**MENU !**

* My name is mim.Armand (Mohamed Armand Eshkiki), student of Masters 2 CEN (creation et edition numerique) in Paris 8 university and this is my thesis (memoire) for completion of this year of studies (2014); You can have a look on my resume as well included at the end of this document; also for my memoire of Masters one (Animetro project) please refer to my personal website at [www.Armand.eu.](http://www.Armand.eu.) or the project’s webssite at [www.Animetro.fr](http://www.Animetro.fr)

My Story!

When it comes to introduction, I always had/have the problem to introduce myself. Especially when I want to explain what I do, but I guess in short terms I can say I’m an Artist, plus an inventor and a developer! I put emphasis on being an “Artist” before anything else probably because it’s (still and probably forever) an obscure and unclear word with no real definition and with no real meaning, and that’s exactly what I need to fill the vacuum called identity, and it’s an easy way to escape the responsibility of identifying self in defined categories in rigid societies we own now and that’s probably the main reason of existence of “Art” like an uncategorized category to put everything that doesn’t fit entirely in other categories. That being said, obviously that’s just an escape strategy and I wouldn’t call myself an Artist if there were a better word to use instead!  
I started in young ages as an illustrator/ cartoonist for magazines and journals, continuing very soon the journey of visual arts to Animation, where a few years ago at my latest years of my resident in Iran, I ended up having my own studio and have been directing animation series for national television (75 episodes, the longest one with a duration of about 150 minutes in one year), I experienced a lot, different technics of Animation (from stop-motion to cut-out and advance3D CG Animation technics used in visual effects for cinema), Meanwhile I was active in other fields of visual arts as well, specially the modern kind of it, in the Interactive mediums, developing web-sites, flash-based applications and Information Kiosks made with Macromedia Director (Now owned by Adobe). I made a very successful studio/company before leaving everything and starting over, again.  
After my arrival to France I was introduced to technologies like Arduino and Processing and even though it may looks like irrelevant to what I was doing before that I continued my journey to the new universe of artistic and visual development naturally without feeling any deviation from my principal rout!  
During my second year in France I invented Animetro, which was a purely engineering mission and vastly new to me, but it had one thing in common with what I was doing before-hand, it was a new medium for visual arts, and more precisely for Animation, and as an Animator who always had to prepare his own medium before starting to work on it, it felt natural to me to develop this new medium as well.  
Animetro wasn’t the only project I worked on in France. I worked on a lot of different projects which I hope to be able finally, after 3 years, to overcome legal problems and be able to finish and deliver them to public as an individual Artist, developer and inventor.

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* Starter ! (presentation)

During this scholar year and specially during the past six month (duration of our Intenrship -stage- ) I worked real hard, not only in my work-place (where I passed my internship) but also during my free time, on personal projects, which resulted at the end of a handful number of projects, some of them I finished during this time-period, others yet un-finished or in the progress of completion.   
But all in all, I would conclude the outcome of this time-period very succesful and advantageus. I learned /and mastered a lot of useful skills, technologies and tools, each and every single of whom opening new doors toward future of my career.  
During this six month I became an Adobe partner, the third partner ever in France, which is very promising, specially for the future. I also released / published a few final products, either in open-source or commercial sections of the matket.

In future chapters I’ll explain a little-bit more in detail each of these experiences, their results/ outcomes and the prospective feature of them, in addition of tools and technolgies I learned during each of these projects.

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* Main course (Projects)

**Aikos Mobile Application:**

**The place (about the company):**

Aikos is a startup based on an award winning innovation that involves the fields of home-automation and energy consumption management.

The invention is a device with the ability to control and manage the consumption of electricity, water and gas, either directly or long-distance through an internet connection. It can also gather consumption data and information in order to suggest optimizations to reduce the cost and increase the efficiency, as well as for data analysis and comparisons in different areas.

The project won the EDF competition for innovations related to energy management.

I first met the owner of the company in a start-up meeting organized by pepiniere27 (http://www.pepiniere27.fr/), which provides facilities such as placement, etc. for small start-ups. From the beginning I felt that this was the right place for me to do my internship, although it looked like a small company, which would introduce more risks to both its future and my prospective future employment. However, because of the innovative nature of the company, I thought it would be a very helpful experience. In addition, I had a lot in common with what the company was doing, having experience in electronics, coding and innovation, making me the ideal candidate for the company.  
So I started working there right away (just two days after our first meeting), earning a good salary for an intern.

The project defined in my contract was the development of a front-end application to control and communicate with the device and I started working on it immediately.

**The Product:**

The company’s product was a device (called box internally) designed for the purposes of home-automation and consumption management. It included an LCD panel as a way to expose a controlling UI to the users and the ability to connect to internet through Wi-Fi and expose another way of communication to the box through a server-based API.  
The device itself is a generic embedded JAVA-based micro-controller designed and developed by third parties and not solely for this project. It includes relays, sensors and several in-put and out-put pins for city electricity voltages (for both measurements and controlling purpose).

**Challenges:**

During the first days of my internship I realized that the company was suffering from a common problem experience by start-ups: management.

I should mention here that the manager of the company is indeed a very talented and smart person. He is the person who invented the device as well. He is definitely a good manager for a company and I have a lot of respect for him, but I believe there is a subtle difference between a good company manager and a good start-up manager. In referring to management problems, my intention would be indeed to refer to this area of differences.

The specific problems in this company’s management concern its definition of the workflow for various projects.

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**Analysis of the problems:**

In this section, I will break down the afore-mentioned problems in more detail and as previously stated the more precise problems I observed in the company’s workflow;

* **R&D:**  I observed a significant lack in the appropriate research and development, which usually proceeds the production phase of any project, especially in the case of technology and innovation.   
  In contrast, the company intended to start the production directly, without knowing all the necessary tasks for the completion. This is not uncommon in companies of this kind to find themselves in the middle of the production of a product (or in this case, even after the release of the prototype) trying to solve a problem that was the direct result of insufficient preliminary research. Now I should point out that these types of issues are preventable and completely distinct from other types of problems encountered, such as common bugs, which are unavoidable in all realms of production and development.  
  For example, in the development of the back-end application in the above-mentioned company, they had decided to build it on a Node.js server, which is not necessarily a bad decision, but a decision made on the basis of proximity rather than practicality.  
  This decision, for instance, caused a lot of issues for this company later on simply because it was made with no prior knowledge or research. Despite my research before beginning my internship with this company, decision had already been made. Not surprisingly, later on, the company (and this particular project) encountered with the exact problems that were mentioned in the report I worked on. Even now, while I am writing this document, all the parts of the project are finished, except for the back-end section and areas depending on that.
* **Road-Map:** Another problem caused by the lack of a workflow and a R&D step, is the lack of a clear plan and outline for the project, which would be indeed be the result of a well-thought R&D project in a well-managed project. Start-ups often intend to start the production without a clear outline in hand, which may translate to a list of tasks they need to know from the beginning and before even starting the project.  
  Lack of an outline will result in slow progress during the development. Without an outline and plan, there is no priority management of the tasks. This results in either the repetition of tasks (which happened in this start-up as well where they started working on advanced levels of back-end without having –or even thinking of- an authentication system for users) or working on databases without having the design of a database hierarchy, structure or architecture in hand, which resulted in an infinitive duration of back-end development (still under construction at the time of the writing of this document without any advancement from the beginning).
* **Task Management**: Without an outline, there won’t be a list of tasks either. The result of this is that every team member will have to define his/her own list of tasks that may result in repetition/ forgetting of tasks and / or different, paradoxical and sometimes incompatible approaches to certain tasks.  
  This can also cause a lack of a united priority management of tasks that can prevent parts of the project to advance when there are dependencies and overlapping of tasks, (for example without an authentication implemented in the back-end, front-end development can’t accomplish it either).
* **Global View:** Not having a global view of the whole project can be a real problem in start-ups, especially since often the owner and/ or the manager of the company / project is involved in detailed tasks of development as well which will make it easy to lose track of the main goals and objectives. Team members and managers can become distracted by the details of short term goals, making It harder to manage and distribute time correctly accross all tasks in order to meet deadlines and accomplish a project on time or with a reasonable delay!
* **Flexibility:**

In my opinion flexibility can be one of the biggest advantages of start-ups in comparison to big companies and even sometimes a crucial aspect of their existence. For start-ups to be successful, normally the team members have to work more than an established company in order to handle tight deadlines and financial challenges existing only in start-up situations. On the contrary they normally have more flexible work hours and schedules.  
In fact, in small teams of start-ups there needs to be a teamwork atmosphere rather than boss-employee relationship. For instance, it was surprising for me during my work on this project in which I spent almost a month working up to fifteen hours per day, including weekends to meet a deadline to be questioned for being two hours late to the office! It was disappointing and discouraging, although I didn’t give up and continued to finish the part of project that I agreed to do from the beginning. However, this issue affected my decision of whether to stay or leave the company after my internship was finished.

Another example of flexibility would be the capacity of risk acceptance by small companies and start-ups in comparison to the rigid behavior of big companies. Start-ups are not afraid to try new technologies and being creative is one of the big advantages in start-ups and small companies.

**Solution:**

Immediately after knowing about the problems of the company’s workflow (which wasn’t something new to me since I saw similar problems in other French companies, small and big, during the past 3 years) I had two options, either working under this condition even thought I’d be sure that it wouldn’t be a successful experience or accepting a huge risk of taking all the responsibilities of few parts of the whole project and manage it myself which would intend of doing all the tasks of a team all by myself and of course transferring of such a proposition to the manager without being rude!  
All in all I decided to not lose 6 month of my time on something that I was pretty sure that would be a failure, even with a good pay. So I talked to the manager and told him it would be the only work condition in which I’d be able to stay and work with the company, I said I’ll take the whole part of the project and doing it by myself with no additional costs but I want to be able to manage that part of the project and do it in my own way! He accepted withdrawing all the responsibilities of that part to me as well!  
Although I told him that probably they should consider changing their workflow in the entire project as well but he was doubtful about it and told me that he is not even sure if I can finish the part I took, on-time either! Here as a quick note I should mention that, after two months I finished the part and at the time of writing this document, after seven month, it is still the only part of the project that’s done, while other parts have a progress of less than 10 percent overall.

After finishing my part of the project, according to our agreement with the company owner, since I didn’t have anything else to do (we had to wait for back-end team to finish their tasks before publishing the application, which never happened, unfortunately) and since I didn’t want to waste time (wanted to start other projects) I proposed to the company owner, to give me a month or two off so they wouldn’t have to pay me to do nothing, and calling me back after other parts and dependencies were ready (with the knowledge that it would not happen in near future with their way of working and workflow!). So I separated the company after two and a half month (with a few days during the next month being called to help them with other tasks) and started next projects (that I will explain in next chapters)

**The Job:**

The main part of the project I agreed (and proposed) to do was the process of designing, developing and completing a mobile application, which would control and communicate with the device through internet and the server-side back-end APIs.  
The project was challenging from both the technological and the design/ aesthetic point of view. In contrary to my agreement with the project manager, he decided to get a lot more involved in the design process (something typical and always accompanied by tragic results in the design industry in which I’ve already had a decade experience) which introduced many unnecessary challenges to the project, slowing it down and reducing the quality of the final output. (Analysis of this behavior and its effect on designed UI on a day-to-day basis was an interesting study I did, since I kept all of the different steps of the design process which I will not include in this document for the purpose of brevity but which will be available on my website).

Another challenge was that, due to the nature of the project, we had to create something new from scratch, an application that did not exist before, so we had to decide based on technologies available.  
I spent the first two to three weeks studying, researching and testing, which is defined as the R&D step in my workflow. Not to mention that my boss considered this a waste of time! However, in contrary, I would say that it was the busiest and hardest part of the job. I worked close to 18 hours per day, including weekends and holidays. I studied many different available technologies, reading documentation and doing tests and benchmarks.

At the end of these three weeks, I had everything I needed to begin the project at hand, it was just a matter of completing a precisely detailed list of tasks. At that time my estimation was that I would even finish the job earlier than the defined deadline and I would have done so had there not been unnecessary obstacles created along the way, including alternation of the UI and slowing down the design process and also definition of new tasks in between with no respect to the current schedules.  
The application had few different modules, including a complex data-visualization algorithm and all different types of charts (Graphs, bars, line, pie, Cartogram, Streamgraph, etc.) with the ability to get real-time feeds, an authetification module, a CORS AJAX communication module, a profile manager module and a very complex intelligent controlling module that would construct the whole UI of the application in real-time according to users configuration (since there were at least 98 different type of UI that would be needed according to users configurations. For example, if they had heater included five different types and standards of communications with heaters, if they have defined different zones, etc. and etc.!);

Designing a minimalistic and simple UI that can adapt to all the different kinds of interfaces needed of all these different configurations without making it complex and incomprehensible was challenging enough. Unfortunately, the involvement of unprofessional team members made it even more difficult and, I believe, finally reduced the quality of the final UI considerably. (I was happy with the first prototypes of UI but honestly I’m not happy with the final UI, even though the company owners are).

Also since I knew I would not probably stay on at the company afterward, I felt responsible to write the code and develop the application in a way that the next person could understand and build upon. Therefore, using name-convictions and commenting the code (massively, as the amount of comment lines at the end was twice the size of actual code) added to the workload as well.  
Here, in order to summarize, I will not enter into the details of the development process of the application but I’ll make sure to make it available in my website as well.

**What I learned:**Although I cannot call this internship a complete success, since I am still waiting to see the application I developed be published on mobile platform markets (and honestly I think I’ll never see that if they don’t fix their workflow!), I would definitely do the same if I were given a second change.  
Observing these problems and seeing the reason for these types of failures was an invaluable experience, which helped me immediately in my next projects and will continue to be helpful in my future career.  
In the next section I’ll briefly explain the knowledge I gained which I mentioned above:

**Tools and Technologies:**

The list of tools and technologies I used or I tried (during R&D steps) is long, so I’ll just try to name a few of the most important components that may be useful for other projects and/ or students:  
TO DO: add the list and icons!

**Management:**

As I mentioned above, it is always very useful and inspiring to learn from the failures of others (and of onself). Some of the most valuable knowledge I gained during this internship experience came to me through observing and being able to analyze the management problems of a start-up.  
I mentioned more in detail these analyses in previous sections so l will not expand upon it more here.

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**IDTK (InDesign Tool Kit):**

InDesign Tool-Kit is an adobe InDesign extension I created mainly for the pure purpose of facilitating the design process of this very book, I just decided to do it in a way that would make it possible to share it with other designers which eventually ended up being published in Adobe Exchange website.

The story is that I did the same thing last year and for my Masters 1 degrees thesis, but I did it in the CMD way (Command prompt and tools); I wrote relatively a huge base of code but in away that I was the only person who would be able to use (and / or reuse) it later (Although I’d forget a lot of it in few years too) so it was a try to make it available as designer-friendly tool, to others as well as to my future self!  
I started the project almost immediately after finishing my internship job and exiting the company and with all the knowledge I gained from that experience about project management I was able to define the project and a road-map for it which made this project a very successful and fast / on-time project.  
The toolkit is a collection of tools to help designers and publishers using Adobe InDesign to design books and documents through the software. It includes, right now and in this version (Beta 0.1.9) three different tools:

1. Robot, robot is the name of a module which was the main idea and motivation behind the project when it started, it is a collection of algorithms able to create and generate unique patterns and motifs for each single page of a document using mathematical formulas and technics. (You can see a lot of these elements being used to design current document too).

2. DataN, is a complete and complex data visualization tool with a simple and user-friendly UI that can create all different kinds of charts and visualizations right inside the publishing Software (InDesign) from many different kinds of data inputs, feeds and files.

3.TODOs: in contrary to its name it is already done! (So not “To Do” anymore!), it is a tool that I found very useful to have and a necessary option for complex design processes. Having experience in programming and development made me familiar and appreciate the concept behind similar tools in different IDEs, so I thought it would be very useful to have it in and application like InDesign as well! This tool will keep track of all the reference words like “TODO”, “ToFix” and other words and variations (with the ability of customization) in a document or book, making it easy to work on different parts of a document and moving back and forth between them (Like 🡪 TODO: add the illustration here when it was ready! Or 🡪 ToFix: this paragraph needs refrence!)

Although this plugin was made primarily to solve / facilitate my own design project challenges it received a very good feedback from users from all around the world and I even granted to be an Adobe Partner (the 3rd ever one in France!) which may open even more opportunities to my career in future.  
because I developed these tools for myself and since I didn’t have access to any other version of Adobe products, I wasn’t able to develop or test it in other versions and / or platforms, so I decided to publish the first beta versions for a very limited user target! Just Adobe CS6 and on Windows platforms! Considering these limitations it is still getting a good amount of positive feedback from the community; I should mention here that despite these limitations the code-base is multiplatform and should work for all the versions of Adobe CS from CS6.5 onward and the only reason to limit it was the lack of enough tests on other platforms and versions, which obviously can be solved in future, increasing the target market of the tool immensely.

I have also, already a lot of other ideas for new and useful tools to be added in future versions (and before even the first official after-beta release!) which I will add next in the first chance (considering the work on lot of other projects that will be mentioned in next chapters!), plus developing and refining current tools further more.

**Tools and technologies I learned / used during this project:**

TODO: add the list and icons

**Video Games and apps:**

Video games are one of the areas where I want to be active in future as I was in past, during my free times I worked on some of the ideas / projects in different levels of completion or progress and which I will continue to develop and finishing in near future;  
Here I’ll put a short list of mentioned games and concepts:

* World Stories:  
  World stories is an app / game, targeted mainly to handheld devices. The main audience of the application would be the children and young people between ages of 1 to 24 and parents among others.  
  Application aims is to gather, re-produce and re-introduce stories from all around the world, from ancient fables like “Jean de la Fontaine” to folkloric stories known in different regions. It also tries to involve the audience from all around the world to participate, suggest and make new stories; there is also possibilities to use designs and drawings made and sent by children themselves inside the game/ app.  
  Due to the concepts and strategies behind the application and according to the results of marketing studies in different app stores (IOS, Google Play and Windows phone 8 Market place), comparing the current concept to different similar applications, an strong potential of success would be appear for this application. I would estimate a minimum amount of more than 100,000 downloads and installs in handheld devices during first months of final release date of the application.  
  Application would have different features, including (but not limited to):  
  - multi-lingual interface and interactions (including narration and text in different languages, like French, English and Persian to name a few)  
  - Interactive story-telling features (make it more attractive and intuitive to read and learn)  
  - Synced text presentation (which would be helpful to teach reading to children for instance)  
  - Story games (each story may have one or more games attached and available to it)  
  - Real book inclusions and augmented reality (in co-operation with book publishers, it is possible to make a visual and narrated version of the books being purchased) where story will begin from the book itself by pointing the device camera toward phone and using augmented reality features.  
  - A virtual library, where user can keep purchased or free included books and purchase more books using in-app purchase features.  
  - Ability to purchase / sell, other in-app or real goodies through application (like story character models made of cardboard, t-shirts, mugs, etc.)  
  - Ability to make/ invent new and unique stories by the user through the inventor section of the application where user can use default characters and assets or purchase more suited ones for his/her story and will have the ability to share his/her story with friends, family or other users.  
    
  The process of pre-production of the application is already started and is in an advanced level of progress, where even a 3D model of one of the characters of the first story with complete texture and rigging is made. A more detailed project planning, time-table and road-map, including budget planning and tasks-list is included in the last chapter of this book as one of the first project to be released in future (This project was candidate to be the first one to release in future company/studio because of its margin of safety and estimated level of success).  
  Application strong points are visual quality of assets, story-telling innovations, customizability and flexibility of interactions and inter-active communication between the users and the software.  
  Stories have the possibility to be narrated in 3 different envirenments provided by the technologies being used in the application, including 2D, a 2,5D and a 3D atmosphere.  
  As said, this project would be discussed more in detail in an executive point of view in future chapters.

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* Puppet-Master 🡪 “kill the master”!  
  A twisted game in which player should help a puppet to find his puppet-master whom at the end will appear that was the player him/herself! (He/she was the one moving around the puppet, all the way till end!).  
  This project is more of a concept although story and story-line is written and primary story-boards are made as well.  
  This project would be one the future projects of my studio to be finished (after World Stories and IDTK probably).  
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* Game of evolution, evolution war or Natural selection!

A paramedical multiplayer simple battle field 2D game:  
This is a game concept which I worked on during my spare times, right now it’s more of a concept with a few game-arts being done and ideas being developed but due to the estimated complexity of the game development, it would be considered a big project, only available to proceed to the next levels of production if my other plans and projects for the future prospective Studio works!  
Here I’ll just mention a few of ideas and concepts behind the game:

- Players can team-up but each of them can get a fraction of what their higher levels get.

- Higher levels can define the percentage each individual gets

- Players can leave a team, join a new one, create their own team or play by themselves!

- People and teams can purchase stuff in app with the money they earned during the game-play or with real money!

- Team owners can decide to let people join their team for free, by permission or by payment! Meanwhile they have no control to let them leave or not.

- Players evolve by playing the game and gain/lose abilities and characteristics (evolution) !

- New players live in the sea (and other bodies of water) and have the advantage of not encountering stronger player, as they evolve (and grow-up) they go to the land and find new vulnerabilities and advantages.

- There would be different kind of species

- Players have no control on their destiny (and which species they will turn to)

- Players when off-line (not playing) will be kept in the freezers(!) and will loose weight and body-power for being in sleep and not having activity! To prevent this they'd just need to wake-up every once in a while and open the game (otherwise they will have the minimum amount of energy next time they join the game or even dissolve if duration of inactivity is high)!

- Players will be awarded if they connect and play about the same time every-day!

- There would be hidden pieces of primitive objects in the game each day, lucky players may dig to find these and if having all the necessary pieces can invent tools to use in the game (like digging tools, armors, cloths, perfumes! among other stuff...)

- There would be (at least at the beginning) a limit for the number of people allowed in one team.

- Players will be awarded certain amount of gold each day when they connect to the game and each time they play it.

- The freezer or coffin of players not playing for more than certain amount of time risks of being exposed which may result to being rubbed and / or being killed by other players (and going back to sea)!

-The characteristics of the game would be different according to the time of the day (morning, day, night..) and time of the year (season and events like Halloween etc.).

- There would be tradable collectibles in the game that may be found (rarely) in the game or being purchased from the shop.

- A unique name and a sign will be assigned to teams at their creation time

- There would be board of leaders, teams, players, collectibles, etc..

- No advertising (at least at the beginning!) neither in-app purchase! (JUST during the first month or even week!)

- All players from different platforms will play in one field but each player from each platform will have a sign or visual characteristic that would show his/her origin (they may even be represented as being from different worlds!)

- Players with a detectable device can have special signs too.  
  
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* PapeRally: is a car rally game I developed and published in Android and windows phone markets privately (not available to public without invitation), the main purpose of the game was to test the feasibility of the task, I developed the game using different technics and technologies, from Using a bridge between C# and processing to Using Intel XDK toolkit.  
  The results were promising and made me more motivated to develop games for these platforms, I never made the game available to public since it needs certainly more development and refinements but I will definitely (although it won’t be the first game I’m going to publish and make available publicly)
* Narrator! ( dynamic and interactive storytelling and book reading)
* Flying history!  
  Flying History is a flight simulator game which will teach and inform the player about the flight history as well.  
  Game starts by the invention of flight and continues during the time and different innovations in aviation history.  
  Players can just advance progressively with time and gain access to different air-planes of each time-period or purchase their favorite planes directly from the store.  
  Due to limitation of space I will not discuss this game further more.
* Coloroform memory!  
  A very simple but addictive memory game I designed and planned to develop for android market in my spare times.  
  The concept is to start the game from easy by very distinguishable colors and make it harder and harder by reducing the differences between hexadecimal value of colors, forms and patterns.  
  Game will have the multiplayer functionality and integrated options of the native platform achievements and awards for the players.  
  Due to limitation of space I will not discuss this game further more here but more details will become available later on the website.

**CV-CMS:**CV-CMS is an open-source CMS (content management system) I started to answer a real need;  
As a person who is active in different fields of modern and visual arts, technology and innovation and creative business, I need more than often to update my CV.  
This would be an annoying task especially for an online CV for a designer (who needs to have a precisely designed CV!) which may be a reason to not update your resume very often!  
I looked a lot and didn’t find a special tool, designed for this reason, so I thought I would do it myself! For myself and for anybody else like myself.  
The idea behind the project is the principle of separation of design and content in web standards. So the CMS will provide a tool to manage the content and wrap them in desired HTML5 tags make it easier for a designer to worry just about the design and update the content (CV) easily at any time. Project is planned to have multiple pre-designed theme and skins for people with no design experience or interest as well. This CMS system benefits from the SQLite and latest version of PHP technologies to provide a very flexible and user-friendly experience and also to make it installable in almost any server (including shared and strictly limited host servers) with no need to Database installation and/or configuration.  
Meanwhile, security concerns were kept as a high priority goal during the development process.  
The project have close to 50% progress and hopefully will continue to progress and be finished in near future, but it is open-source and available in GitHub so everybody can access and work on it too.  
Future plans have been defined as well for future releases of the software, including a service as a product version (SAP) with features like endorsements and referents for professionals in web industry.

**MIMSES:**MIMSES is a very simple, open-source php script I wrote to manage Sessions and Nonces in my applications, it respects all the security issues about sessions and Nonce technologies, although may not be perfect but can be updated to be more and more close to that state of existence. It was one of the projects I finished after my internship project and which is available to public through GitHub.  
It produces and assigns a unique code (token) in each session and each request from or to server (eliminating or reducing the risk of a MIB (Man In Between) interruption of the communication in http requests and communications).  
This is one of the biggest and most complex issues in a security point of view in the web, where except of using HTTPS protocols there is no absolute solution (Although there are different essays in progress to resolve the issue like Navigator or browser ID project etc.), but usage of mentioned technologies (Nonce and correct session management) will reduce the risk of these kind of attacks considerably, but due to the complexity of employment and lack of knowledge, especially when programmer uses pure PHP (no framework), these solution may get ignored or not properly employed. This code base is an essay to reduce these problems and make the technology more available and easier to access to any PHP project.

**PHP-Debugging\_toolKit:**

PHP-Debugging toolkit is a collection of tools I wrote to make it easier to write and develop PHP application and codes for myself, but I made the tool available to public as well (through GitHub), this software has different kind of tools for different needs including tools to examine the server (limitations, characteristics, technologies, etc.) and so on.  
The aim of this project was mainly to help development of other projects (including previously mentioned ones) and learning PHP (specially the new features of the last version).  
Due to limitation of space I will not discuss this project further more here but more details will become available later on the website.

**Intel Wearable challenge:**As the name suggests, this project was made for a challenge presented by Intel.  
The challenge was to produce a prototype (a 1 minute video) of an innovative concept of a wearable piece.  
And since I had a few ideas already in this field I decided to produce a one minute video to present one of them (either for Intel or for future usages).  
Selected idea was a pair of shoes that would produce energy (by walking, running and other activities), communicate with other devices and behave smartly in different conditions.  
Due to limitation of space I will not discuss this project further more here but more details will become available later on the website and the Video will be published on CEN department weblog as well (Cross media blog).  
  
**Art Projects:**  
during my works I worked on a few art projects as well, including a few paintings, installations and other artistic experiences (like electronic arts, etc.).  
For the purpose of summarizing I will just include a few pictures of these projects in this document but further information will become available on my web-site while the projects progress.

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* Dessert ! (Conclusion)

In conclusion and in my opinion it was a very successful period of time for me; now I have an even more clear view of future and what I’m going to do next, I have different plans to back-up each other which makes it even more secure to proceed and reduces the risk of failure in general.  
I already have a product, published by Adobe and I’m now an official “Adobe-Partner”, which may become very helpful in future developments of my prospective company/studio.  
In the other hand I already started the development of bunch of new applications and video games with real potential of success in the mobile market.

All in all near future looks very promising and successful to me, although there are a few challenges and obstacles I would predict about, which are mostly out of my expertise and which I have no control over some of them.

These are mostly legal challenges, like the right to work in France and complicated paper-works and bureaucracies related to that. These are my main worries and biggest obstacles I’d imagine in my way which are kind of unfortunate since they may definitely reduce the productivity and the level of success one may achieve. Although I may as well over estimate the problem, meanwhile I think it’s better to be pessimist since I have no expertise and knowledge about these matters. And I was /am very hopeful about the possible aides or facilities being provided by the university or similar institutes to support students/ researchers in these kinds of challenges.  
In next chapter I’ll explain in more detail, my future plans and projects in a more realistic point of view, including project plans, time tables, budget planning and marketing strategies.

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* Espresso ! (Future)

In this chapter we will discuss the future, specially the near future of this journey, the kick start of a start-up studio. Keeping in mind that it is just the start and that I have a lot of plans for the next steps and even though it looks very promising and except for the bureaucracy issues I don’t see much of signs of a possible failures in these primary steps, we have think about unpredicted situations and have backup plans!  
Here but, we will have a look at primary business and project plans, prepared for the “start”, including a primary and general business plan of the company (produced for the incubator selection exams) and an execution plan and project time-table of the first project in hand.  
We mentioned already some of the other projects in previous chapters which may become the next opportunities in the future of this studio life but I should mention here that despite all the emphasis on the financial aspect of success for the company (which is vital for existence of it), money wont be the main and / or only goal of the company, our main focus would be on cultural and artistic aspects of our activity but in a way that make it possible to maintain our existence in an independent state of activity in a commercial point of view. I believe that most of the actors in the entertainment market are over focused on the commercial success and money/ profit based strategies which make it even more achievable for truly balanced start-ups to achieve success in this market.

* Studio/ company summary and primitive business plans

3Dots would be the name of my future, prospective studio (although I had a successful animation studio with the exact same name for years before leaving my country).  
Main activities of the company would be based on research and development in the fields of technology, art and culture with products such as short films and animations, documentaries, video games and applications, invention and production, software development, etc.

At the end of this chapter you’ll find a resume of a primary and general business plan of the company (after the “World stories” project time-table).

* First project execution plan and details:
  + About the Project
    - World stories

World stories is the name (which may change) of a project including a complete package of products all based on art-works around the stories from all around the world.  
The project will be started by a few stories from the famous ancient fables but will continue to discover and present stories from all the different cultures of the globe.  
The products range from illustrated books, e-books, audio books, magazines, video games and inter-active story telling applications. These may extend to side-products like advertising materials, T-shirts, Cards and other fan-related products.  
Project aims to revive the historical culture of story-telling and all the related benefits of it in human societies in an era which is overwhelmed by digital devices, nonsense games and an entertainment market whose main goal is wasting time! But this project wants to give quality entertainment to its audiences, letting them to enjoy and relax the same as benefiting the cultural and artistic richness of the product, filling their spare time with quality experiences.

* + - Targeted audience

The first target group of the product are children and teenagers in adition to their parents, which is the defined goal in the first releases of the product but it can go further and include a higher range of audiences including adults and other age ranges by providing quality content for them in future releases.  
And it’s enough to have a look at Android, IOS and WP market places to realize that this kind of audience are exactly the ones who are forgotten! Low quality products and senseless apps made these markets an unsuitable place for parents and children to find solution to entertain and educate the children, and all that is despite the high demand of such applications. Hand-held devices are getting even more and more popular especially between youths, teenagers and even children. It’s not a surprise anymore to see a five years old playing Candy Crash in an IPad! But we all know that Candy Crash probably wasn’t aimed for this range of age, a game that does nothing more than killing time, wasting energy and distracting the child from all other important things to learn in that age. And although it may seem the same for an adult but most certainly not as tragic! And one can’t blame the child or parents, after all, it would be a useful, even necessary skill to learn using these devices from childhood. In-fact the problem comes from the market which doesn’t really provide suitable and **quality** games and applications. Except of a few low-quality and pretty much un-finished app, parents have no option in this field. World Stories is and essay to fill this vacuum, with AAA class visuals, quality and new technics of storytelling and looking at this whole situation makes it even easier to see and expect a huge success for such products.

* + - Features
      * Inter-active and narrated stories
      * Language learning mode
      * In-app purchase
      * Possibility of interaction between users
      * Integration of native achievement systems in different platforms
      * Possibility 2D, 2.5D and 3D technics depending of the mood of the story
      * Possibility of different endings and story line by user interaction
      * Story games
      * Inclusion of educational material in-line with stories
      * Introduction of different cultures
      * Paper book inclusion
      * Online multiplayer mode
      * User profile manager (after first release when back-end is included)
      * Advertising opportunities for related businesses
  + Marketing strategies

The project is defined with the worst scenario case in mind, without any funding necessary for its survival all the way to the first releases of the applications. That’s because I believe for the success of a start-up, being pessimist is necessary, especially in these aspects.  
That being said, it should not stop the project to benefit from these opportunities by any mean to boost the project. It just means that during the project plan design, manager or project designer should try to not increase financial dependencies (which will increase the risk of failure). And this is one of the common reasons of failure in many start-ups, to involve un-predicted behaviors of sponsors, funders and social networks in principal and vital cores of the start-up existence. There is a lot of competitors out there, a lot of different tastes and directions as well, and trends aim to change in short periods of time! In this environment, a successful project is the one who can stay on its own feet, being independent from out-side world, at least during development phases.  
In addition, communication is a real challenge in front of new ideas. Nothing can be more clear and obvious than a real product, a functional app or a playable game; but to gain funds and get the attention of investors at the beginning you need to transfer your message and your idea through text and charts etc. which is an unnatural way to do it increasing the risk of not being able to transfer the message correctly and conveniently and as a result risking the whole project continuation.  
Here I list different possibilities in this field with a short description when needed:

* + - Kickstarter and other crowd founding services

Kickstarter and other similar services are a huge and very useful opportunity for new ideas and small start-ups. The reason for that is that by using this kind of funding you don’t sell the company itself or share it (as it goes with private investors), instead you just sell your product or service before producing it!  
This make it not only a source for getting funds but also to introduce your product to prospective crowd of customers. Making people think and talk about the product and wait for it, follow its progress and help you in development by their feedbacks and probably the most important part for new ideas: to encourage you and let you know that there are people out there liking the idea and being ready to pay for it, keeping the uncertainty of the team about how the market will receive their product and other kinds of fear, low, and their courage for continuation higher!  
For being successful in this area though, one should not hurry! It’s the same principles as convincing the private investors in your project. Talking about the idea with texts and charts and diagrams wouldn’t be that effective! So, in this project we will try to do this in the middle of development, after releasing the first Alpha version of the project, to make it easier for crowds to decide!

* + - Advertising and sponsoring potentials

This would be one of the possibilities of revenue and funds for the company and project, during and after production.  
Companies, publishers, factories and other related businesses can sponsor the product and benefit from the exposure of their brand-names and products inside the app or games.  
It’s even possible to make free / sponsored stories available to everyone that will re-present certain company or product. Now it’s not the main goal of the project but in cases where we are sure that other company’s product is in the same line and for the same kind of audience we can consider these option and cooperation opportunities. Third party may provide the story, characters or assets to be used in app and games.

* + - Web-sites, journals and magazines, blogs and social medias

There is a handful of magazines, communities and websites with loyal users and readers that we can use to introduce and present our product to.  
Sometimes it can be free and sometimes with a cost but it may be necessary anyway to introduce a service to its audiences, otherwise, sometime it may be long process to wait and let the target audience to discover the product by chance.  
It may be a very good idea as well to use social networks and advertising to gain audience attention. The same, being active in social networks is possible in either free and paid options or even a mix of both. Using advertising in Facebook platform for example or sponsored ads in Google search engine are two popular options which are probably a more dynamic and in the same time cheaper medium of advertising than traditional options.

* + - Local advertising in different areas  
      Another option would be to introduce the app and related services in different communities, meetings, etc.  
      Even printing brochures or cards and distributing them in different places may be very helpful, especially in places like cultural centers, book stores, libraries, kinder gardens, schools, etc.  
      In addition this technic would be a cheap option to let the audience know about the product as well.  
      These ads may contain discount or award coupons or even extended trials to encourage the receivers of the message to try the app.
  + TODO: + add Execution time table / Project plan
  + Budget planning
    - Software costs (not all necessary at the beginning)
      * Unity Pro
      * Adobe CC
      * IDEs
      * Autodesk 3DS Max
      * Microsoft Office

TODO: + add 3DOTs primary business plan

Prospective job creation:  
 In case of success of the first project (the World stories) which is very probable (according to the result of studies provided in previous chapters) the company will be able (and will need to) hire an small team of creative employees including artistes, designers and programmers which will be listed shortly, but I should remind it here that this would be just the start and just for the first project and in any case it is very probable for the company to grow very quickly and creating more and more jobs in this or other future projects.  
During the next 6 to 9 month of the creation of the company (sooner or later according to the progress of the project) the company will be able to hire 15 persons (more or less) including:

* 3 2D artists and designers
* 2 3D artist and modelers
* 2 Animators
* 3 Programmer and developers
* 3 assistance and internships
* 1 law expert (consultant)
* 1 secretary

TODO: + add CV