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Chapter 1 : General Project Presentation

November 21, 2017

I Host Company Presentation

1 Presentation of MASS Analytics

MASS Analytics, a Tunisian start-up founded in 2012, is the first and only independent Marketing Mix Modeling (MMM) agency in the MENA region. MASS Analytics' core competency is the deep analysis and understanding of what impacts the consumer's path to purchase to make companies more effective with their marketing budget.

It was founded by **Dr. Ramla Jarrar** (Chief Executive Officer), **Dr. Firas Jabloun** (Chief Technology Officer), **Nadia Bouzguenda** (Business Development Director) & **Rafal Kozlowski** (Director). They brought the essence of more than 20 cumulative years of experience in marketing effectiveness & technology services at the international level to the creation of MASS-Analytics. [1]

Figure 1: Mass-Analytics logo

2 Services

- **MassTer Software :** MASS Analytics has been developing internally its own Marketing Mix Modeling Software "MassTer". It is one of the most powerful Marketing Mix Modeling software products/solutions in the world and comes in three packages: standard, professional , and premium. It provides the user with a powerful Modeling platform coupled with a comprehensive data visualization capability to help understand the relationship between different variables and measure their impact on business performance.

Figure 2: MassTer Software logo

- **Training and Consultancy :** MASS Analytics runs specific courses and training sessions on advanced predictive modeling (log linear, nested modeling, fixed effect modeling...), budget optimization and return on Investment calculation. It also offers its clients coaching sessions to help improve their marketing analytics process and project delivery.

3 Customers

Figure 3: Some of MASS Analytics' customers logo

II Project Presentation

1 Context

As part of its software development and consulting activities, oriented towards the business of Marketing Mix Modelling (MMM), Mass-Analytics is always looking to offer its customers products that are the most efficient and smart. Thus, It seeking to provide innovative services that satisfied the different needs of customers based on new technologies.

In this context, this project entitled **MassTer Insight SaaS** was offered to me by Mass-Analytics as part of a graduation project to obtain the national diploma of computer engineer.

2 Objectives

The main objective of this project is to develop MassTer Insight from the exiting Desktop solution to a SaaS.

We are in charge to keep the same business logic of the desktop solution, but offered to the customers in cloud SaaS version with Security guaranteed, high perform in term of Speed, Visualization, Graphics, Design .

3 Problematic

Today all the companies move to cloud, they are tend to by their softwares through cloud SaaS, for more reasons : one amongst the reason is security, when you offer an executable software, this one is threaten by the crack, also an executable requires sometimes to take care of your resources needs, an important RAM, CPU, and more. Almost the executable save data locally which is a very bad way to stock data, it is possible to loose these data once the hard disk is defect by an external effect or even internal. we don't need to inform the customer for each updates to keep installing our software, once he/she connect on the web application he/she got the last version without any process of installation.

That's what we care about, our current solution Masster Insight desktop is threaten by the crack, may will be heavy on machine with smaller resources, works only on pc. it requires the process of installation wasted time.

III Methodology

The choice of the methodology is an important step in software development since it grants formalizing the preliminary steps when establishing a system in pursuance of the client's requirements. The scrum , an approach that is part of the Agile movement, was used when carrying out this project.

IV Software Development Life Cycle

We chosen the **Iterative Model** as Software Development Life cycle (SDLC).

This model turns the process of development in cyclic manner repeating very step after every cycle of SDLC process.

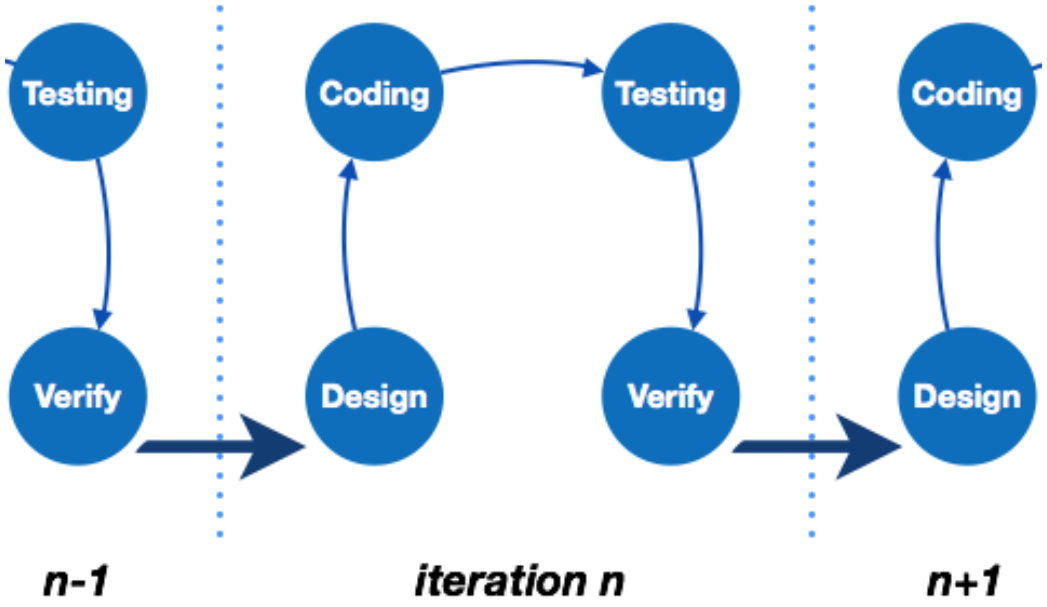

Figure 4: sdlc iterative

V Software Development Process

Test-driven development (TDD) is a techniques of implementation code, starts with developing test for each features.

The developer writes a little test code and then implements the business, in the traditional method, the test comes from the code, but in TDD the business code is submissive to tests then it is corrected until the tests are validated.

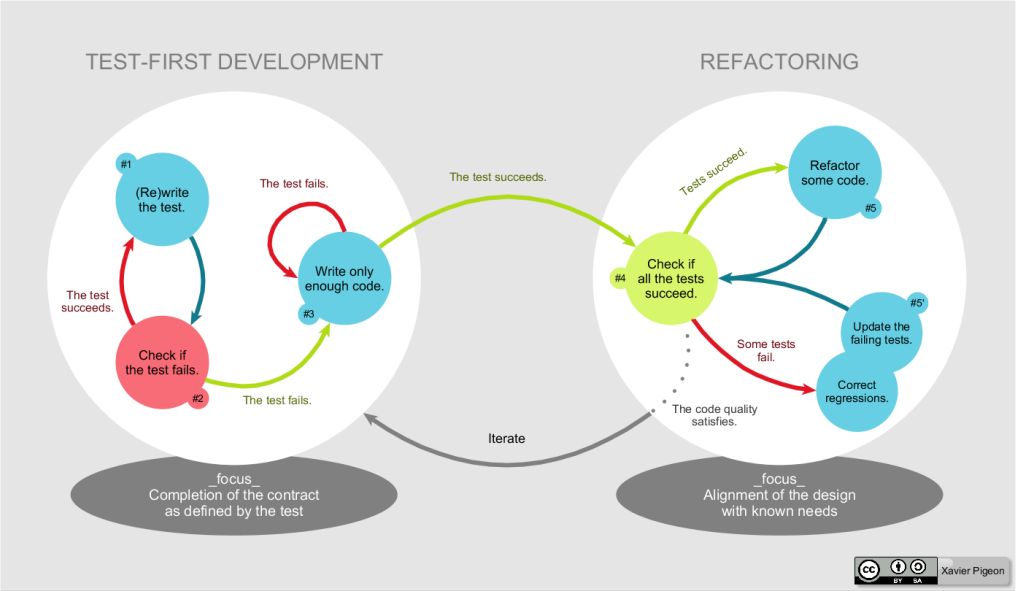

Figure 5: TDD Global Lifecycle

VI Existing Presentation

MassTer Insight Desktop Application is an easy to use software that allows you to run simulation scenarios and allocate your budget optimally across Regions, Products, Channels and Periods. It tells you how much budget to spend on every single media channel and in which period, given a complex modeling structure. It will helps you to benefit from your Marketing Mix Modeling projects [1].

VII Conclusion

This chapter was a presentation of the hosting company, its services, and clients. The problematic of the project was also highlighted, along with the proposed solution and the methodology followed while carrying out the project.

References

[1] Mass. Mass-analytics, mm yyyy. www.mass-analytics.com.

Chapter 2 : Analysis and specification of requirements

VIII Introduction

Being the first in the development cycle of the project, this phase is the most important. Indeed, it is during this period that the needs of the user are identified and specified. These requirements also represent the functionalities that should be present in the application, which also makes it possible to validate the application as the development progresses.

IX Actors Identification

MassTer Insight web Application was mainly designed to be used by **Data Analysts** in MMM agencies, which is the case of **MASS Analytics**, **Media Agencies** that have a MMM division, and **Advertisers** who have an in-house MMM team.

X Requirement Analysis

1 Functional Requirements

These functional requirements express the expectations of different users for the product to be produced.

In this part, we present the different functionalities and services that the application must ensure.

CONNECT TO SERVER

- **Connect To MassTer Server :**

LOAD PROJECT

- **Load MassTer Insight Project :**

MANAGE REPORT

- **Available Reports :**
- **Save a Report :**
- **Remove a Report :**
- **Load a Report :**
- **Available Channel :**
- **Seasonality Index Per Month :**
- **Ignore Preset Laydown :**
- **Budget Tolerance :**
- **Revenue Tolerance :**
- **Max Iteration :**
- **Max Iteration :**
- **Budget Range :**
- **Total Budget :**

- **Min Target :**
- **Select Channel :**
- **Max budget/Min Target/Set Budget per Channel :**

UPDATE

- **Update a Report :**

RUN

- **Run new scenario :**

2 Non-Functional Requirements

- **Ergonomics :** The application offers a user-friendly and easy-to-use interface without refer to particular knowledge.
- **Security :**
- **Modularity :** a code that is easy to maintain and simple to understand in order to ensure the scalability of application.

XI Use Case Diagrams

1 Global Use Case Diagram

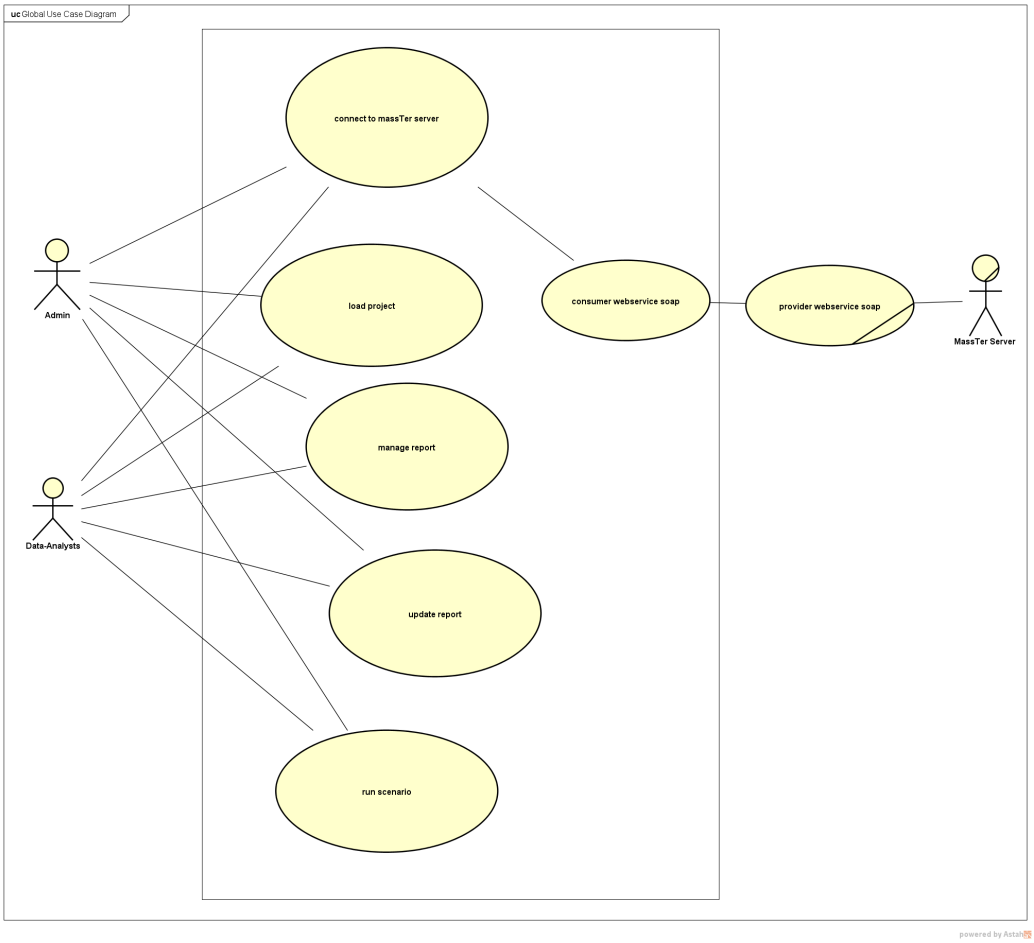

Figure 6: Global Use Case Diagram

2 Detailed Use Case Diagrams

2.1 connect to MassTer Server

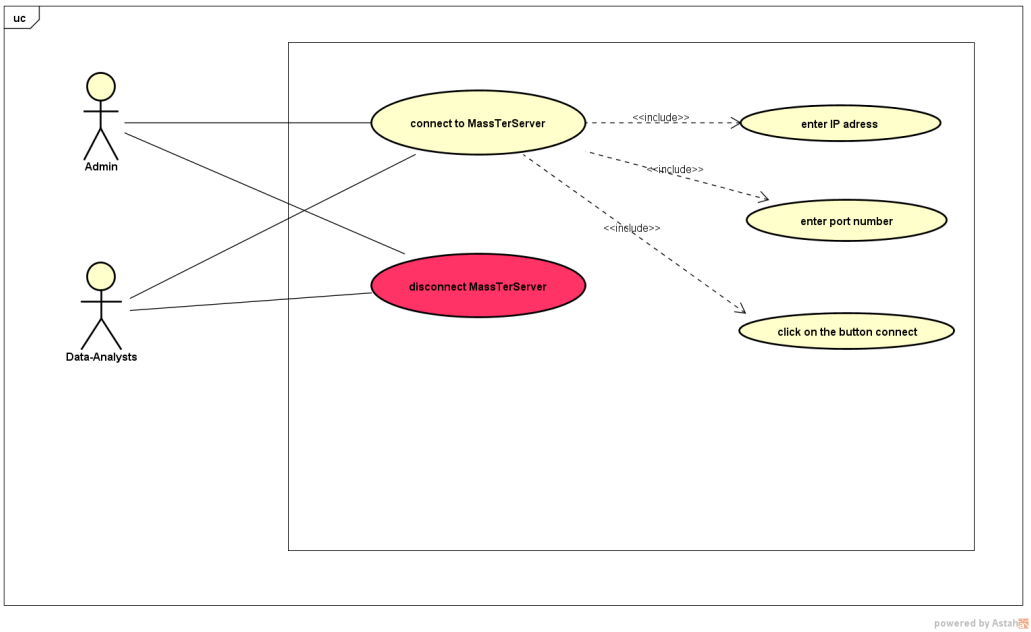

Figure 7: connect to MassTer Server Use Case Diagram

Pre-conditions	MassTer Server is running
Nominal Scenario	1. The user click on the item MassTer Server in Main Menu. 2. The Application display a drop down. 3. The user type MassTer Server IP address. 4. The user type MassTer Server port number. 5. The user click on button connect.
Post-conditions	The Application gets connected to MassTer Server.

Description of the scenario "connect to MassTer Server" in the table below.

2.2 consume web Service soap

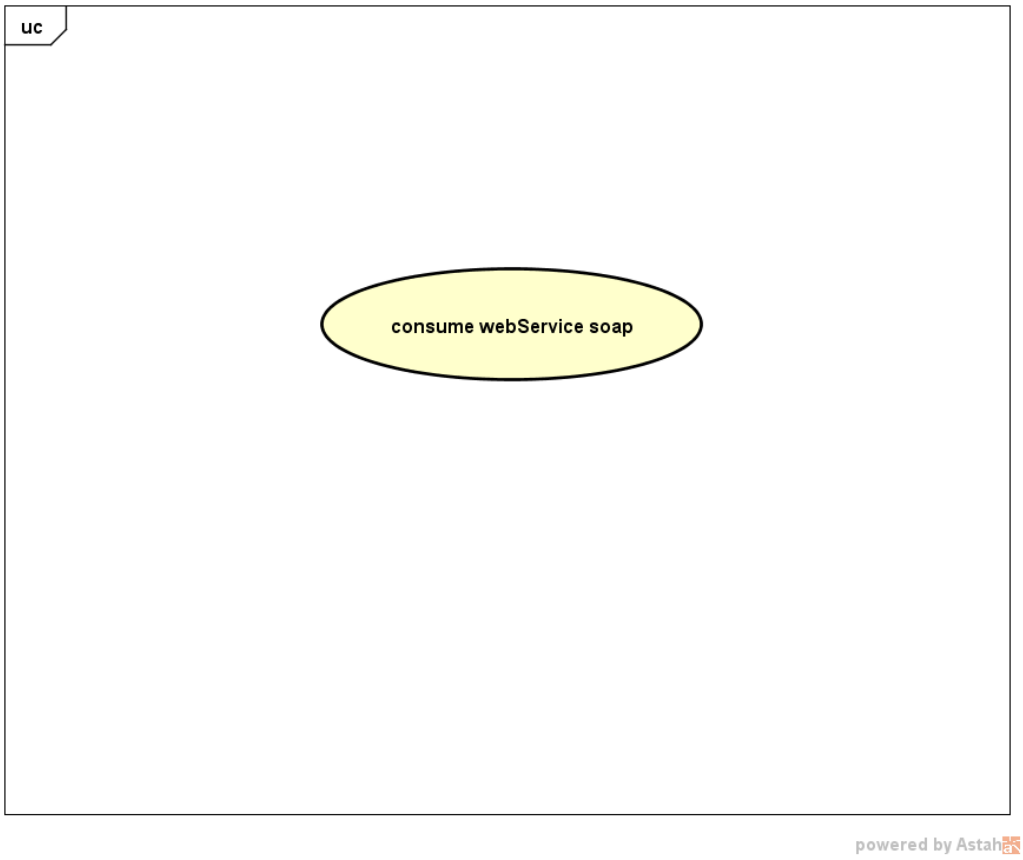

Figure 8: consume web Service soap Use Case Diagram

Description of the scenario “consume web Service soap” in the table below.

Pre-conditions	MassTer Server is running
Nominal Scenario	
Post-conditions	...

Pre-conditions	MassTer Server is running
Nominal Scenario	
Post-conditions	...

2.3 provide web Service soap

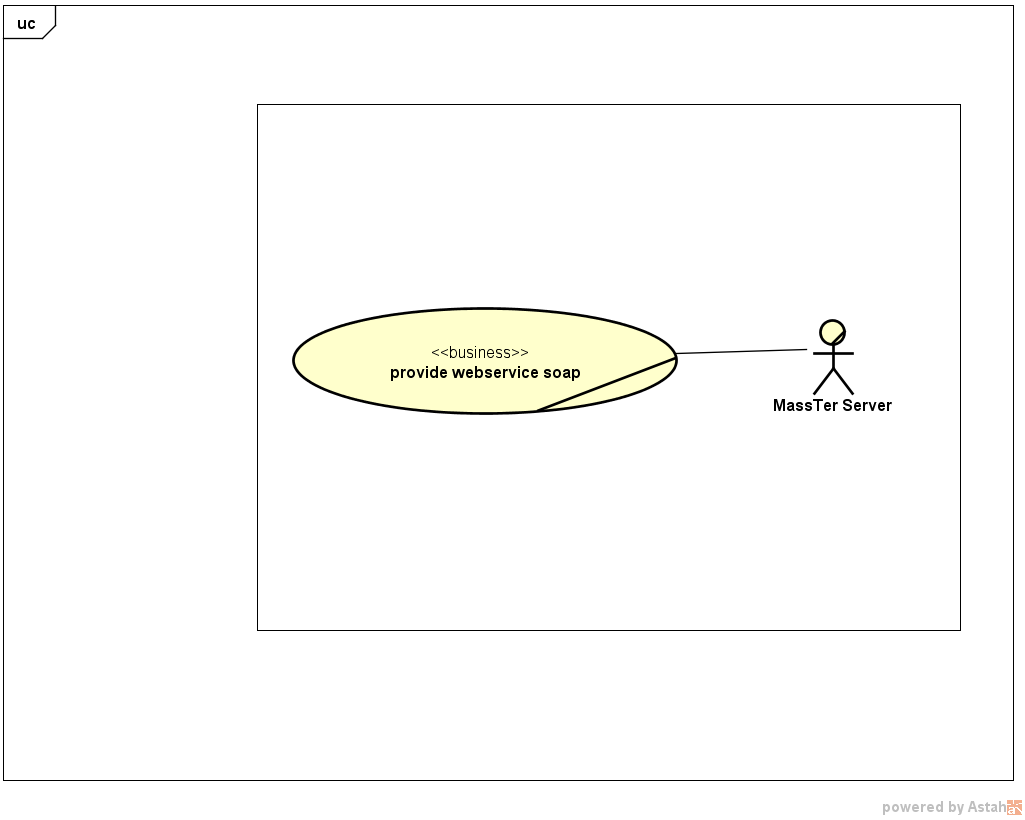

Figure 9: provide web Service soap Use Case Diagram

Description of the scenario “consume web Service soap” in the table below.

2.4 load project

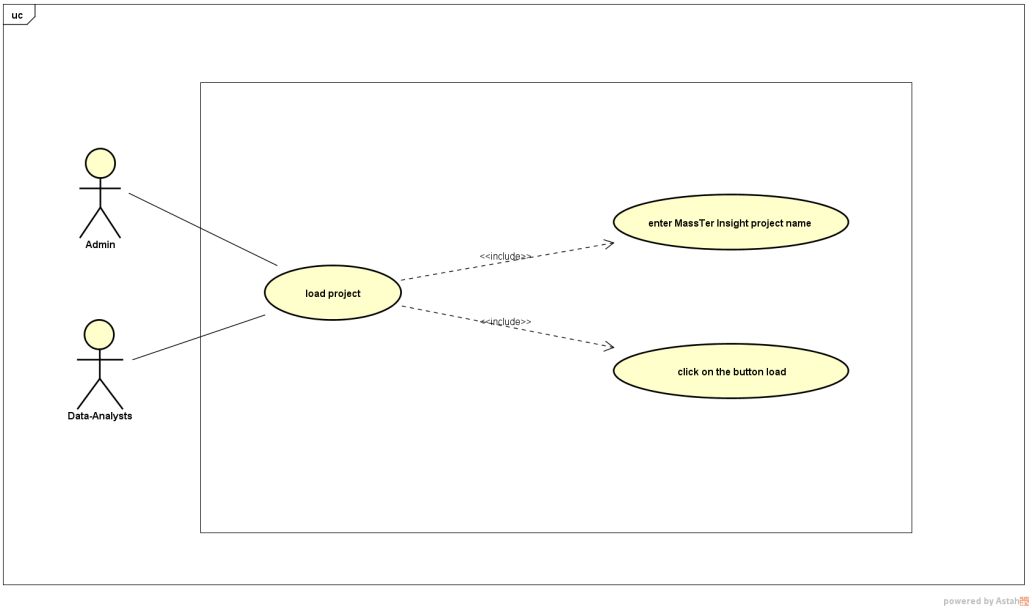

Figure 10: load project Use Case Diagram

Description of the scenario “load project” in the table below.

Pre-conditions	MassTer Server is running
Nominal Scenario	1. The user click on the item Load project in Main Menu. 2. The user type MassTer Insight project name. 3. The user click on the button load.
Post-conditions	The Application display optimization page.

2.5 display reports

Figure 11: display reports Use Case Diagram

Description of the scenario “display reports” in the table below.

Pre-Conditions	load MassTer Insight project has been done successfully
Nominal Scenario	1. The application display by default the first optimization report. 2. The user gets first report through drop down. 3. The application display list channel related to the first optimisation report throught checkboxes list. 4. The application display optimisation constraints & optimisation results.
Post-Conditions	the user got optimisation Report.

Pre-Conditions	The loaded MassTer Insight project contains at least one report saved
Nominal Scenario	1. The application display list reports through drop down. 2. The user select a report trough drop down. 3. The user click on the button load.
Post-Conditions	The application display optimization report related to the selected report

2.6 select report

Description of the scenario “select report” in the table below.

Pre-Conditions	
Nominal Scenario	
Post-Conditions	

2.7 save report

Description of the scenario "select report" in the table below.

Pre-Conditions	
Nominal Scenario	
Post-Conditions	

2.8 remove report

Description of the scenario “select report” in the table below.

2.9 update settings

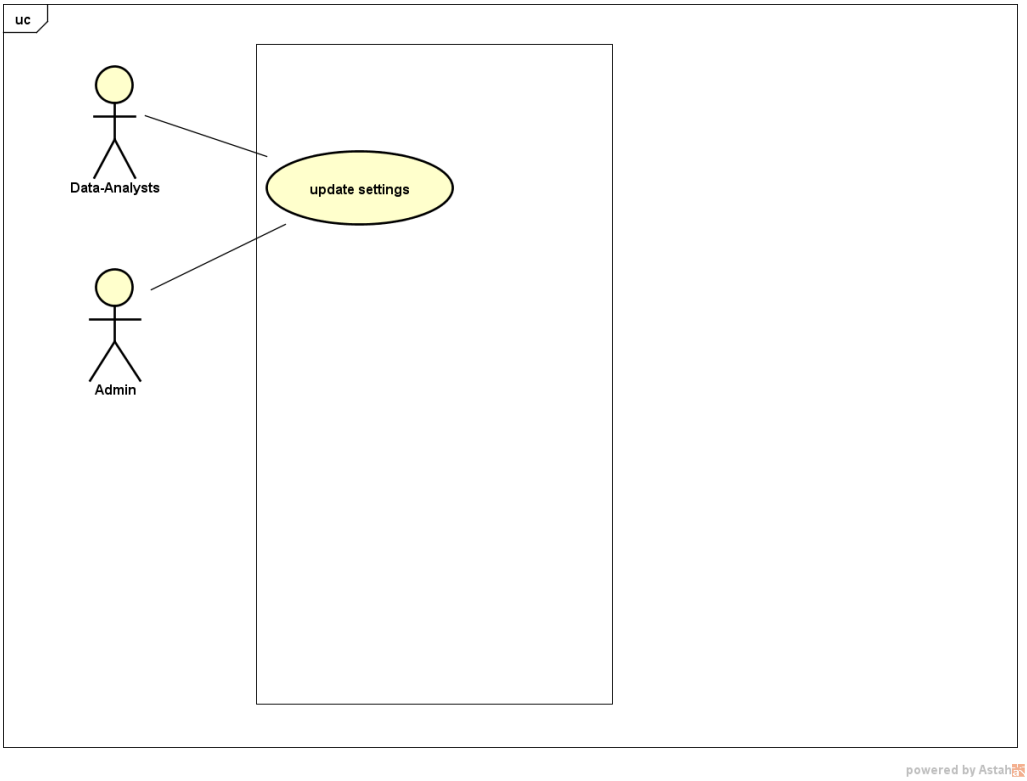

Figure 12: update settings Use Case Diagram

Description of the scenario “update settings” in the table below.

Pre-conditions	The loaded MassTer Insight project contains at least one report saved
Nominal Scenario	1. The user check new channels or keep it. 2. The user type new budget tolerance or keep it. 3. The user type new resolution or keep it. 4. The user click on the button update as last step. 5. any modification after update don't affect any thing. 6. the process of update takes a lot of time. 7. for the first three steps the order no matter.
Post-conditions	The Application display a pop up notification to inform the user that the update was done successfully.

2.10 run scenario

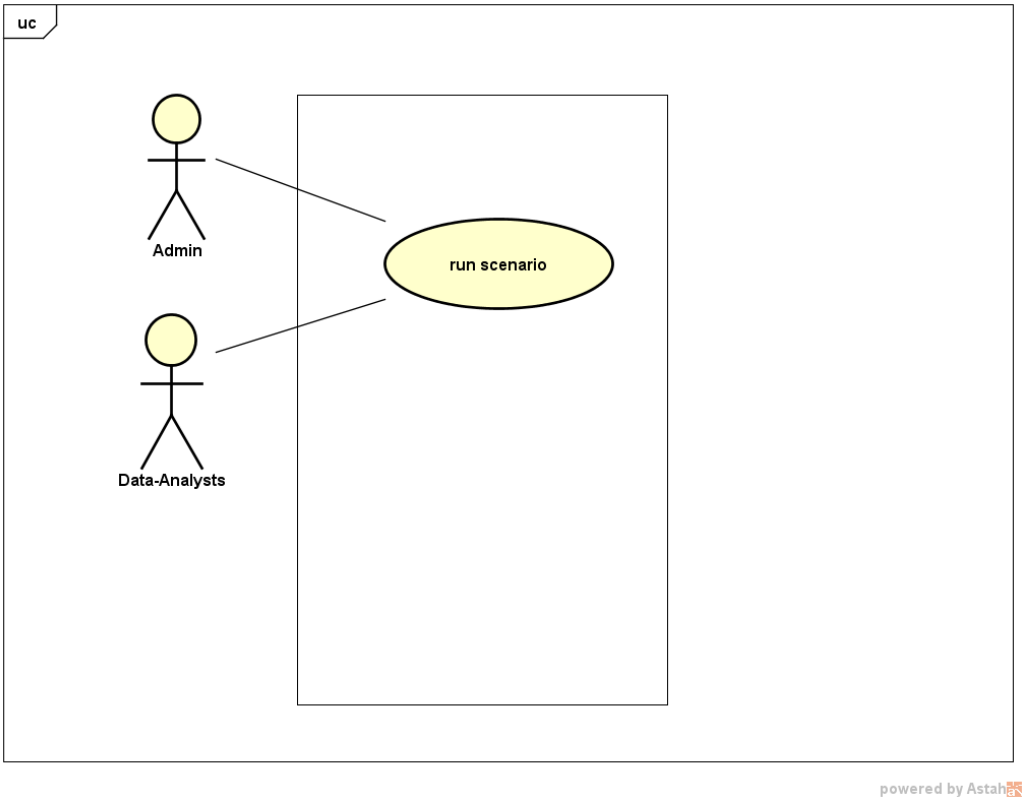

Figure 13: run scenario Use Case Diagram

Description of the scenario “run scenario” in the table below.

Pre-conditions	The update was done with success
Nominal Scenario	1. The user check max Budget or min Target. 2. The user type new value for radio checked. 3. The user click on the button run.
Post-conditions	The Application display a new optimisation with new channels and Optimisation Report .

XII Conclusion

This chapter has allowed us to identify the actors that may interact with the developed system, to define the functional and non-functional requirements of the project and modeling the use case diagrams.
In what follows, we present the general and detailed conception phase of the System.