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Rentabot Project Plan

Gestão de Projetos 2019/2020

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1. Overview

1.1. Project Description

The problems we intend to solve are that some people won't buy electronic devices due to how expensive they might be, even with installments, some people don't wish to own devices full-time and would rather just have them for shorter periods of time. Furthermore, the companies who sell these devices do not profit from these potential customers.

Our solution is to buy (or rent, as a project alternative) electronic devices from certain providers, in our case laptops from HP and Asus, and allow people to rent these devices from us at an appealing price. After several rentals of a device we allow a customer to purchase it at a lower price.

1.2. Goals

In order to achieve success on the Rentabot project, the following objectives must be met within the designated time and budget allocations:

- Receive a positive feedback (at least 7 in 10) in Web application testing;
- Establish contracts with 2 laptop providers during the installation phase
- Produce a manual with protocols for maintenance, storage, transport, and inspection after client usage during the installation phase;
- Maintain 90% of equipment in working conditions during the exploration phase;
- Rent to at least 50 clients during the end of the observation period;
- Have an average of client satisfaction on equipment higher than 4 stars during the business.

1.3. Deliverables

Our main deliverables are the following:

D	Project Deliverables	Target Date (mm/dd/yyyy)
1	Project Plan	20/12/2019
2	Company Orientation Statement	06/05/2020
3	Requirement Definition for Website Report	08/05/2020

4	Website Wireframes	29/05/2020
5	Advertisements Designs	09/06/2020
6	Website Mockup	06/07/2020
7	Final Website Prototype	28/08/2020
8	Observation Phase Report	01/04/2021
9	Project Completion Report	01/06/2021

This is excluding all contracts, insurance simulations and monthly reports (Financial reports and Web Platform test reports) from the outsourced parties

1.4. Milestones

Our principal milestones are the following:

M	Project Milestone	Target Date (mm/dd/yyyy)
1	Project Kickoff	01/01/2020
2	Investors negotiation closed	8/02/2020
3	All contracts done	23/04/2020
4	Start of Website Design	04/05/2020
5	Web Platform Deployment	28/08/2020
6	Start of the Observation Phase	01/10/2020
8	Start of the Project Close-out Phase	02/04/2021
9	End of the Project	30/06/2021

1.5 Stakeholders

Stakeholders	Roles and Responsibilities
Clients	The clients are who rent the equipment and give us profit.
Sponsors	Give us financial support in exchange of us having their ads on our website

Google	Adsense service, broker between sponsors and our website
Software designers	They have to, according to our requirements, design a web application in the scheduled period. Additionally, they must present the agreed upon deliverables and conduct testing with users
Transport Team	When required, they will transport our equipment to and from the clients, repair clinics and storage space.
Financial	They will care about the financial part of the project: <ul style="list-style-type: none"> - Billing; - Financial management; - Manage Human resources; - Taxation.
Lawyer	They will care about the juridical part of the project, including: <ul style="list-style-type: none"> - Make contracts for Asus and HP; - Review terms of a partnership with a laptop repair service; - Review any contracts with the software design services; - Review contracts of outsourcing financial and human resources; - Make contracts for the transport team.
Storage rental provider	Provide the agreed upon storage location, guarantee its security and insurance for theft or damages in the space
Laptop Repair Companies	At the end of each user rental period, they will inspect, clean and repair any additional damage to the equipment.
Host services provider	Provide the hosting services for our platform
Work Insurance provider	Provide life and accidents coverage for the company's employees
Laptop Insurance provider	Provide coverage for theft, cracked screens, liquid damage, vandalism, operating errors, and fire damage of our laptops

1.6 Investment and Expected Result from Exploration

Return Period: 7 years

Initial investment: 100.000 €

Project Duration: 18 months

Probability of concluding the project in the estimated duration: 85%

2. Work Breakdown Structure (WBS)

The WBS is constituted of nine Work Packages listed below, related to hiring, finances, acquiring the laptops, web platform development, marketing and project management. We omitted observation phase and a conclusion phase, since their details are going to be determined during the project.

WP		Duration (days)	Start Date	Finish Date
1	Investors	37	Wed 01/01/20	Wed 15/01/20
2	Lawyer	7	Wed 01/01/20	Fri 17/01/20
3	Insurance	21	Mon 10/02/20	Mon 30/03/20
	Insurance broker	7	Mon 10/02/20	Thu 20/02/20
	Storage Space Insurance	3	Mon 16/03/20	Mon 30/03/20
	Employees Insurance	2	Fri 21/02/20	Tue 10/03/20
	Equipment Insurance	9	Fri 21/02/20	Wed 04/03/20
4	Equipment	27	Fri 17/01/20	Thu 23/04/20
	Equipment Provider	11	Fri 17/01/20	Fri 03/04/20
	Equipment Transport	8	Mon 16/03/20	Thu 23/04/20
	Equipment Maintenance	8	Wed 05/02/20	Wed 01/04/20
5	Storage Space	25	Wed 05/02/20	Mon 14/06/21
6	Finances and Human Resources	14	Mon 10/02/20	Fri 13/03/20
7	Platform	152	Mon 10/02/20	Fri 28/08/20
	Website Development	141	Mon 10/02/20	Fri 28/08/20
	Hosting Service	11	Mon 10/02/20	Thu 19/03/20
8	Marketing	53	Mon 11/05/20	Thu 02/07/20
	Create Logos and Mottos	7	Mon 11/05/20	Wed 03/06/20
	Establish the Company's Orientation	9	Mon 11/05/20	Wed 20/05/20
	Advertisement	37	Thu 04/06/20	Thu 02/07/20
9	Project Management	20	Wed 01/01/20	Mon 28/06/21

WP1 Investors

Involves reaching out to possible investors, presenting our project to get the funding that we need and negotiate their investment plan. This work package precedes all other work packages except WP2. An indicator of this WP success is getting at least the money we expected 100.000€.

Milestone:

- **Starts after** M1 Project Kickoff
- **Ends with** M2 Investors negotiation closed

WP2 Lawyer

Includes searching and contracting a lawyer to formulate and review all contracts we'll need during the rest of the project; it precedes the rest of the work packages. A success measure would be the lawyer's hourly rate be what we had estimated.

WP3 Insurance

This work package encompasses finding and negotiating a deal with an insurance broker and defining terms for the insurance broker to simulate an insurance plan for the storage space, equipment and employees. This WP is spread through the schedule, but is dependent on WP4 and WP5, more details about dependencies and dates is on the complete Gantt chart file. A success measure would be the insurance rates being similar or better than what we estimated.

WP4 Equipment

This WP wraps all smaller WP related to Equipment, such as:

WP4.1 Equipment Provider

This WP involves searching for ways to contact HP and ASUS, presenting our business plan and negotiating terms of a contract with them. After the storage space is prepared (WP5) we'll transport the equipment to storage. WP4.2 and WP4.3 depend on this one. We have succeeded if both ASUS and HP supply us with 25 laptops for, on average 1000€ each. We would consider it a bigger success to be allowed to pay off the equipment with installments.

WP4.2 Equipment Transport

This WP is comprised of searching for a transport service and hire them to transport equipment to and from our storage space, client's residences and equipment maintenance facilities. We would consider it a success to be able to pay a driver the estimated hourly rate to do this service whenever needed.

Milestone: M3 All contracts done (This is the last contract we'll sign)

WP4.3 Equipment Maintenance

This WP encompasses searching for an equipment repair service and negotiate a contract with them that stipulates we'll bring them all the laptops after each client usage and they will offer us a diagnosis and cleaning services for stable rates. We would consider it a success if the agreed upon rates were the same or less than what we estimated.

WP5 Storage Space

After we've bought the equipment in WP4.1, we'll start searching for a good storage space, negotiate a rental contract and prepare the space for the arrival of all the equipment. Through the course of this project, every month, someone will check the space and equipment within it, and clean the space. A success measure would be getting the estimated monthly rate, the estimated needed space and location propitious for transport to clients in Lisbon.

WP6 Finances and Human Resources

This WP involves searching for a finances and human resources team, negotiate a contract them that stipulates all the services we'll need from them (billing, financial management, human resources management and taxation). Throughout the project someone will compile and provide them with the necessary data. A success measure would be the monthly rate and quality of service, measured by deliverables.

WP7 Platform

WP7.1 Website Development

This WP contains the tasks searching for a Web Design team, negotiating a contract with them and creating a requirements definition report for the platform. While the development team designs, produces and tests the platform, we'll evaluate all the deliverables agreed upon (the ones bellow and other routine reports). A success measure would be the overall cost and deliverables.

Milestone:

- **Starts after** M4 Start of Website Design
- **Ends with** M5 Web Platform Deployment

Deliverables:

- D3 Requirement Definition for Website Report
- D4 Website Wireframes
- D5 Advertisements Designs
- D6 Website Mockup
- D7 Final Website Prototype

WP7.2 Hosting Service

This WP includes the tasks searching for hosting service plan and settle on a contract with them. A success measure would be the monthly cost and services offered of the plan chosen being the ones estimated.

WP8 Marketing

This WP contains tasks related to the company's orientation, advertisement and presence on social media. A success measure would be testing made on the deliverables and client adherence for the Observation phase.

Deliverables:

- D2 Company Orientation Statement
- D5 Advertisements Designs

WP9 Project Management

Covers all monthly and weekly reports, including formulating a company's expenses report; reviewing reports from the outsourced financial department; risk analysis reports; evaluating the Web Platform deliverables and marketing reports. This WP server to manage the rest of the project, so it lasts for the entire project.

3. Resources

For any project the resources an (if not the most) important topic. For Rentabot Project the considered are human, monetary and material resources. In terms of human resources, we will need a lawyer to review the contracts and to carry up of any judicial subject of the project, a Development Team to design and test our web platform and a financial and HR team to help with project management. During the observation period of our project we will need a team of electronic technicians who can repair our equipment, and motorists to deliver the equipment to the costumer, but these resources can only be allocated after the project starts. The monetary resources in this project include the loan of the providers, insurances costs, taxes and the salaries. And finally, for this project we will need two material resources: electronic equipment and a storage space.

Human Resources

The following table contains a summary of the distribution of the following human resources:

- André Nicolau **(A)**
- João Ferreira **(J)**
- Silvana Graça **(S)**
- Lawyer **(L)**
- Broker **(B)**
- Development Team **(D)**
- Finances and HR **(F)**

Where A, J and S are members of the management team and the other ones are external autonomous components hired during the project and considered one resource for scheduling porpoises.

WP		A	J	S	L	B	D	F
1	Investors	92h	92h	32h				
2	Lawyer			56h				
3	Insurance	16h	32h	44h		3h		
	Insurance broker	16h		12h				
	Storage Space Insurance		20h		1h	1h		
	Employees Insurance		12h		1h	1h		
	Equipment Insurance			32h	1h	1h		
4	Equipment	54,4h	34,4h	30,4h	4,4h			
	Equipment Provider	54,4h	9,6h		1h			
	Equipment Transport			30,4h	1,7h			
	Equipment Maintenance		24,8h		1,7h			
5	Storage Space	24,8h	16h	62,2h	1h			
6	Finances and Human Resources			49,4h	1h			16h
7	Platform	17h	80,4h	40h	3,8h		640h	
	Website Development	17h	80,4h	8h	2,8h		640h	

	Hosting Service			32h	1h			
8	Marketing	107,2h	24h	47h				
	Create Logos and Mottos	11,2						
	Establish the Company's Orientation	24h	24h	24h				
	Advertisement	72h		23h				
9	Project Management	58h	98h	34h				

The complete resource usage is in the MS Project file named "H4 Gantt chart with Resource Allocation".

Scarce Resources

The most important scarce resource is the management team, since there are only three members distributed to all the parallel tasks in the beginning of this project, this might become a problem while we are still looking and hiring experts and outsourcing teams. During our marketing and observation tasks we have to consider the electronic devices we will buy as a scarce resource, since it limits our number of clients and monetary revenue.

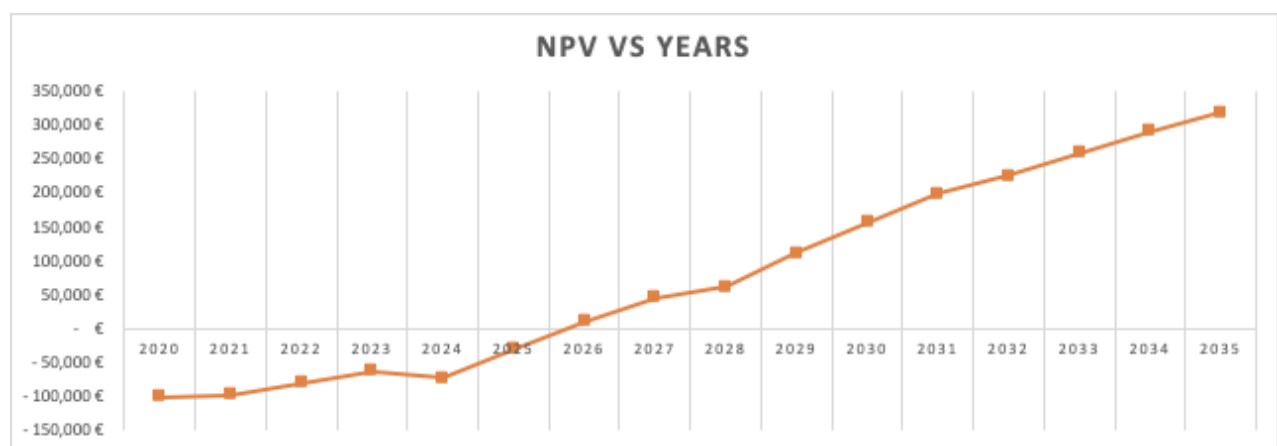
4. Budget

The following table contains a summary budget based on the planned cost components and estimated costs required for successful completion of the project. We are assuming that we have **100.000€** to invest.

Contract and Insurance negotiations (01/01/2020 to 23/04/2020)	Contract Attorney	600 €
	Insurance Broker	60 €
	Finances and Human Resources	300 €
	Work Insurance	150 €
	Electronic Equipment	50.000 €

	Total	51 110 €
Web Platform and Advertisement (01/05/2020 to 31/09/2020)	Advertisement	2 000 €
	Web Application Design	5 000 €
	Finances and Human Resources	375 €
	Total	7 375 €
Observation Phase (01/10/2020 to 01/04/2021)	Personnel Resources	17 400€
	Drivers	1 200 €
	Management	16 200 €
	3 rd Party Services	13 010 €
	Storage Space	1 200 €
	Insurance	5 150 €
	Finances and Human Resources	1 980 €
	Electronic Maintenance and Repair	4 500 €
	Web Application	180 €
	Total	30 410 €
Total		88 895 €

Later in the exploration phase, the costs will be mostly on maintenance, salaries and buy more equipment for renew. Every 4 years, 50 equipment's are replaced by 100 of them. So, we can have more 50 to grow up. That 50 that are replaced, we will sell them by one third of the price to a costumer or in a platform for selling. The following tables will show how the costs and profit will affect the exploration phase in terms of Net Present Value (NPV) and the income over the years.



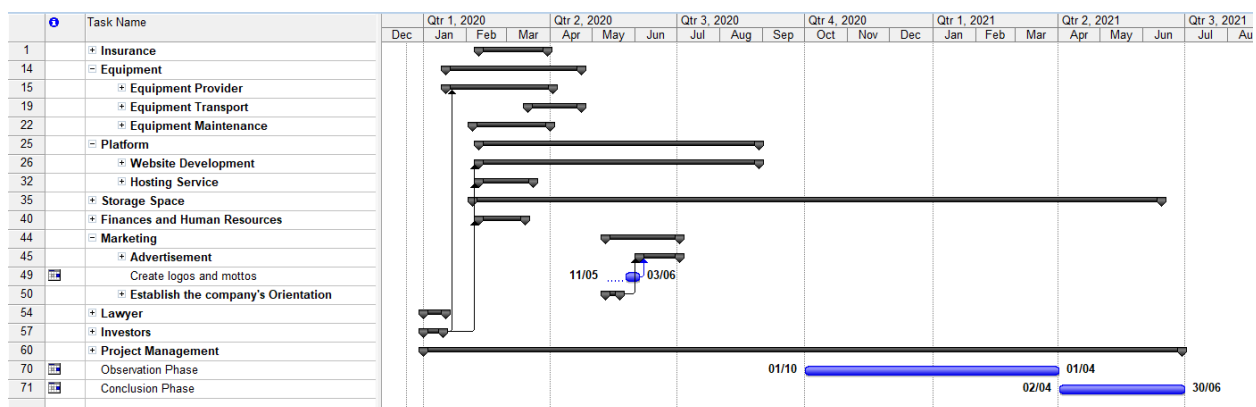


The project has an NPV of 318.151,15€ and only at 2026 it will have profit.

5. Scheduling

5.1 Gantt Chart

Bellow, we present our Gantt chart with mostly only the summary tasks, the complete chart is in the MS Project file named “H4 Gantt Chart”.



5.2 PERT/CMT

The PERT/CMT will give us a better view of the precedence and the slacks of each task. There we can see the duration of the project and determinate the critical path (path from “begin” to “end” with 0 of slack). It’s important to determinate this because if one

task of the critical path, for some reason, delays, the duration of the project will be affected.

The diagram is available in the file named “pert_cmp.png”.

6. Risk Management

6.1 A Risk Management Plan

The risk impact was determined based on the classification of cost, scope and time with the following qualitative table, from the PMBOK Guide:

	Cost	Scope	Time
None	No increase	No areas affected	No increase
Low	<10% increase	Minor areas affected	< 5% increase
Medium	10 – 20% increase	Major areas affected	5 – 10% increase
High	> 20% increase	Scope reduction unacceptable to sponsor	> 10% increase

The risk likelihood is classified with the following qualitative scale:

- **Low:** The risk is unlikely to materialize
- **Medium:** The risk is possible to materialize
- **High:** The risk is likely to materialize

The risk evaluation criteria are based on a product matrix of the impact and likelihood classification, showed in the second table of section 6.3, where green, orange and red mean low, medium and high, respectively.

6.2 Risk Identification

Nº	Description
1	ASUS and/or HP could not agree to supply us with the desired equipment, loosing us the allocated time and the estimated cost for the lawyer
2	Due to bad test results, the Web Platform may cost more time and resources than expected

3	The planned tasks might require more financial or legal aid, this will impact our cost
4	The management team might have difficulty integrating and supervising outsourced company components
5	Marketing might not gather estimated client interest, making us lose more time and money
6	Competitors with an already established and known platform create a competing and more appealing solution.
7	Damage to devices and malfunctions
8	No investors in our project (although we assume to have them)

6.3 Qualitative Risk Assessment

	Cost	Scope	Time	Impact
1	Medium	Low	Medium	High
2	Medium	Low	High	High
3	Low	None	Low	Low
4	Medium	Medium	Medium	High
5	Low	None	Low	Low
6	Medium	Medium	Medium	High
7	Low	Low	Low	Medium
8	High	Low	Low	High

Impact	Likelihood		
	Low	Medium	High
Low	3	5	
Medium			7
High	1, 8	2, 4, 6	

6.4 Risk Response Planning

Risk	Control Measures	Contingency Measures
1	Not under our control	Contact Acer and/or Lenovo and negotiate contracts with these providers instead. If we needed to reach Apple, we would reduce ask for a lower number of equipment.
2	Have well defined requirements, well planned deliverables; Study and evaluate development team before hiring	Accept the risk; Worst case scenario search for a better development team
3	Consult experts; Perform task monitorization	Risk is accepted
4	Have reunions between management personnel	Hire management expert; Change outsourced companies
5	Carry out marketing studies;	Buy more spaces for advertisement
6	Keeping an eye on competition	Increase advertisement and make product more appealing
7	Periodic Maintenance and evaluation	Insurances, good maintenance and storage conditions
8	Not under our control	Risk accepted. This would require a major restructuring of the project

