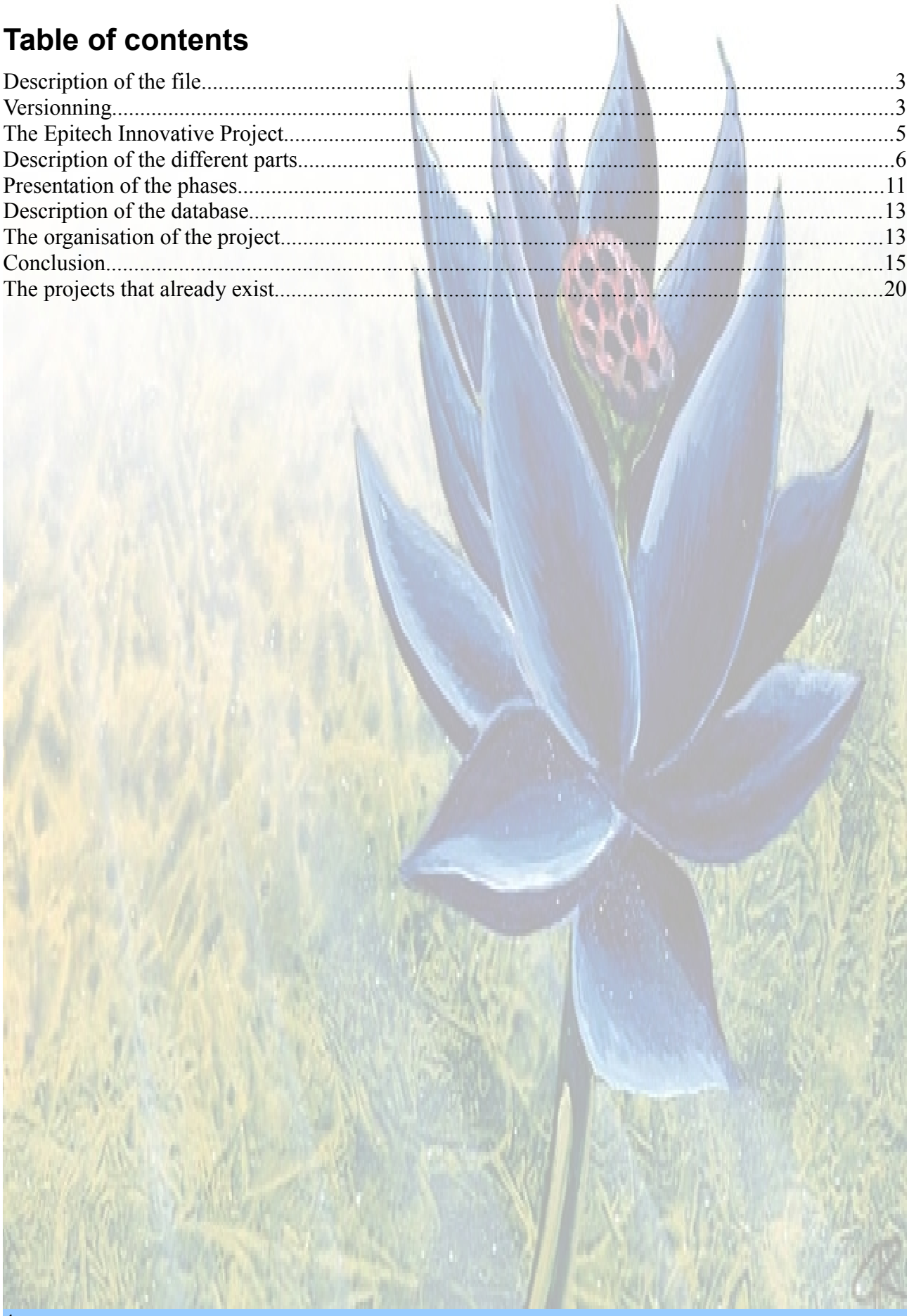


The Epitech Innovative Project

A – What are an EIP and Epitech?

Epitech is a school in computer science which a 5 years courses. Epitech is also known for his special education. In fact, this school learn the students to learn by doing projects, sometimes you have to work with workmates. This education want the student to learn some skills, which a senior management have to use. Those skills are, to be independent, taking initiative and handling the time of his team.

While the student are in Epitech, we have to do a project which permit him to get the diploma, this project his called EIP. Then, at Epitech, during the third year, students have to choose a subject which they will work on for two years. The EIP has to be innovative which is the most important element in the project.

B – Magic Tactil

Magic Tactil will be a software where the Magic's card gamers will play. This program permit them to have fun with virtual cards and use them like they use it in real life. In fact, the user have the possibility to create his own decks and use them during a game.

Moreover, the community system will also been present, this system will permit the gamers to participate to the life of the community. It will work like a social network, the user can have friends, discuss with them, write on a forum, create or subscribe to different events by using a calendar.

You have to know that 2012 is an important year, in fact, Microsoft is going to come out the new operating system which we guess it's important for the pad's market. Then our objective is to have the project ready when the market is going to peak.

Description of the different parts.

The general architecture of the project is split in two parts which are the server, the database and the clients.

A – The server.

The server is a special part because of his goal. In fact, his aim is to analyze all the information it will get.

He is the only one who can technically communicate with all others parts who are the clients even if it's a Windows or Android client and the database.

Communication 1 : The server and the databse (Page 17).

The server is the only one who is linked to the database. When a client want to edit the database, the clients have to send the right command to the server.

For example, a client A want to add a friend into his friend list. This will send a add friend command to the server with all the needed information like the name of the person he wants to add and his name.

When the server analyzed the command, he will send it to the database.

In fact, with the same example as before, if the client A want to add a player in his friend list but the name he did give does not exist or already exist in the list, the database will not change.

From this, the followings features are going to work as it is described previously.

- The room handler : A room is a place in where people can meet. From a technical view, those rooms are handle by the database. For example, if a client join or leave the room, the server will receive the information and will send this to the database who is going to update the database.

Then, it would be possible to create, join or leave a room. But if the creator of the room decide to leave the room, every single client in the will idiomatically leave the room at the same time, the room will be deleted.

When you want to create a room, it would be possible to set the type of the room as a normal way channel where people can only discuss or a special type like classical game, draft , etc.

After creating the room, you obtain some rights. In fact, the creator has the right to start the game if it is possible. For example, there is a minimum of the number of people in the room if you want to launch a game. Moreover, he can handle the players in his room, that means he can kick or ban some players from his room.

- Add or delete a player from his friend or black list.
- Calendar handler. It would be possible to create or to sign up to an event.
- The player have a profile in which he can find out some information about him. Those information will be saved in the database. The owner can change the information as much as he wants to. The profile can be looked by the others.

- A shop will be available, this give the right to the users to buy cards with the virtual money.
- In the database, each player has a cards list, this list represent the cards the owner have. With this list, the player can make his own list which he will use against the others player. Moreover, he can a wish list, that mean he can create a list with the cards he wants to get.

Obviously, those lists could be edited as much as the owner wants to.

Communication 2 : The server and the clients (Page 18).

The server is also the only one who can technically communicate with the clients.

Here the server will analyze the command sent by all clients and will send it to the right clients.

From this, some features will be used to communicate between two clients, for example :

- The users would communicate to each other by using the a classic discussion channel or private message. Then, all messages will be saved in the databse in the aim to avoid all abusive languages.

Communication 3 : Server, Clients and database (Page 19).

This communication is special because, it will be used against cheats. In the aim to avoid that, every single action will be analyzed in the server side. For example that means the board will be saved in the database and not in the client side.

Here, the communication will be a bit more harder than before. In fact, if the client A wants to draw a card, the information will be sent to the server then it will ask the database to update it. The goal is the client have just to display the information sent by the server.

This choice has be done because we want to the people do not cheat.

B – The clients

All the different clients will work like the server, that means the clients will only treat data. In fact, those clients will receive information from the server. Those information will be treated by the client, after that, the client will use the right feature depends on the command it received.

For example, there are two players which we are going to call A and B. Those players are playing to Magic with the software Magic Tactil. The player A choose to use a card, A should do the necessary to have the right to use the card.
In fact, all the information which are needed will be sent to the server then to the player B by a message. During this action, the player B will receive all the actions done by the player A and B's client will treat the data. In this case, all of the move from A will be displayed in the client of the player B.

The following features are sorted by windows, it would be easier to know what exactly the player can do on each window.

Log in window →

- Log in

Main window →

- See the friend list or the black list
- Start a conversation with his friends
- Discuss with his friends
- Add or delete someone in the friend list or in the black list
- Go to the profile window
- Connect to the shop
- Go to the window where you can choose the type of the game
- Go to cards window
- Go to events window

Profile window →

- Inspect our information (Name, surname, Pseudo, birthday, place where the player lives)
- Change the information
- Watch his history
- Inspect the profile of the other players (If you dont own the account you can't see the private information)
- Go to the main window

Shop window →

- Buy cards
- Auction window → Buy or sell a card
- Go to the main window

Room's list window →

- See the list of rooms
- Join a room
- Fin a room
- Refresh the list of the rooms
- Go go the Room's window
- Rooms creation module →
  - Set a name to the room
  - Set the type of the game (classic, draft, emperor, …)
  - Set the status of the room (private or public, set a password or not)

Card's module window →

- See the list of the cards the player own
- Do a research on the card you own and you do not own
- Create his own deck / Create a list of the cards you want to have →
  - Add a card
  - Add the same card more than one
  - Delete a card
  - Delete the same card more than one

Rooms window →

- Go to the game window
- Choose the deck you want to play

Event window →

- See the event list
- Sort the events by dates, places, creator
- Create an event
- Sign up to an event
- See the person who go to the event

Game window →

- When it is your turn you can choose in which phase you want to be
- Increase or decrease the number of the health point
- Increase or decrease the number of all kind of counters.
- Draw at least one card
- Shuffle the deck with or without your current hand
- See your deck, the graveyard and the exile side.
- See the top card of the deck
- Put the top card of the deck in the graveyard or in the exile side
- Reveal the top card of the deck to at least one person
- In your game side, the player can move all the cards like he wants to. But if he wants to give a card to his opponent, he has to move the card from his side to the other one.
- Rotate cards
- See the description of the clicked card (the player can choose between the an image and a classical description, in the classical one, you can find those following information, name of the card, mana cost, type of card, his strength, his defense, and his abilities if it has)
- See the players name who are playing or watching the game
- Discuss with his opponent
- Give up the game then go to the main window
- Ask the opponent if he wants to play with you again

C- The website

When the development phase of the project will start, the website will be the tool that we will use to communicate with the users. The Magic Tactil team is going to update the website in the aim to give information about the new features.

The following features are sort by pages, in the aim to know what the user can do on each page.

Main page →

- Log in
- See the news about the project
- Write and send private messages
- Go to the description page
- Go to the forum
- Go to the profile page
- Go to the download page

Inscription page →

- Fill in the information in the aim to have a complete profile (name, surname, pseudonym, birthday, city, what kind of deck do you mostly play or prefer)
- Sign up

The forum →

- The forum will be splitted in 3 parts (General, Magic Tactil, Bug reports)
- When the user will be in those parts, he will be able to :
  - See the topics list
  - Click on a topic and go to the topic page, he will be able to reply
  - Create a new topic

Profile page →

- See and change the information about his account
- Messages history

Download page →

- Download the product each time the Magic Tactil team add some features

Presentation of the phases

In this part, we are going to talk about the general phases of the project. Then we will remind you what is our project. Magic Tactil is a group which permit to the users to play to the game called Magic : The gathering. In addition to this, they will have the access to a group of social features which permit the player to be a member of the community.

A – Accomplishment phase.

Firstly, we are going to talk about the tools we will use in the aim to sell the project.

The main software is going to word on the Android and Microsoft products.

Then, the group will use a Microsoft programming tool called Visual Studio 2010. This tool permit the developers to access to the whole Microsoft technology like the language C#, APS.NET or ADO.NET.

The program is going to work on pads as well. If we want the program working on a Microsoft pad, we need to use a SDK for this kind of software. This tool is called SDK Surface 2.

For the Android part, the Android's developers are going to use the language Java with the right Integrated Development Environment like Eclipse.

B – Material environement.

During the project, the need of material is different between all the phases. Then we split it in 3 phases which are, programming phase, production phase and the demonstration phase.

3.B.1 – Programming phase.

During this phase, the need of material is not very important. In fact, we only need the tools which we are going to use. Even if, the project will work on pads, we do not need this at that time because of the SDK which will emulate the pad.

3.B.2 – Production phase.

When the project is done, the need will probably change. In fact, the goal of this project is to sell the group of software to the main company maintain Magic : The Gathering.

The cost of the material for the users is nonexistent. In fact, the most expensive material the owner will buy is the server. Moreover, they will need to employ someone to maintain them..

3.B.3 – Demonstration phase.

This phase will start when the Programming Phase and the sell of the project. The aim of this phase is to present our product. In fact, we need the Microsoft and Android pads if we want to present the project like we want to

C – Technical architecture.

The different element of our solution are :

- The servers
- The clients (Windows or Android)
- The Web site
- The Data Base

First of all, the 'Data base' and the 'server' are independent. In fact, the 'server' is an intermediary between the Client A, Client B and the Data Base. The Server is able to communicate with more than one clients at the same time and to edit the Data Base. The Server is going to be a Data interpreter.

The Data Base will be able to edit the data with the information it will get by the Client.

During the Programming Phase, the web site will be the element for the communication. His first goal is to broadcast the information. Moreover, it will have a link with the Data Base because of the subscribe feature's.

Finally, the whole kind of clients is symbolize by Client A and Client B and they will have a link with the Server.

D – Security handler.

If we lost the Data Base, a back-up will be done weekly in the aim to prevent those kind of issues.
In fact, the group is going to use the technologies from .NET for the server part, that means we will use a lot of services from .NET and the Common Languages Runtime.

With that we will get a lot of classes and services useful for the programmers in the aim to write a safe program. Those classes and services permit the system administrator to customize the access to the protected data.

Description of the database.

The database is an important element in our project. In fact, this element will contain all the information about the users.

We can find those following information:

- Personal information : Name, Surname, birthday, the place you live, age, banking information (if he wants to buy some cards or virtual money), pseudo.
- Social information : Friend list, Black list.
- Gaming information : The cards the player owns, the decks the player owns, the cards the player wants to get, history of his games.
- Information about the events : History of his subscription

The organisation of the project.

We decided to use a special kind of organisation called adhocratic. In fact, everyone has a special skill and everyone is going to have a task which need only one kind of skill. The aim is to create little teams and each team will work on a special part of the project.

The project manager is independent . The same person will manage the budget and coordinate all of the teams. He has to define the most important goals between all of the teams and dont forget business strategy.

In fact, our project contain more than three kind of technologies that we will use, then, this kind of organisation is suitable for our situation.

The project is splitted in three groups which are :

- Windows Client.
- Android client.
- Server.

During the development phase, only the development tools will be needed.

You can see the planning on the appendix called 2014_Gant_MagicTactil.pdf.

First of all, we decided to split the group in three, those teams represent each part of the project. The first team is composed by Laborier Benjamin and Baroukh Remy. They both are interested in Android's technology. According to the last sentence, they are going to work on the Android Client.

The others are all interested in Microsoft's technologies. In fact, the project is based on the world of Magic : The gathering, for this reason, Periphanos Alexandre, Jaber Ali and Pucheu Mickael fit to the needed profile for this part of the project, because of their knowledge about the game. This knowledge will permit to the group to develop faster and to know what Magic's player are expecting from the software.

After that, there is the Server and database's team. This group will composed by three people who are Ortis Lucas, Farsi Mehdi and Jourhi Oualid. Those programmers are curious in new technologies and had never played to the game which our EIP is based on. According to this, they will work for the Server and Database parts.

Even if the size of the team are quite small, we want to keep that way of working. In each team there is Chef who is going to work on the project like another one and he has to handle his team at the same time.

Even if the size of the team is quite small, we want to keep that way of working. In each team there is Chef who is going to work on the project like another one and he has to handle his team at the same time.

Communication is also very important in a group, in fact, we decided to use a tool called Asana which is a project handler. We decided to use this tool for two reasons.

The first one is that we can keep talking to each other even if we are split all over the world. The second one is that we can create goals and the whole groupe know what he has to do and especially when he has to finish the task.

Moreover, we will meet every two weeks to talk about the project and new ideas. At the end of each meeting an order will be made.

Conclusion

A- Comparative matrix between our project and the others.

	Magic Tactil	Cockatrice	Ccgdecks.com	MagicWorkstation	Magic Online
Making decks	X	X	X	X	X
Can choose real cards	X	X	X		X
All the needed features to play	X	X	X	X	X
Profile	X	X	X	X	X
Friends list	X	X	X	X	X
Forum	X				
Room	X	X	X	X	X
Handling events	X				
Trading cards	X				X
Can play to different types of game (draft, sealed, etc)	X	X	X	X	X

B - A SWOT about our project.

Strength	- Short time to develop because of the language we will use. - The community.. - The community system.
Weaknesses	
Opportunity	- Other software don't have regular updates - No threat from the rivals
Threat	

C – Our project and the others.

At the moment there is any rivals for this project because of one game called Magic The Gathering Online. In fact, those kind of games got a bad reputation because the main company did want to sell the virtual cards to the same price as the real cards plus the price of the software. Even if the idea was great the business model didn't fit with the needed of the customers.

After that failure, some free software came out. But those programs doesn't have a large community and a good community system. This is the most important part of our project.

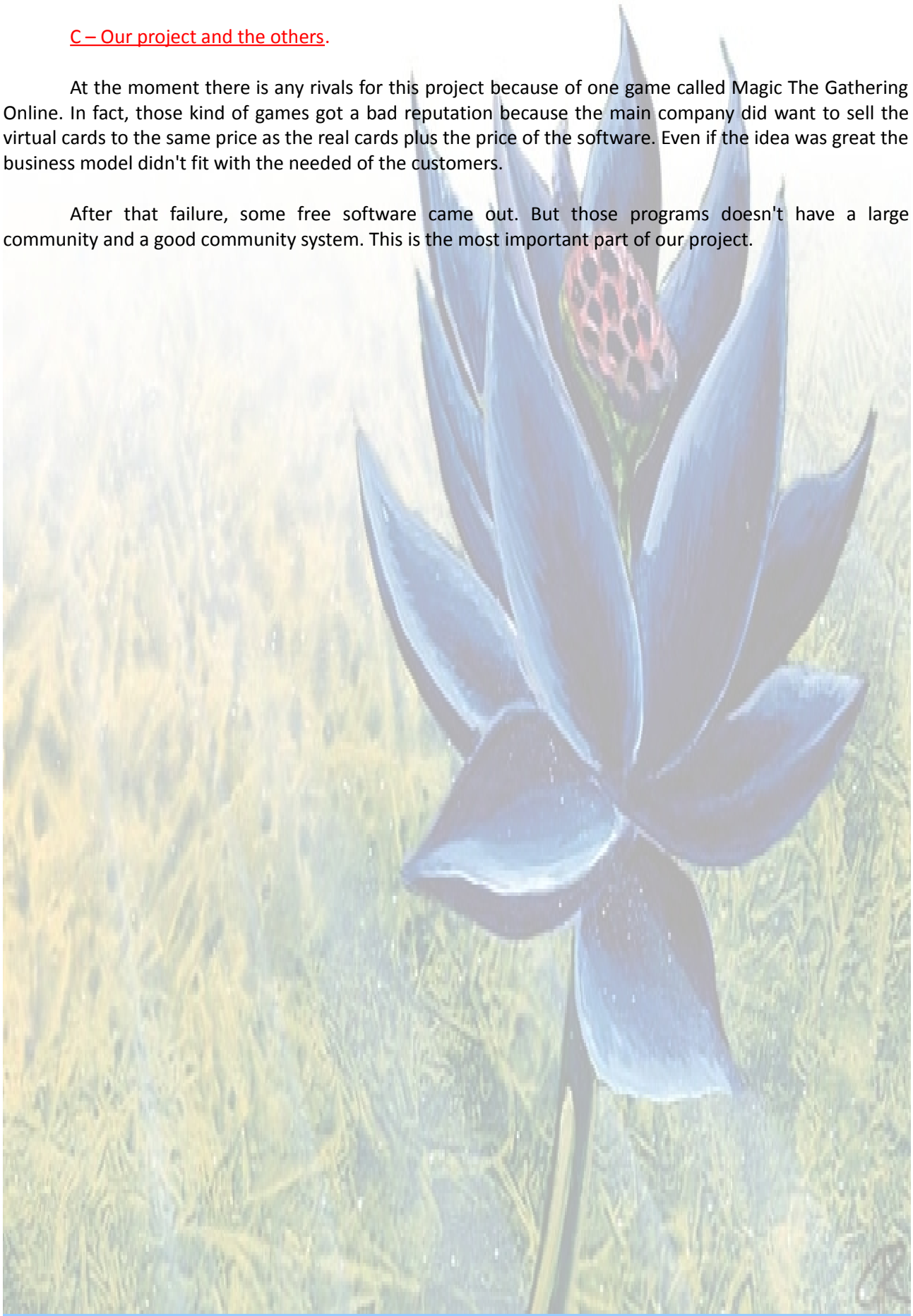


Photo 1 : Communication entre Serveur et base de

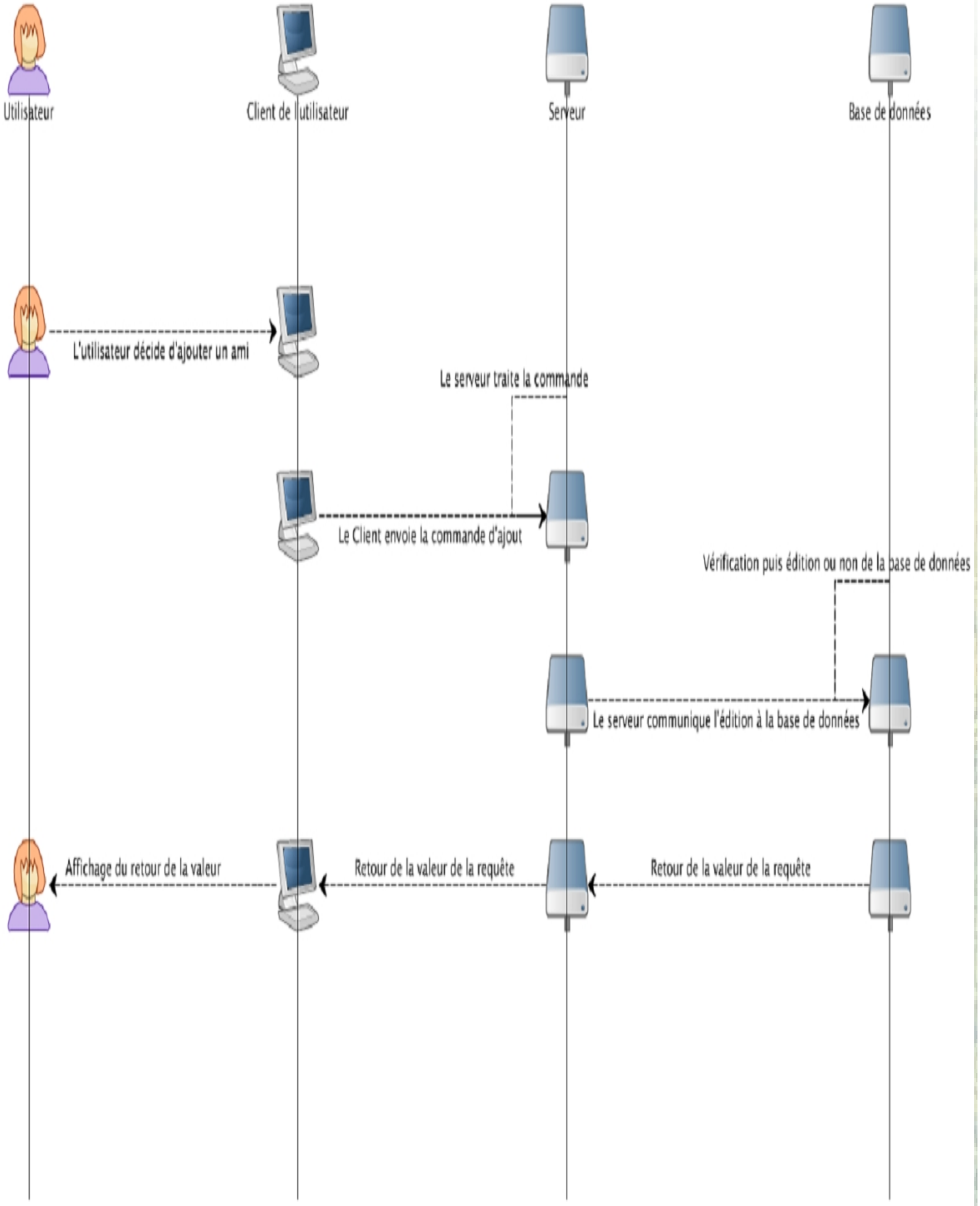


Photo 2 : Communication entre deux clients et le serveur

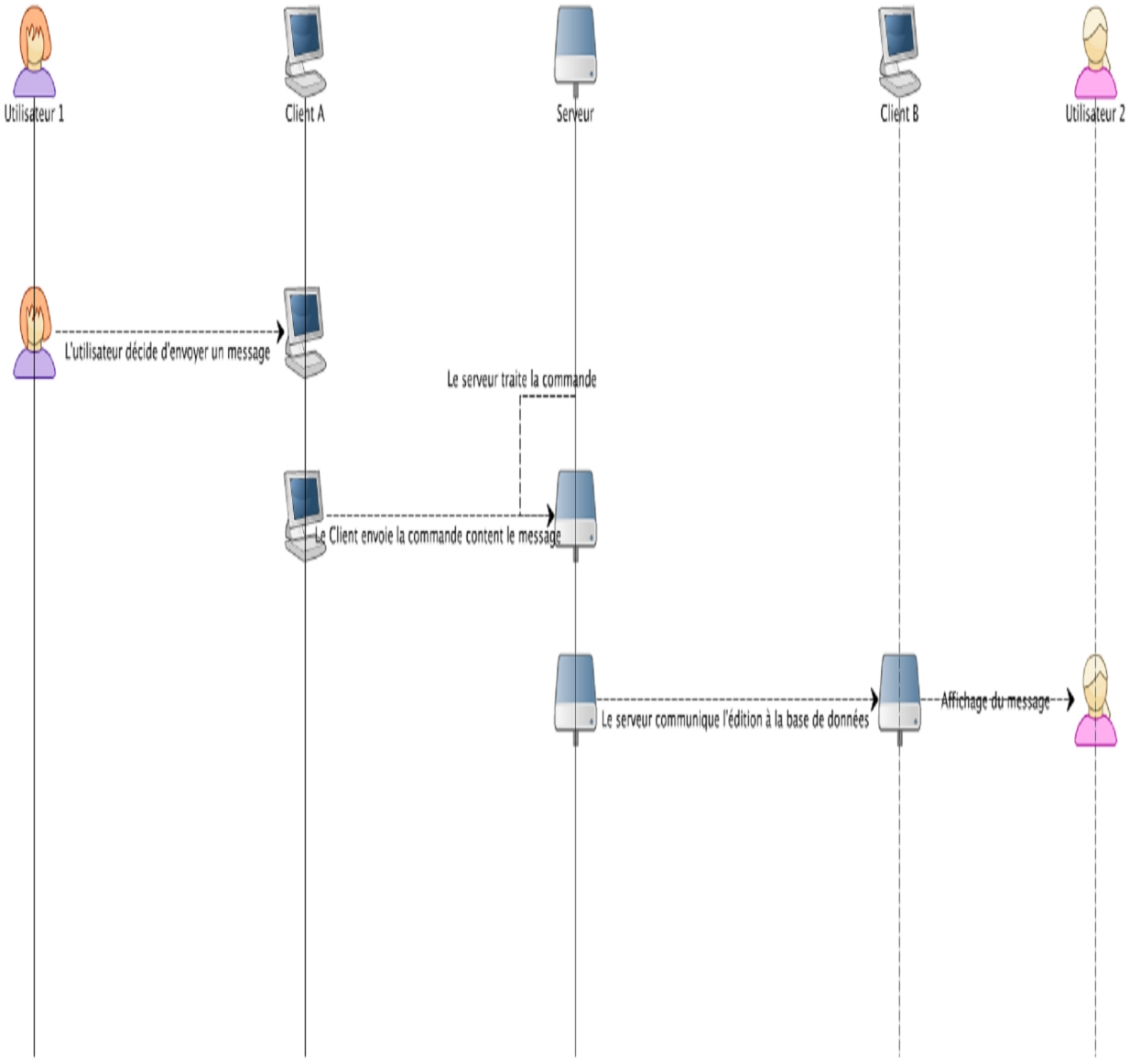
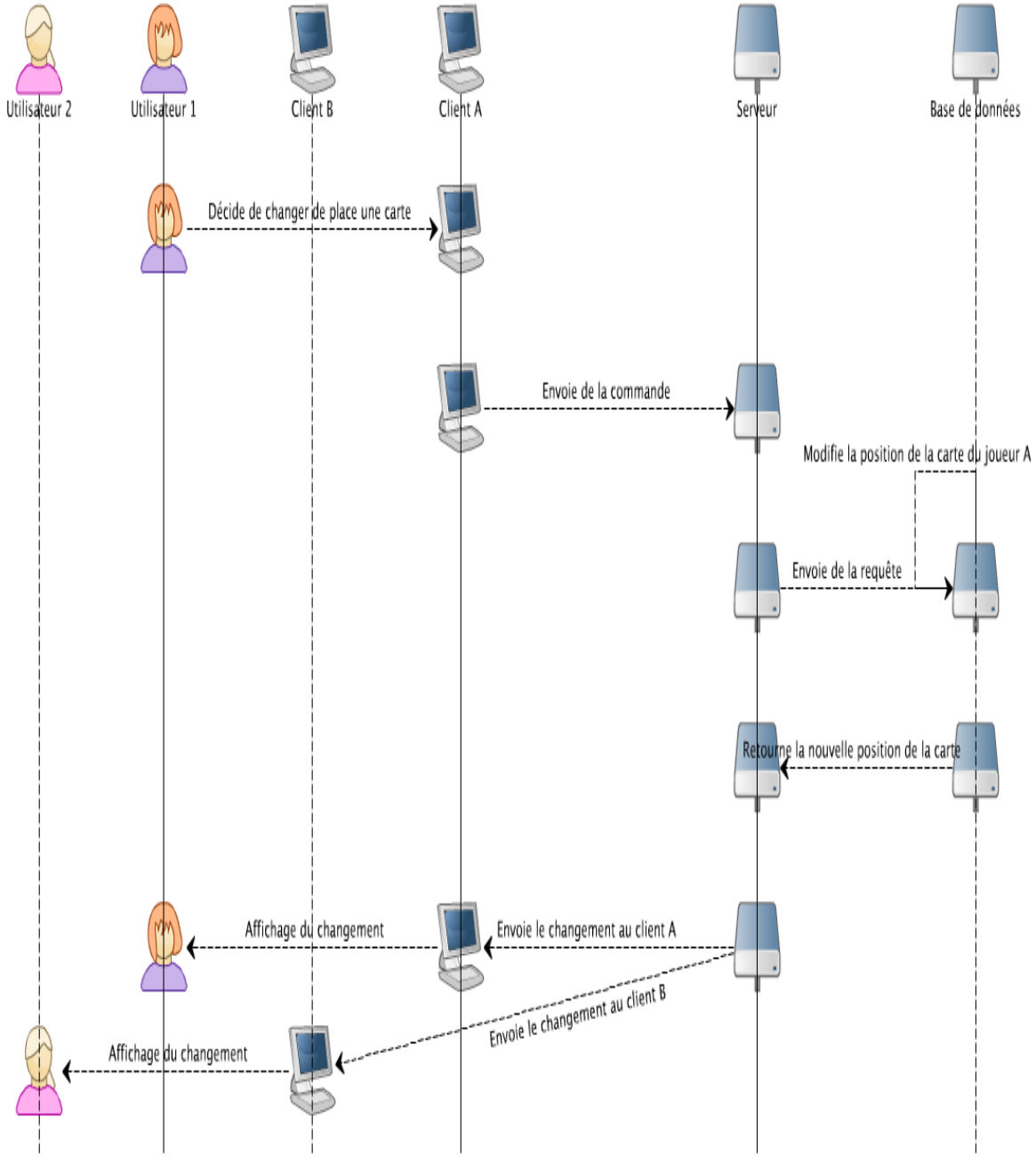


Photo 3 : Communication entre les trois entités



Appendixes – The projects that already exist

A – List of the projects

Most of the software or websites which they used the theme of Magic : The gathering are not able to peak in the marker for some reasons which we will explain later.
Those programs are : Cockatrice, CCGDECKS.COM, Magic Workstation and Magic the Gathering Online.

B -Description of the projects which they exist.

Project 1 : CCGDECKS.COM

CCGDECKS.COM is PHP website which permit to the users to make drafts or sealed games. The user interface is simple and intuitive. The creators decided to keep the web design simple because they do prefer to keep focusing on the contents. The welcome page show the users the latest news of the website. For example, they could have added a new feature or corrected an old bug.

We can also find some information like, the number of draft's game which is running, the number of people who are waiting or the ranking of the card's prices. Moreover, the home page offer us to translate the contents in twelve languages. Finally, the menu is composed with 8 tabs which are

- Home
- Search
- Drafting
- Sealed
- Stats
- My stuff
- Community
- Login/logout

The advantages:

- Intuitive
- Simple and clear
- Fast
- All the features

The disavantages :

- The translation are not good
- Error pages
- You can't check if the deck you have just made is good or not

Project's conclusion : 'CCGDECKS.COM ':

CCGDECKS.COM is website with a lot of features which a Magic player will find good. Anyway, our project will use all of those features and add an important one which allows the player to check if his deck is good or not.

Project 2 : Magic Workstation

Magic Workstation is a software which allows the users to make his own deck of Magic : The gathering. This program is not intuitive and hard to use. The first time, a person uses it, a list of cards is shown. You have 2 columns, the first one which is the list of the cards, and the second which is the illustration of the card selected.

If you want to use 100% of the Magic Workstation's features you have to import all of the illustrations and a tutorial on the internet

MWS have many features like:

- Making a card.
- Making a deck
- Playing to the game

Advantages:

- Cards editor
- Decks editor
- We can play with computers or real people

Disadvantages :

- Not intuitive
- You have to pay
- A lot downloads (Card, languages, extensions)
- There are few people who using this program to play to Magic: The Gathering

project's conclusion : 'Magic Workstation':

Magic Workstation is good tool for the players who are experimented, but it is still difficult to use it if you are a novice at this game. Our project will have a better way to play.

Project 3 : Magic The Gathering Online.

Magic The Gathering online is game which were developed by the main company, Wizards of the Coast. For some reasons, this is the best way to play to Magic online. Even if, this is the best way to play there is some disadvantages which don't attract the people to use it.

You can get an account only if you buy it on the official website. This software costs 10$, it still a moderate cost for this kind of high quality game. But we will talk about the commercial aspect of this game later.

The software has all the features needed to play properly. For example, you can buy cards, making a deck, exchange cards and using your decks into a classical game.

Features of the game:

- Game's screen.
- Cards shop.
- Making your own decks

Advantages :

- The number of the same card you did have
- The interface is intuitive and how the software sorts the cards from the library

Disadvantages :

- The interface can't permit the user to see the whole list by showing the real appearance of each card.
- The card's shop.
- Game's screen.

The shop is the part of the game which is the most criticized. The prices of the virtual cards are the same as the cards in the real life. In real life, if you want to check if your decks work well you can play with the printed cards. In this case, you have to buy it before checking.

The shop is easy to use because the software did sort the products well. There is still a disadvantage because of the way of buying products. In fact, you have to write down each information each time you want to buy something.

Project's conclusion 'Magic The Gathering Online':

Magic The Gathering Online is a good software and easy to use. Because of the rules which are handled by the software, the player doesn't have to take care if his opponent cheats or not. But there is a problem, in fact everything is buyable and the price are the same as in the real life. Then a minority will be interested in.

Project 4 : Cockatrice

Cockatrice is a software developed in C++ which gives the user all the tools needed to play to Magic properly.
We can found the following features :

- Making his own decks.
- Handle the room
- Creating a room
- All players can play to Magic like they play in the real life
- Creating and editing the accounts and profiles.
- Community system

Les avantages :

- Creating decks
- Can play with other people
- Intuitive
- There are all the features needed to make the game comfortable
- Big community

Les désavantages :

- Is only used to play with other people

Project's conclusion 'Cockatrice':

Cockatrice is a software which is full of good features but only for the game part. In fact, the software has all the features needed for a pleasurable game.

But the community system doesn't have good features. That is the most important detail that we will include in our project.
Moreover, we want the users to participate as a member of big family by using our software and not only playing games online.

C – Main websites of the projects which exist :

Those URL are the main websites of each projects we did talk about.:

CCGDECKS.COM → http://ccgdecks.com/

MagicWorkstation → http://www.magicworkstation.com/

Cockatrice → http://cockatrice.de/

Magic The Gathering Online → http://www.wizards.com/Magic/Digital/MagicOnline.aspx