



Titulació:

Master's Degree in Technology and Engineering Management

Alumne:

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Enunciat TFM:

Project for building an information system for generating systematic reviews of literature

Director del TFM:

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Convocatòria de lliurament del TFM:

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1. BUDGET EXPLANATION

The budget of the project for building the “Talent Analyzer” application is here described. 8 main activities have been identified, which are then divided into smaller tasks. The time (in hours, [h]) needed to perform the task in each month and the price per hour (the unit of measure is [€/h]) are given. The overall cost of each task has been computed multiplying the two previously described variables and the unit of measure is euro ([€]). The overall cost of each activity, in euro, is equal to the sum of the cost of each task which composes the activity. Then, the development of the platform requires the use of three software: R, RStudio and MySQL. However, all of them are open-source and the user can download and use them without any cost. Therefore, the overall cost of the project is simply the sum of the cost of the eight activities. The time window considered goes from August 2019 to January 2020, which is the period required to develop the platform.

The eight activities and their subdivisions are here briefly described:

1. **LITERATURE STUDY:** it is the activity necessary for the background of the State of Art. It is divided into two tasks:
 - a) *Collection of academic papers:* this task regards the research on Scopus, Web of Science and Google Scholar of the academic papers which are relevant for the study. It has been mainly performed in August and the price is quite low because no particular skills and knowledge are required for it.
 - b) *Reading of academic papers:* it consists of reading the papers identified in the previous task. It requires more time than the previous task but the price per hour is the same.
2. **DESIGN OF THE APPLICATION:** it is the activity necessary for the creation of the design of the platform. It is divided into two tasks:
 - a) *Identification of the design:* this task regards the identification of the right design of the application for the achievement of all the goals. The design is based on tables and its identification required all the month of September 2019. This task represents the highest cost per hour.

- b) *Realization of the design*: it consists of the realization of the design previously identified. It took a lot of time in October 2019 but it affected also the other months. The cost per hour is the same as the previous task.
3. **IMPLEMENTATION OF THE APPLICATION**: it is the activity necessary for the creation of the application with all its features. It is divided into two tasks:
- a) *Identification of the approach to develop the application*: it regards the identification of all the tasks needed to develop the application and assure its functionality.
- b) *Development of the application*: it consists of the realization of the application according to the approach previously identified.
4. **TESTING THE APPLICATION**: it is the activity necessary to check if the application works. It is divided into two tasks:
- a) *Filling the application with the sample*: with this task, the sample of 23 academic papers is charged in the application. It is a simple but long task.
- b) *Checking the results of the test*: it consists of the evaluation of the results of the test and the correction of any issue. It has a higher cost compared to the previous task of the same activity because a specific knowledge is required.
5. **CREATION OF THE INSTALLATION FOLDER**: it is the activity necessary to create the folder for the user to install and use the application. It is divided into three tasks:
- a) *Creation of R Script*: it regards the realization of a universal R Script which can be used by any user. It is really important even if it does not require a huge amount of time.
- b) *Creation of R Markdown Script*: it regards the realization of a universal R Markdown Script which can be used by any user. It is really important even if it does not require a huge amount of time.
- c) *Creation of MySQL Script*: it regards the realization of a universal MySQL Script which can be used by any user. It is really important even if it does not require a huge amount of time.
6. **CREATION OF THE REPORT**: it is the activity necessary to create the report. It is divided into two tasks:

- a) *Writing the report*: it regards the realization of the word report which contains the explanation of the overall project.
 - b) *Review of the report*: it regards the review of the report in order to find any mistake or discrepancy with the application.
7. **CREATION OF THE BUDGET**: it is the activity necessary to create the excel and PDF file of the budget. It involves only one task:
- a) *Creation of the Excel and PDF file*: it regards the realization of the budget in Excel and the realization of this document.
8. **MEETINGS**: this activity regards the meetings with the supervisor during the development of the application. It is divided into two tasks:
- a) *Roundtrips for the meeting*: it regards roundtrips necessary to reach the place of the meeting.
 - b) *Meeting time*: it regards the discussion with the supervisor for improvements or correcting any mistake.

On the next page, the table of the budget with all the costs and hours is placed. The results of the budget are a total time spent on the development of the “*Talent Analyzer*” application of 833 hours, with a total cost of 12,640.00 €.

BUDGET										
ID	Activity	Time [h]						Total time [h]	Price per hour [€/h]	Total [€]
		Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20			
1	LITERATURE STUDY									
1.1	Collection of academic papers	30				2		32	€ 10.00	€ 320.00
1.2	Reading of academic papers	90	50			5		145	€ 10.00	€ 1,450.00
	TOTAL	120	50	0	0	7	0	177		€ 1,770.00
2	DESIGN OF THE APPLICATION									
2.1	Identification of the Design		100					100	€ 25.00	€ 2,500.00
2.2	Realization of the Design			50	20	10		80	€ 25.00	€ 2,000.00
	TOTAL	0	100	50	20	10	0	180		€ 4,500.00
3	IMPLEMENTATION OF THE APPLICATION									
3.1	Identification of the approach to develop the application			50	30			80	€ 15.00	€ 1,200.00
3.2	Development of the application			50	100	30		180	€ 15.00	€ 2,700.00
	TOTAL	0	0	100	130	30	0	260		€ 3,900.00
4	TESTING THE APPLICATION									
4.1	Filling the application with the sample					5		5	€ 10.00	€ 50.00
4.2	Checking the results of the test					10		10	€ 20.00	€ 200.00
	TOTAL	0	0	0	0	15	0	15		€ 250.00
5	CREATION OF THE INSTALLATION FOLDER									
5.1	Creation of R script					2	6	8	€ 20.00	€ 160.00
5.2	Creation of MySQL script					2	2	4	€ 20.00	€ 80.00
5.3	Creation of R Markdown Script					2	2	4	€ 20.00	€ 80.00
	TOTAL	0	0	0	0	6	10	16		€ 320.00
6	CREATION OF THE REPORT									
6.1	Writing the report					90	10	100	€ 10.00	€ 1,000.00
6.2	Review of the report					10	40	50	€ 10.00	€ 500.00
	TOTAL	0	0	0	0	100	50	150		€ 1,500.00
7	CREATION OF THE BUDGET									
7.1	Creation of the Excel and PDF File						5	5	€ 10.00	€ 50.00
	TOTAL	0	0	0	0	0	5	5		€ 50.00
8	MEETINGS									
8.1	Roundtrips for the meeting		2	6	4	6	2	20	€ 5.00	€ 100.00
8.2	Meeting time		1	3	2	3	1	10	€ 25.00	€ 250.00
	TOTAL	0	3	9	6	9	3	30		€ 350.00
	TOTAL	120	153	159	156	177	68	833		€ 12,640.00
ADDITIONAL COSTS										
ID	Category	Description							Cost	
9	COST OF SOFTWARE USED	Cost for installing the software in the laptop								
9.1	R	R is an open-source software. It does not require any payment							€ -	
9.2	Rstudio	RStudio is an open-source software. It does not require any payment							€ -	
9.3	MySQL	MySQL is an open-source software. It does not require any payment							€ -	
	TOTAL								€ -	
	TOTAL								€ 12,640.00	

Tab.1: Budget of the project for the development of the “Talent Analyzer” application.