

# Erato

## Software Project Management Plan

PROJECT INFORMATION	
<b>Project Name:</b>	Erato
<b>Project Manager:</b>	Laura Donado
<b>Project Group:</b>	Omar Espinel (SU) Daniel Hamilton-Smith(DL) Gustavo Méndez(DS) Valentina Yate (CL)

Table 1: Project information.

DOCUMENT INFORMATION	
<b>Subject:</b>	Software Project Management Plan
<b>Authors:</b>	Laura Donado, Omar Espinel, Daniel Hamilton-Smith, Gustavo Méndez, Valentina Yate
<b>Keywords:</b>	Sexual workers
<b>Comments:</b>	
<b>Creation date:</b>	07.08.2019
<b>Revision date:</b>	17.08.2019 (Everyone) 27.08.2019 (Everyone)
<b>Document Status:</b>	<input checked="" type="checkbox"/> Draft <input type="checkbox"/> Proposal <input type="checkbox"/> Inspected & approved
<b>Revision History:</b>	22.8.2019 Version 0.5 27.8.2019 Version 0.8

Table 2: Document information.

<b>CHANGES HISTORY</b>		
<b>Date</b>	<b>Author</b>	<b>Change description</b>
23 August 2019	Valentina Yate	Corrections: Databases and BPMN diagrams added as XML.
23 August 2019	Laura Donado	Corrections: General style.
24 August 2019	Daniel Hamilton-Smith	Corrections based on teachers feedback and writing style.
24 August 2019	Gustavo Méndez	Correction of table format.
24 August 2019	Laura Donado	Added deliverables section and finished product closure section.
24 August 2019	Omar Espinel	Minor correction based on feedback and style revision.
25 August 2019	Omar Espinel	Project budget calculated and added.

Table 3: Changes history.

## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Project general overview</b>	<b>1</b>
2.1	Product vision . . . . .	1
2.2	Purpose, objectives and reach . . . . .	2
2.2.1	Purpose . . . . .	2
2.2.2	Objectives . . . . .	2
2.2.3	Reach . . . . .	3
2.3	Assumptions and restrictions . . . . .	3
2.3.1	Assumptions . . . . .	3
2.3.2	Restrictions . . . . .	3
2.4	Deliverables . . . . .	4
2.5	Plan's evolution . . . . .	4
2.6	Glosary . . . . .	4
<b>3</b>	<b>Project Context</b>	<b>5</b>
3.1	Life cycle's Model . . . . .	5
3.2	Languages and tools . . . . .	6
3.2.1	Tools . . . . .	6
3.2.2	Languages . . . . .	7
3.3	Product acceptance plan . . . . .	7
3.4	Communication and project organization . . . . .	7
<b>4</b>	<b>Project administration</b>	<b>7</b>
4.1	Methods and estimation tools . . . . .	7
4.2	Project beginnings . . . . .	8
4.3	Project work plans . . . . .	10
<b>5</b>	<b>Control and project monitoring</b>	<b>10</b>
5.1	Project budget . . . . .	10
5.2	Requirements administration . . . . .	11
5.3	Progress control and monitoring . . . . .	12
5.4	Project closure . . . . .	13
<b>6</b>	<b>Product delivery</b>	<b>14</b>
<b>7</b>	<b>Support process</b>	<b>15</b>
7.1	Work environment . . . . .	15
7.2	Risk administration and analysis . . . . .	15
7.2.1	Risk analysis . . . . .	15
7.2.2	SWOT . . . . .	16
7.3	Configuration and documentation management . . . . .	17
7.4	Quality control . . . . .	19
<b>8</b>	<b>Attachments</b>	<b>20</b>

## List of Figures

1	Requirements . . . . .	12
2	Risks . . . . .	17
3	Documentation . . . . .	18
4	Quality . . . . .	20

## List of Tables

1	Project information. . . . .	1
2	Document information. . . . .	2
3	Changes history. . . . .	3
4	Deliverables . . . . .	4
5	Table Glossary. . . . .	5
6	Project work plan. . . . .	9
7	Salary estimated. . . . .	10
8	Transport budget. . . . .	11
9	Project budget. . . . .	11
10	Functionality advancement. . . . .	13
11	Configuration and documentation items . . . . .	19

## 1 Introduction

Erato is expected to be a functional website aimed at the sex market, that will allow clients and workers, to set agreements, sharing a percentage of the transaction with the project for maintenance and development purposes. Although there are other websites focused on the sex market, Erato strives to prioritize worker's needs instead of monetary gain. New goals result in new features focused on safety, privacy, and health.

This document outlines the goals of the project, the issues we are grappling with and essentially a program that will guarantee a high-quality outcome. This document may include technical specifications or detailed software description.

## 2 Project general overview

Precarious labor conditions stem from the informal labor market [1], where, even though the gap is binding and the regulatory framework is alienating from the conservative ideas that once ruled a now lay country such as Colombia, some sectors were left behind of the priorities of the legislative agenda [2]. That leads to market sectors where people must establish their own labor terms.

The places that try to guarantee better conditions for their employees are more interested in profit than in occupational health and safety. Because of interests prevailing in a market devoid of regulations, some people take a high share from others who don't have enough options.

3S following its moral values, unbiased standpoint, and respect for freedom of expression has proposed Erato, a website developed for the sex market, where workers and clients can establish the terms for their encounters through it. Erato will let their members interact with public profiles that keep real people with verified identities and will require medical certifications from time to time.

### 2.1 Product vision

3S arrives at a market set aside to improve the physical safety and working conditions. The 3S team has been based on target standards that have helped define the new functionality of a website designed for the sex market.

Currently, the communication channel between sex workers and clients is either the streets or the websites focused on the publication of sexual services without any tracking after the encounter. One of the differentiating features of Erato is the implementation of a chat that allows participants to agree on the meeting place, which will be recorded in a database through a form. After the meeting, both parties will give a rating, which will be or positive or negative,

this aims to set a user score and help filtering unpleasant behaviors.

There are additional problems in this market, clients demand anonymity at the time of providing the service, this forces sex workers not to be able to demand a real identity from them. For this reason, Erato will need to implement a way of recognizing its users, even if not by their real identity, so that sexual workers can have access to complaints or claims when needed.

## 2.2 Purpose, objectives and reach

### 2.2.1 Purpose

3S is made of people who recognize a city that is struggling to maintain equal opportunities and good working conditions for some of its inhabitants. For this reason, 3S has introduced Erato, an attempt from a systems engineering standpoint to improve the conditions that sex workers have to endure.

Erato is designed to act as an interface between *SW* and *clients*. Analyzing the technologies available it was decided that Erato would be a website, where users can sign up and create a profile. With the objective of keeping anonymity for *clients*, they are given two registration options, where one is an anonymous user who does not have all the scope that one not anonymous would have. Even though the users must sign up providing real information and must pass identity verification, Erato will provide privacy, letting users hold a public profile, where they can put an artistic name and share their interests or the information they'd like.

### 2.2.2 Objectives

For this project the main focus will be the safety of all the users of the platform and their satisfaction with the transactions and services provided. Therefore we have the following objectives.

- To grant safety measures for sexual workers and their clients. This is to be understood as providing the information necessary so that they can avoid unnecessary risks. And to store information that may provide safety to both whenever any eventuality may occur. For example the storage of the location of the service.
- Guarantee that all users are healthy before they can provide or receive sexual services.
- To exclude from the platform users that present and undesirable behavior in order to maintain an environment of mutual respect and honesty between users.
- To reduce the time and risk associated with an exchange of money for services and to guarantee that no sexual service will go unpaid, PayPal® will be used as a means of payment.



- To facilitate the discovery of sexual services provided by the platform according to personal preferences.

### 2.2.3 Reach

The targeted reach is to make ERATO a trustful and known platform for the exchange of sexual services with all the features mentioned previously, such as safety measures for both sexual workers (*SW*) and *clients*, a platform that maintains a healthy environment in a community and a service that needs a constant inspection due to the lack of surveillance and security granted in all other known platforms, through the good functionalities the system provides.

## 2.3 Assumptions and restrictions

In this part, we will, describe the assumptions, made throughout this document and the design for the project, taking the assumptions as things believed to be true in order to execute the project successfully. And the restrictions, taken as the factors that can interfere with the development of the project or the release of the product.

### 2.3.1 Assumptions

The following is a list of assumptions that will be held as truth for the life cycle of the project.

- We assume that despite all preventive actions there will be irregular occurrences in the interactions between *users*. Therefore we won't take only preventive but also corrective measures.
- *Clients* and *SWs* will be interested in a service which allows them to have security.
- A *client* wants to be able to confirm the health of the *SW* by seeing a medical certificate
- A *SW* will be interested in increasing her own security, by means of an emergency contact and the user score.

### 2.3.2 Restrictions

The restrictions for the project are:

- We assume that all information provided by *users* is to be trusted, this includes medical certificates and age.
- The project is limited by a time frame of 4 months.
- The final product must abide the laws concerning sexual work and sexual workers on the country.
- We won't have complete disposition of user's data.

## 2.4 Deliverables

Name	Description	Date
Software Project Management Plan	Project management plan document.	27/08/19
Sprint 1	Necessary user interfaces for the most important use case.	05/09/19
Sprint 2	Logic of the most important use case.	05/10/19
Software Requirements Specification, corrections SPMP and most important use case	Document with the description of the software, the SPMP correction from previous delivery, and the most important use case.	17/10/19
Sprint 3	The remaining user interfaces.	27/10/19
Sprint 4	Menus and remaining business logic implementation.	07/11/19
Final delivery	Full application with the required documentation, SDD and correction of the SRS	12/11/19

Table 4: Deliverables

## 2.5 Plan's evolution

During the development of the project, any changes must go through a verification process, this can be seen in more detail in Section 7. In addition, all changes made must be informed to all the members of the group, especially to the one responsible for the affected section. In addition, the diagrams and tables relevant to the changes made must be updated or changed. After this, the changes must be added to the version history.

As a combination of the agile methodologies was selected, named CUVIER, see Section 3.1 for more detail of the combined methodology, for the changes the SCRUM approach will be used. So following the mentioned methodology, each change will be made at the end of each sprint, including the expected and unknown risk that may generate changes in the project. In the case of a necessary change or a high level impact change on the project, it will have to be made during the sprint.

## 2.6 Glossary

For the rest of this document whenever these terms are used in this context they will be written in *italics*.

<b>PROJECT GLOSSARY</b>	
<b>SW</b>	Stands for sex-worker, it refers to the individual who will be providing services.
<b>Client</b>	It refers to the individual who will be using the services provided by a sex worker.
<b>User</b>	Anyone who uses the proposed platform.
<b>Location</b>	Refers to the coordinates the client sends when suggesting the location of the meeting.
<b>Medical Certification</b>	It is a public document issued by a certified doctor where its recorded the medical condition of a person.
<b>Law restrictions</b>	It refers to the legal standards according to the criminal code which operates throughout Colombia. Chapter IV in Penal Code involves procuring.
<b>Score</b>	It is the average score with which users rate the <i>SW</i> . Users will qualify an experience as good or bad, and from this, a percentage will be calculated.

Table 5: Table Glossary.

### 3 Project Context

#### 3.1 Life cycle's Model

- Phase 1: Requirement collection and analysis This is the first step where 3S defines the main needs of the sector it's working with. Needs will help shape functionalities and each of them will be analyzed according to the legal framework, the feasibility and the capacity of the team. Ideal requirement collection will have discussions with multiple stakeholders.
- Phase 2: Feasibility study: Not all the desired functionalities will be implemented, time is limited and also resources, a filter it is needed, where only the most important and the ones which don't risk the system will be implemented, according to the software process.
- Phase 3: Design: Erato will be a system for people, people not necessarily experienced in software development. Design must be highly usable, simple, and stable.
- Phase 4: Coding: The requirements will be brought down to software, Erato is composed by developers, all the members will participate in the writing of a preferably free-error software.
- Phase 5: Testing: All use cases and functionalities need to be tested. Erato is a website which even though it is based on tools and stable languages, all the tools interactions, and security batches will have to be covered.

- Phase 6: Maintenance: The maintenance for the product will be made periodically. The intervals for this will be decided at the end of the development. Because we plan to migrate this product to servers offered by major sever providers (ex: AWS,Google cloud, etc), the maintenance of these will be on their part.

## 3.2 Languages and tools

The decisions made regarding languages and programming tools were approved by the entire group. For the taking of these resolutions it was considered:

- Stability: Tools with extensive experience in the market are preferred, recommendations and reviews regarding failures and support were investigated and compared.
- Experience: The team that makes up 3S is considered adequately qualified to develop a website with the complexity of Erato. However, the approaches of each team member are different, the expertise of the members in the chosen languages and tools was a fundamental factor, for the plan, the languages were chosen given the actual trajectory and the desired outcome.
- Popularity: The maintenance and future development of Erato is considered, therefore the most popular languages and tools are preferred. Given the experience and availability of the members to learn and improve their skills, languages with a wide presence in teaching tools and forums are favored.

### 3.2.1 Tools

For this project the main languages used will be:

- Django: this tool will be used to create a server which will handle all the services and requests that the system will offer. This platform was selected because of the familiarity that the team has with Python and because it allows to modify web services while running.
- PayPal API: this API is needed so that the *clients* can make a payment to a *SW* conveniently. PayPal was selected for it ubiquity and popularity.
- Git: the Git tools will be used for version management and to ease the development process. Git was chosen because it allows for concurrent work-flow and also the familiarity of the team with the tool.
- Github: The project will be backed up in a repository hosted in Github.
- Semantic: This platform will provide the definition for the CSS objects.
- Overleaf: online platform for writing latex documents with capacities for online cooperation.

- Virtualenv: A virtual environment will be provided in order to have a normalized execution of the system for all devices.

### 3.2.2 Languages

- Python: this language will be used for the business logic of the project, also for the configuration of Django. This language was selected because of its flexibility and ease of usage.
- HTML: this language will be used for the front end of the system. It was chosen given that it is the standard for web pages.
- CSS: Given the website is our main interface between the users, styles, and design are important. Multiple tools have been chosen in order to improve the website's appearance. It's also considered a front-end framework.
- JavaScript: for interactive content on the web pages.
- SQL: It's needed for interacting with the database Erato is using.

## 3.3 Product acceptance plan

Due to the fact that the project idea came from the group, and there isn't a real client to deal with, the client's role will be fulfilled by the teacher. The teacher verifies the releases, so the criteria for the acceptance of every project deliverable will be the same criteria for the Software engineering's class deliverables.

## 3.4 Communication and project organization

Although the sex work market is not sufficiently accepted, several companies are part of this market. Some are specified as part of Erato's future competition, others, on the contrary, have a social nature, the support from those entities is expected.

# 4 Project administration

In the project administration section, is defined the methodology to use for the project development, the estimation tools and estimations made with those tools, as the specification for the projects beginnings and the plans made to assure a swift and successful development process.

## 4.1 Methods and estimation tools

For this project, as an estimation tool, the team will use mainly burn-down charts across a set of different metrics. These metrics will be the following:

- **Sprints:** A burn-down chart will be made based on an estimation of the workload that all the sprints off the project will take. This chart will be used to know the absolute work (in terms of code and documentation) that is still missing and what has already been done by the team.
- **User Cases:** A burn-down chart of the user cases that were developed by the team. This will be useful because it will provide a reference of how much of the value of the project is already created.
- **User interface windows :** A burn-down chart based on the development of functioning windows. This chart will be useful because it will provide how much of the project is done and the perspective of the project from the point of view of the user.

Also for the estimation of risks the process will be divided in two sections. The first one will be to set the possibility of a risk second will be its magnitude (defined by the costs that it would cause), and finally the cost of prevention. All of these will be done through the average estimation of all the members of the group.

## 4.2 Project beginnings

The project includes numerous tools for its development, some of them are already mastered by the team, but in some others a training in those tools is needed. The following are the tools and the member or members designated to learn them:

- **Semantic/bootstrap:** Valentina Yate
- **Django:** Every team member
- **JavaScript:** Daniel Hamilton, Laura Donado, Omar Espinel (front-end).
- **PostgreSQL:** Gustavo Mendez

In addition to this the group will follow a group of procedures in order to start the project and this will be:

- **Repository initialization:** A Github repository is needed for this project. For this repository a new branch called *development* which will be used for the developing process. Master will be used only for stable versions. Also only the Development lead will be able to push or merge into master.
- **Django installation:** before the project development begins it's necessary to create a Linux virtual environment in which Django and the project will be installed. the purpose of this virtual environment is to establish a unified set of libraries and tools. the virtual environment with all the installations needed will be added to the repository.

<b>Work Plan</b>		
<b>Process</b>	<b>Activity</b>	<b>Estimated duration</b>
<b>learning</b>		<b>9d</b>
	learn Django	3d
	learn Semantic/Bootstrap	1d
	learn JavaScript	2d
	learn PostgreSQL	1d
	learn python	2d
<b>Development</b>		
<b>Back-end</b>		<b>13d</b>
	database design	1d
	authentication	1d
	connection to PayPal	3d
	MC validation	2d
	MC expiration	1d
	User management	3d
	Consult users/services	2d
<b>front-end</b>		<b>15d</b>
	Page design	3d
	menu	1d
	page-register	1d
	page-log-in	1d
	search page	2d
	request	2d
	list of services	3d
	post-service page	2d

Table 6: Project work plan.

### 4.3 Project work plans

## 5 Control and project monitoring

### 5.1 Project budget

For the creation of a project budget for the group 3S some costs are considered, such costs includes: Cost of moving to the university for the meetings, the costs of the workforce and the costs of the hardware used by group 3S to develop the project.

For the workforce of 3S the weekly amount of working hours by each member is considered to calculate this value, a report from the Colombian economic magazine is taken into account, according to this magazine about the salary of developer on Colombia: "On average this charge in Colombia earns USD 2,400" which by modern exchange is equivalent to 7.8 million COP, "the workers on the bottom of the table earns less than USD 1000" the equivalent for 3.4 million COP, taken this data into account is proposed that our salary as Junior developers is about the 2.8 million COP, taken that into account, each work hour costs 17.500 COP, by this value we have the following table:

Salary estimation		
Employee	Worked hours weekly	Weekly salary
Laura Donado	8 hours	140000 COP
Omar Espinel	8 hours	140000 COP
Daniel hamilton	8 hours	140000 COP
Valentina Yate	8 hours	140000 COP
Gustavo Mendez	8 hours	140000 COP
Total	40 hours	700000 COP

Table 7: Salary estimated.

According to the project estimation, the duration of the project is of 12 weeks that gives us a total workforce budget of: 8.400.000

On this costs as mentioned before, the cost of transport to the university for the weekly meetings is included, this cost is calculated over the price of the public transport system in Bogota: Transmilenio, the Transmilenio ticket at the time costs 2400, this considered the following table contains the transport budget:



<b>Transport budget</b>		
<b>Employee</b>	<b>Tickets weekly</b>	<b>cost of weekly transport</b>
<b>Laura Donado</b>	<b>2</b>	<b>4800 COP</b>
<b>Omar Espinel</b>	<b>2</b>	<b>4800 COP</b>
<b>Daniel hamilton</b>	<b>2</b>	<b>4800 COP</b>
<b>Valentina Yate</b>	<b>2</b>	<b>4800 COP</b>
<b>Gustavo Mendez</b>	<b>2</b>	<b>4800 COP</b>
<b>Total</b>	<b>10</b>	<b>24000 COP</b>

Table 8: Transport budget.

Finally the cost of the hardware used is included, this cost is based on each member's PC, cost and especifications are shown next:

- RAM 8Gb Intel(R) Core(TM) i5-5300U 2.000.000 COP
- RAM 12GB, AMD FX-4300: 1.500.000 COP
- RAM 4 GB Intel® Core™ m5-6Y54 800.000 COP
- RAM 16 GB DDR3 Intel(R) Core(TM) i7-3610QM: 1.800.000 cop
- RAM 4GB, AMD E2-1800: 1.100.000 cop

The total hardware cost of 3S is: 7.200.000 COP

Adding all the costs throughout the whole project, the following budget is obtained:

<b>Project budget</b>	
<b>Item</b>	<b>Estimated cost</b>
<b>Work force</b>	<b>8.400.000</b>
<b>Transport</b>	<b>288.000</b>
<b>Hardware</b>	<b>7.200.000</b>
<b>Total</b>	<b>15.888.000 COP</b>

Table 9: Project budget.

## 5.2 Requirements administration

Due to the partially Agile methodology devised for this project, every sprint includes a detailed requirement description, in an eventual change of requirements made to the project or an specific case use, the isolated nature of the project makes sure that the changes made to the requirements affect only the involved methods/classes.

Therefore any requirement changes made to the project must be notified to the quality manager of the project, whether the requirement change is made by the client or by a member of the team, an additional notification to the Development manager is needed, and after the proper decisions regarding these new requirements are made by the team, the affected parts will be included on next iteration where the necessary adjustments will be made.

Additionally, when there is a requirement change is the duty of the requirement manager to make sure every change needed to the design diagrams is properly made.

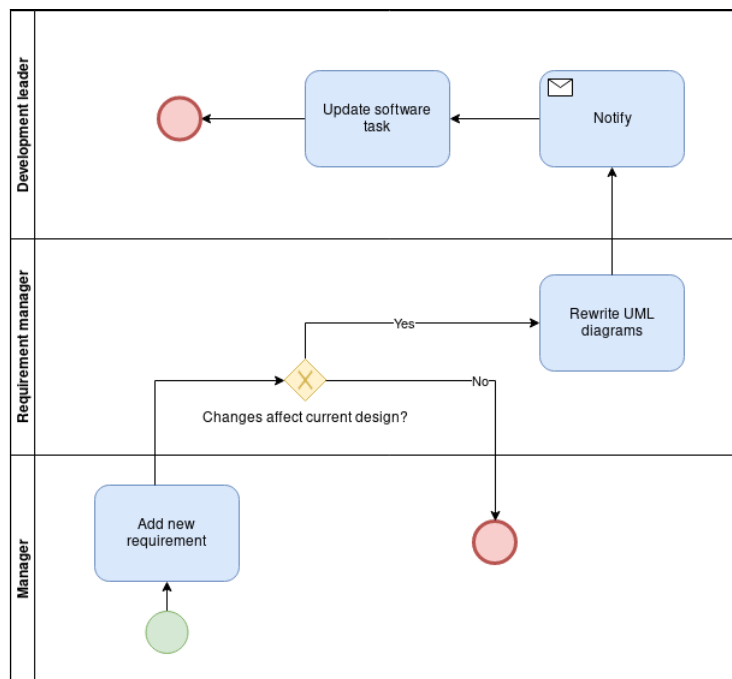


Figure 1: Requirements

### 5.3 Progress control and monitoring

The project's methodology is going to be an agile methodology, but with some changes to adjust it to the groups necessities. Monitoring the progress control must be a matter of checking the end of each sprint, when the sprint is ended and that functionality is done, then, that functionality is removed from the list of remaining and the progress of the project is updated with the remaining functionalities.

At the same way, the responsible of each sprint must notify the group when

it is over, so the whole team can know about the progress made in every functionality.

The progress update is measured by the metric defined earlier, so according to that metric, the equivalent value of the functionality is removed from the remaining task of the project, so the new remaining according to the metric would be less and the overall progress, defined as the percentage of the units made from all units would grow higher.<sup>1</sup>

For the control of the progress of the project the following table will be used.

Functionality advancement			
Date	Functionality	Time	Remaining time
26/09/2019	functionality 1	2 days	1 day
27/09/2019	functionality 2	3 days	1 day
28/09/2019	functionality 3	1 days	DONE
dd/mm/aaaa	...	... days	... days

Table 10: Functionality advancement.

this table will be used to take track of the remaining time of the project, and will be stored as a *.xlsx* file.

## 5.4 Project closure

At the end of each cycle a project delivery is made, where the *client* is involved. Before the delivery, a final quality inspection will be carried out on each of the sections made by the team members under the parameters established in Section 7.4. Once the delivery is finished, and for each delivery, a meeting will be called where the corresponding actions to be taken as a result of the observations created by both parties in the delivery will be discussed. Also, a protocol for the closure must be followed, this protocol includes but is not limited to:

- The documentation of the results of the proposed quality check performed at the end of the functionality.
- The post-mortem protocol of the cycle, composed by different actions to successfully end said cycle.
- Creation of a management report that explains the results made through the cycle.

---

<sup>1</sup>A complete functionality is considered a functionality that has successfully completed its sprint, fulfills the requirements defined for that functionality and approves successfully the necessary quality tests made for it.

It is worth noting that for the preparation of the mentioned documents of the delivery, all the information collected during each of the meetings held throughout the semester, the performance of each member and the opinion of each of the members will be taken into account. This information will be used to publicize a general retrospective of how the work was planned and executed during the cycle, this in order to identify strengths, promote personal and team growth, and improvement actions. This is intended to establish new guidelines to take into account in the remaining work of the project.

## 6 Product delivery

The final delivery of Erato as a stable web page will be segmented into four essential pillars. The first is the formal documentation of the project, second the functional software, third the final presentation of the project and finally the feedback to the project. Each of these will be delivered in accordance with the provisions of Section 2.4, Section 2.5 and by the corresponding responsible. Regarding the documentation:

- Software Project Management Plan
- Software Requirements Specification
- Software Design Description

In addition to the above, it is important to provide those documents that support the functionalities of the prototype, as well as those that complement and inform each given deliverable. See Section 7.3 for more detail. For the second point there are those components that shape the functional software. Consequently, they follow all those activities that will shape the support of the project between the 3S team and the client. Finally, the last point corresponding to the feedback in which aspects of improvements and corrections of the prototype will be addressed.

Regarding software deliveries, initially a display of the site working online and a demonstration of the functionalities with configured data and configured test to demonstrate the accomplishment of the project that is proposed. Later, for the full product delivery, the display and online operation of the product website. Several campaigns are needed, since the users we need to attract to the final product are the *SW* and the *clients*, we need to launch different campaigns in order to deliver the product to them. Campaigns such as a publicity campaign to get known by all the possible *users* as well as an awareness campaign about the public health and security problematic our project is meant to solve. Both, the publicity campaign and the awareness campaign should be at least be enough explanatory to train the possible *users* of how to get to the page and the basic use and benefits of it, for further explanations or details must be included on the website.

All the members of the team are responsible for this development, but the coordination of the future publicity must be supervised specifically by the publicity manager.

## 7 Support process

### 7.1 Work environment

Erato understand there are situations beyond human control and a set of measures are put in place.

- Minor fault
  - A member doesn't attend a meeting without a justification approved by the majority of the group.
  - A member, in a due date doesn't satisfy the requirements or doesn't present any deliverable.
  - A member, among human errors, delay a task or an activity which affect another member.
- Serious fault
  - A member commits an aggression upon another member, physically or verbally.

### 7.2 Risk administration and analysis

#### 7.2.1 Risk analysis

- Project risks
  1. A member leaves the project with or without notifying the rest of the members, making them redefine the activities assignment and the workload distribution.
- Business risks
  1. Erato will be part of a market with active entities that will become competitive threats.
  2. Erato assumes the goodwill in people, legal problems will come when a user tries to falsify their identity.
- Market and budget risks
  1. The project doesn't satisfy the desired reach, Erato doesn't receive enough traffic.

2. The money was not enough and the project didn't include all the money interests and obligations, leading the project to a financial unbalance.
- Strategic risks
    1. Time wasn't correctly managed and tasks were assigned in an inefficient way, leading to members with overload or not enough work.
    2. Members end up working on a tool in which they aren't skilled enough, while there is a member who is.
  - Management risks
    1. Authority and control were not accurately distributed and members end taking too much control, or too little, over other activities.

### 7.2.2 SWOT

- Weaknesses:
  - Not much time for the development of the project, and few available schedules.
  - Limited hardware
  - Limited personnel
  - Limited monetary resources
- Opportunities:
  - Disorganized market
    - \* Huge amount of web pages that offer similar services to those proposed by the project, but most of them are informal and don't give security for their users.
  - High demand
- Threats
  - We depend on the current legislation on sexual work and sexual workers.
  - The product will be difficult to promote
  - Limited by university legislation.
  - Licences changing for the used software (libraries, framework, etc).
  - Member dropping out of the class.
  - Sudden disability of one of the members.
  - Conflict between the members of the group.
  - Drastic change or end of support of the used software.

- Strengths

- Strong cohesion among the group members.
- Ease of organization, due to small group size.
- Good group communication.

According to the process framework we've chosen. Erato is willing to allow changes of functionality, a strategy, and a task. Although the idea and the specification should be defined by the member who is proposing the new factor, all the members should agree with him. Following the next process specification:

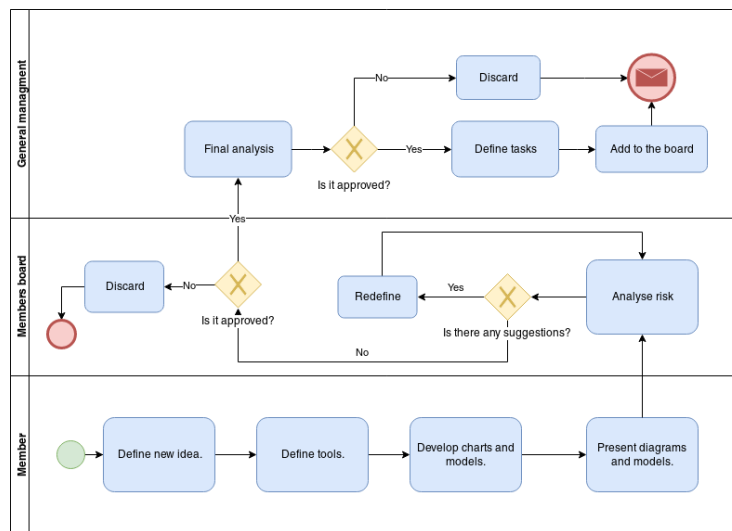


Figure 2: Risks

### 7.3 Configuration and documentation management

During the development of the project, a large number of configuration items can be seen on both the development of the code and the documentation. Next, it will be shown each of these artifacts and how, through versioning, they become configuration items.

#### Documentation

Even though a member is assigned to a documentation department, all developers should document their code, and all of them must be clear when defining names of objects and databases, with the aim of ease the tasks of the documentor who must only complete the tasks started.

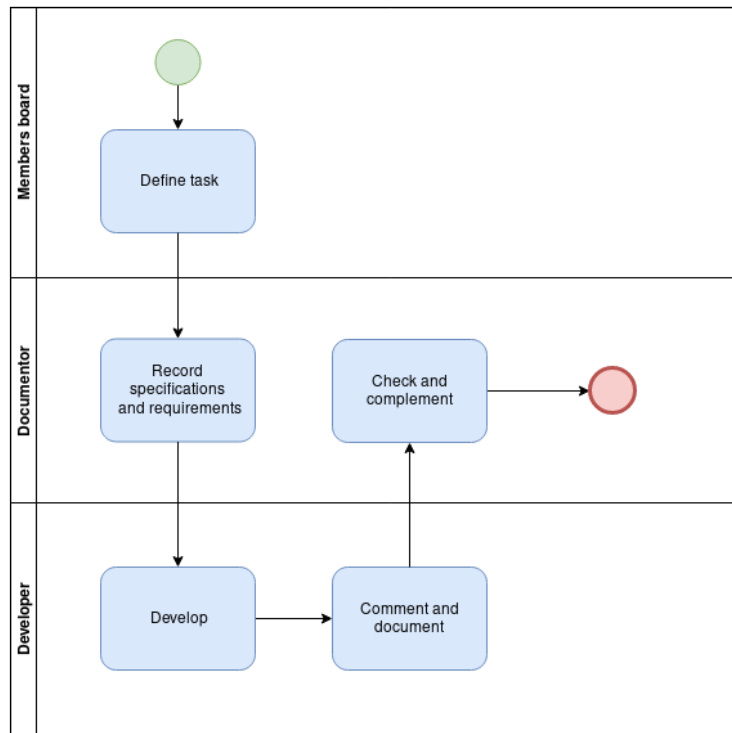


Figure 3: Documentation

### Configuration items

In the project development the followings items were identified for both documentation and coding:

1. Software Project Management Plan
2. Software Requirements Specification
3. Software Design Description
4. User Manual
5. Source Code
6. Use Case Diagrams
7. Class Diagrams

In the Table 11 the documentation and the code items are described, also the stages in where they are created and/or modified during the project are specified.



Item	Description	Stages
Software Project Management Plan	Document that explains the planning of the project in detail. It includes description about the objectives, estimates, programming, resources, risks, plans and activities.	First and second
Software Requirements Specification	Detailed description of the development of the project. It includes all the requirements for the development of the project, including functional and non-functional requirements.	Second and third
Software Design Description	Software product's description that provides a guide for the development team on the architecture and design of the project.	Third.
User Manual	Manual that indicates the installation and use of the software product and is customer oriented.	Third.
Source Code	Developed software.	Second and third.
Use Case Diagrams	Diagram showing how a customer uses the system. It includes how the elements interact.	Second.
Class Diagrams	Diagram showing system objects, their attributes, operations and relationships with each other.	Second.

Table 11: Configuration and documentation items

## 7.4 Quality control

The process for assuring the quality of the software will be oriented to the testing process and is described by the following flow chart:

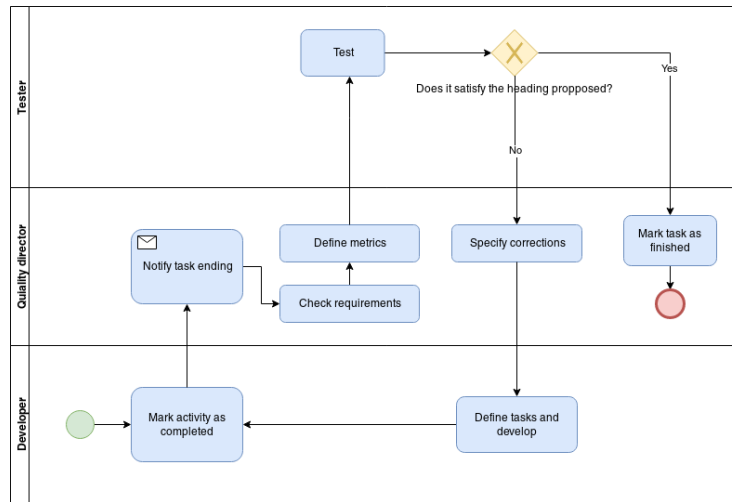


Figure 4: Quality

Also for the documentation of the produced code the following quality controls will be made:

- **Readability:** whenever a developer produces a documentation product, this product will be handed to another developer and this one should be able to understand the usage and functionality of the software described from the documentation. If the aforementioned condition wasn't met the document will go to revision.
- **Completeness:** the document must include at least the description of all public functionality in a particular package document or class.

## 8 Attachments

## References

- [1] AIL. Pasando trabajos informe especial, 2018.
- [2] TIRADO ACERO, M.