



Instituto Superior Técnico

DM4iRetail – 3^a Entrega – 20 de Novembro de 2015

Turno: 5^a 17h30 – Prof. Alberto Silva

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Introduction

GPI Grupo 2 is a spinoff from Instituto Superior Técnico specialized in deploying Document Management Systems.

This document proposes a solution to the published statement, approaching the various sides of the management and progress of the project.

We will first present our understanding of what the project is and what it will bring to our companies, why it is needed, and at what cost it will come.

Then, we will propose a breakdown of the activities performed for an efficient development of the project, as well as planning and scheduling those activities.

For that development, we will present the team we will work with, that is the available resources, and how they will be organized and interact with each other, and be assigned the work.

We will establish measurements to keep the quality standards high and create an acceptable product and provide useful services.

The risks we expect to be able to deal with will also be listed, along with their likelihood and impact, and how we will approach them to favor our companies and the product development.

Finally, we will end our proposal with the associated costs and the price the client company should pay, if they choose to work with us.

Description of the project

What?

From the developer's side, our corporation, this project is to develop a new information system for the company iRetail, made of the following modules:

- Document management and workflow;
- Invoices approval;
- Purchasing management

The project will also include the management, design and conception of the product, and the phases of deployment and operationalization.

Why?

For the client company, iRetail, the purpose is to keep up with its fast growth, which caused problems related to the limitations of paper documents: saturation of the information flows, difficulty of storing documents and lack of control over information including loss.

Success Factors

- Requirements shall be clearly defined to avoid wrong or unneeded operations;
- There should be clear and concise means of communication between the two companies;
- The documentation and manuals must be accurate and complete to be useful;
- The training should be effective so it allows K-users and technicians to adapt to the new system and work more efficiently;
- Roles and responsibilities must be clearly defined;
- There should be a common technical language between the team established beforehand by the team leaders;
- The testing (pilot and acceptance) should verify the efficacy of the product and that it complies with the established required functionality;
- The design and architecture of the system should be done with all the required functionality in mind.

Success Criteria

- Time
 - o The Pilot must not last more than one month;
 - o The system should be operational five months after the approval of the project plan, with less than two weeks tolerance;

- The external supplier shall offer a minimum warranty period of three months;
- Cost
 - Do not exceed the € 400 000 budget for the whole project (excluding network structures and hardware) with a variance of 6%;
- Quality
 - The number of non-conformities during acceptance tests should not be greater than 10%;
 - The time for correction of conformities should be less than 48 hours;
 - The evaluation of the training sessions shouldn't score lower than 3.75, from 0 to 5.

Expected Benefits

After one year:

- Reduction by 50% of employees' complaints, considering the expected overall employees satisfaction, ensuring the reimbursement of expenses no later than 5 working days after submission;
- Ensure supplier's invoices get approved less than 10 working days after reception;
- Based on the previous benefit, allow iRetail to negotiate better discounts from suppliers;
- Allow classification and search of documents, based on content attributes;
- Reduce paper costs and physical space for archiving paper by 50%;
- Reduce administrative and post costs by 20%.

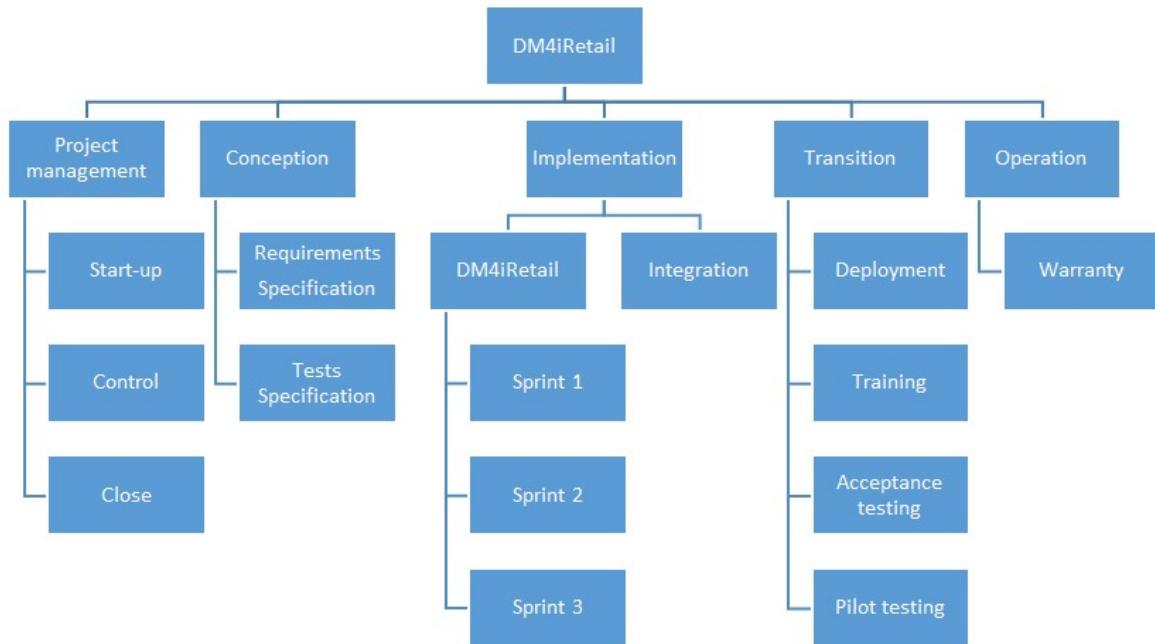
Total Price

The total price of the project will be €263.117,60 plus VAT at the current rate.

Total Project Duration

The whole project will span 152 days, from the charter definition in 18/11/2015, until the warranty is concluded in 15/06/2015. The pilot test will be completed by 13/04/2015, with approximately two weeks until the system goes live in May.

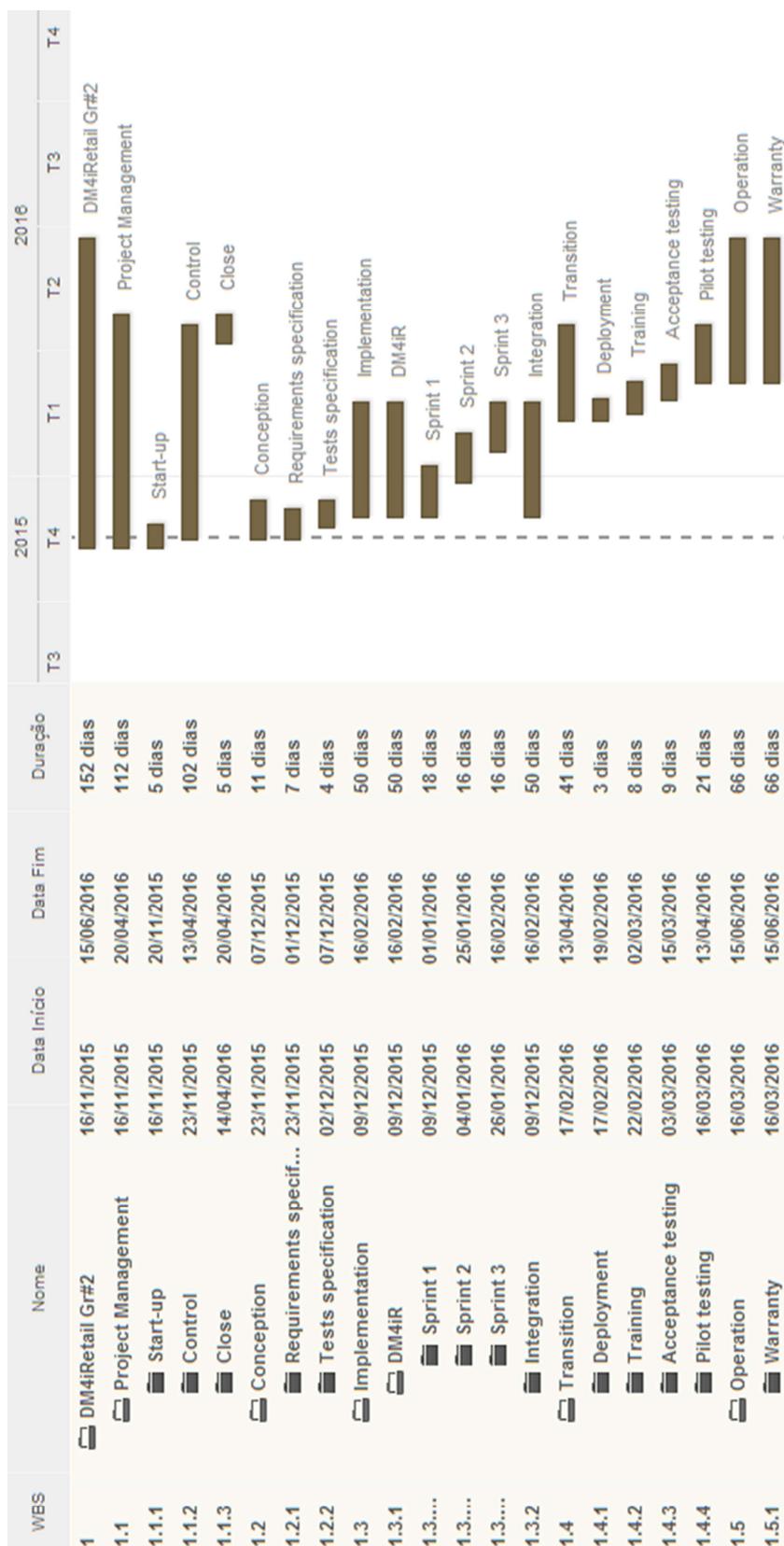
Work Breakdown Structure



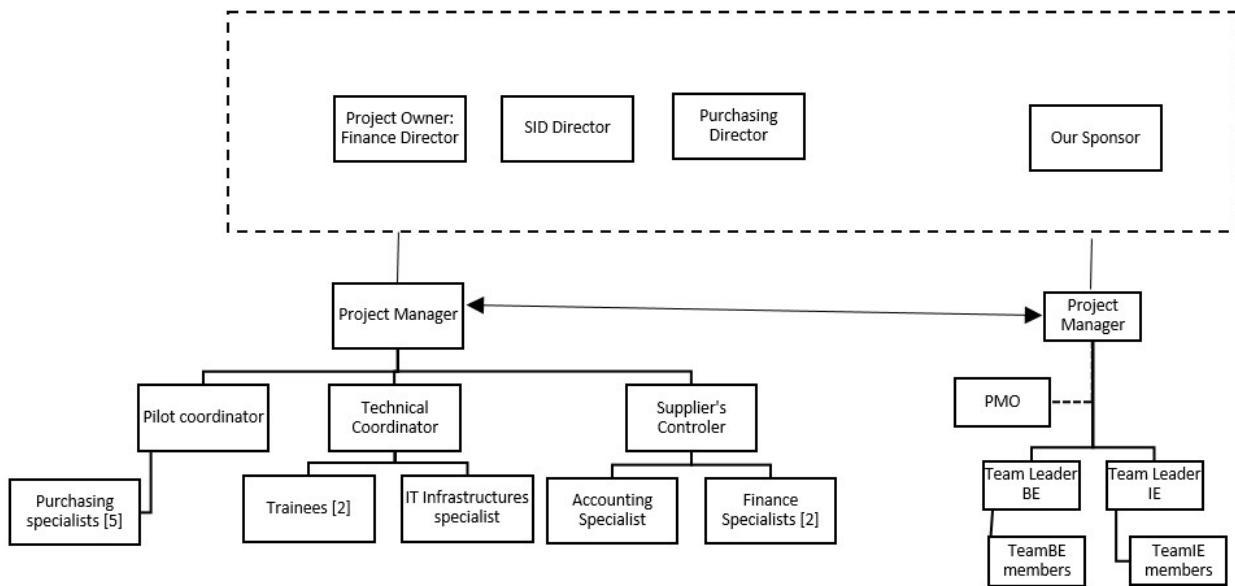
Work Package	Description	Milestones	Deliverables
1.1.1 – Start-up	Definition of the charter, management and team members, and project planning activities	Project plan approved	Project plan
1.1.2 – Control	Project control and replanning to verify compliance with requirements and quality assurance	None	None
1.1.3 – Close	Feedback and closure meetings, and production and delivery of the report	Project finished	Project report
1.2.1 – Requirements Specification	Analysis and specification of requirements	Requirements approved	Requirements specification document
1.2.2 – Tests Specification	Specification of tests	Tests approved	Tests specification document
1.3.1.1 – Sprint 1	Scrum meetings and implementation of Purchase Module	Sprint 1 complete	Purchase Module and its manuals, documentation, specification document and training materials

1.3.1.2 – Sprint 2	Scrum meetings and implementation of Invoices Approval module	Sprint 2 complete	Invoices Approval and its manuals, documentation, specification document and training materials
1.3.1.3 – Sprint 3	Scrum meetings and implementation of Documents Management module	Sprint 3 complete	Documents Management and its manuals, documentation, specification document and training materials
1.3.2 – Integration	Integration of the developed modules with the ERP	Integration finished	None
1.4.1 – Deployment	Deployment of the system including its installation and configuration	Deployment complete	Working information system
1.4.2 – Training	Training of technicians and K-users, and its evaluation.	Training complete	None
1.4.3 – Acceptance Testing	Validation of the information system and correction of non-conformities	Acceptance tests passed	None
1.4.4 – Pilot Testing	Pilot test done before the go-live of the system	Pilot test passed	None
1.5.1 – Warranty	Warranty work provided by the supplier (our company) during the three months	Warranty concluded	None

Project Scheduling



Organization Breakdown Structure



Responsibility Assignment Matrix

	PO: Finance Director	SID Director	Purchas- ing Director	Pilot coord.	Technical Coord.	Supplier Control	PM	Sponsor	PM	Team Leader BE	Team Leader IE
Start-up	D	C	C		A	I	d	XP	C	C	
Control					A	I		XP			
Close	D				A	I	d	XP			
Requirement Spec.	D					I	C	P	X		
Test Spec.		C	C	A			I	P	X		
Sprint 1							I	P	X		
Sprint 2							I	P	X		
Integration		A		C	A	T		P		X	
Deployment					A		I	P	X	C	
Training					X			P	T		
Acceptance	D				X		I	P	d	d	
Pilot				X	C	P		I	A	A	
Warranty								I	X		

Communication Plan

Communication Flow

From	To	What	When	How
Project Manager	Finance Director (PO) Sponsor (Supplier)	Status Report	Every Month Weekly (test phase)	Email
Team Leaders (BE and IE)	Project Manager (Supplier)	Progress Report	Weekly	Collaborative Tool
Team Leaders (BE and IE)	Project Manager(Supplier)	Estimative Report	Weekly	Collaborative Tool
Project Manager (Supplier)	Team Leader BE Scrum Master	Tasks Specification	Every 2 Weeks	In person
Project Manager (Supplier)	Team Leaders	Planning Documents	Beginning of project	Collaborative Tool
Project Manager (Supplier)	Finance Director (PO)	Functional Specification document	After requisites revision	Collaborative Tool
Project Manager (Supplier)	Finance Director (PO)	Technical documentation for each module	After system specification	Collaborative Tool
Team Leader BE	Project Manager (Supplier)	Test Specification Document	After approval of tests specification	Collaborative Tool
Team Leader BE	Team BE members	Tasks Distribution	Weekly	In Person
Team Leader IE Two Finance Specialists	Project Manager (Supplier)	Integration Report	After System Integration	Email
Team Leader BE	Project Manager (Supplier)	Acceptance tests report	After acceptance tests	Collaborative Tool
Pilot Coordinator	Project Manager (Supplier)	Pilot Report	After doing Pilot	Email
Team Leader BE	Project Manager (supplier) Finance Director (PO)	User Manual	After acceptance tests	Collaborative Tool
Team Leader BE	Project Manager (supplier) Finance Director (PO)	Installation Manual	After acceptance tests	Collaborative Tool
Team Leader BE	Project Manager (supplier) Finance Director (PO)	Configuration Manual	After acceptance tests	Collaborative Tool
Team Leader BE	Project Manager	Training Materials	After acceptance	Collaborative Tool

	(supplier) Finance Director (PO)		tests	
Project Manager (Supplier)	Finance Director (PO)	DM4iRetail	After acceptance tests	Collaborative Tool
Sponsor	Finance Director (PO)	Warranty	After acceptance tests	Email

Meetings Plan

Meeting type	Who	When
Steering	Finance Director (PO) Our Sponsor	Monthly
Progress	Project Manager (Supplier) Team Leaders BI and IE	Weekly
Kick-off	Finance Director (PO) Our Sponsor	Beginning of the project
Requisites specification approval	Finance Director (PO) Our Sponsor Both PM	After requirements gathering
Tests specification approval	Project Manager (Supplier) Finance Specialists Team Leaders BI and IE	After tests specification
Plan specification and tasks attribution	Project Manager (Supplier) Team Leaders BI and IE	In the start of the dev phase
Planning	Team BI Team BI members	Daily (in every sprint)
Revision	Project Manager (Supplier) Team BI Team BI members	Weekly (in every sprint)
Retrospective	Team BI Team BI members	By the end of every sprint
Dev progress	Project Manager (Supplier) Team Leaders BI and IE	During dev phase (every 15days)
Acceptance tests approval	Finance Director (PO) Project Manager (Supplier) Finance Specialists Team Leaders IE	After doing acceptance tests
Pilot meeting	Finance Director (PO) Both PM Finance Specialists	Before the go live of the system
Project closing	Finance Director (PO) Project Manager (Supplier)	After pilot test

Project Resources

The resources of the client company (iRetail) are not represented on our resource table since they are not our company's employees.

Triskell resource	Rate type	Description
Project manager	Project Manager 60€/hour	Manager of the project, as stated in the case study
BE Team Leader	Middle Consultant 25€/hour	Leader of the BE Team, as stated in the case study
IE Team Leader	Middle Consultant 25€/hour	Leader of the IE Team, as stated in the case study
Artur José Lourenço Fonseca	Junior Consultant 20€/hour	BE Team member assigned to the Sprints, and Installation of the system during the Deployment.
Tiago Miguel Pedro do Nascimento	Junior Consultant 20€/hour	BE Team member assigned to the Sprints, and Configuration of the system during the Deployment.
Miguel de Oliveira Martins Melícia Cruz	Junior Consultant 20€/hour	IE Team member assigned to the Integration work. BE Team member assigned to the Warranty period and Tests Specification.

Project Quality

Quality Assurance Activities

Carefully make a **plan for the project**, along with **control**/monitoring and **replanning** activities to ensure the requirements are met even if changed.

Make a clear **specification of requirements** to avoid ambiguities and conflict, after a thorough analysis.

Make a clear **specification of the tests** for the system.

Use the **sprint planning meetings** to approach better solutions to the due work.

Adapt the **training materials, documentation and manuals** to improve the K-user and technician experience, with their input.

Use the SCRUM methodology for the module implementation, to involve the client in the development of the product.

Centralize the main decisions in planning and design in the more skilled and experienced resources, such as Team Leaders.

Quality Control Activities

Have **review meetings** with the client to inspect the work done in each sprint and verify its quality.

Have **retrospective meetings** with the team members, leaders and project manager to analyze the performance in the implementation of the modules.

Perform tests during the development of the modules to check for code quality.

Perform the final **acceptance tests** and correct non-conformities.

Evaluate the training sessions to improve them, targeting a high score.

Do a **pilot test** to validate the operability of the system.

Acceptance Criteria

Have a clear and detailed project plan of the activities and their scheduling at the end of the planning meeting.

The project is accepted as finished after the report is delivered and the closure meeting ends.

The established requirements document is accepted and confirmed by both companies, with no ambiguities.

The test specification document is accepted and confirmed by both companies, spanning all the testable functionality of the system.

The tests made throughout the development of the modules will pass at the end of each sprint.

Score 3,75 in the training sessions evaluation in a scale of 0 to 5.

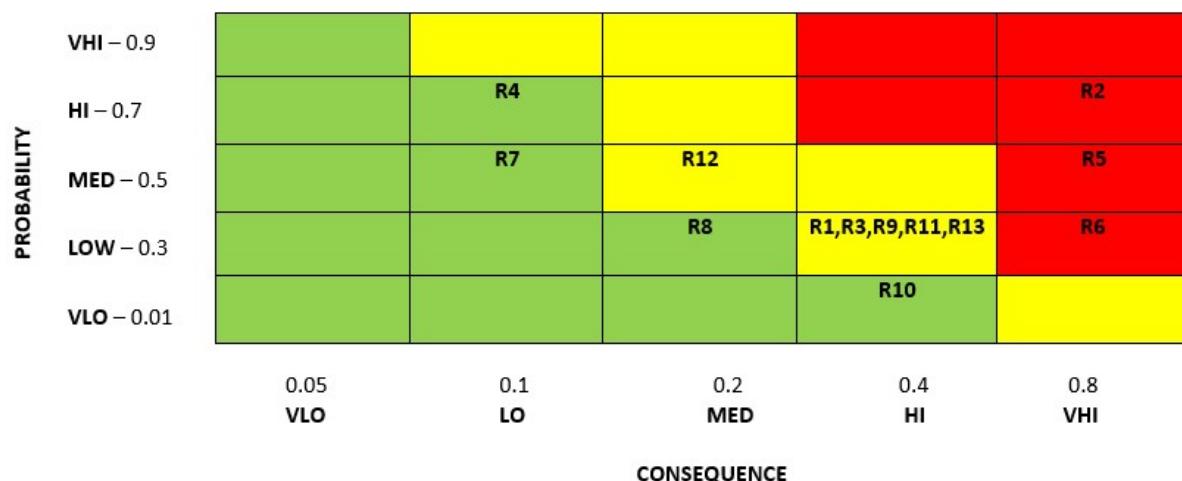
Have no more than 10% non-conformities during the acceptance tests.

The system functionality and integration are confirmed during the pilot test.

The produced training materials and manuals are considered of good quality.

Project Risks

Lista de Gr.02 / DM4IRetail Gr#2 / Risco								
#	Nome	Descrição:	Type Measure	Measure	Probability	Consequence	Impact	Owner
R1	Abandonment of key-people	Some essential members of the project may leave	Transfer/Sharing	Contracts	LO	HI	Medium	Supplier PM
R2	Badly formed Requirements	The requirement specification may have ambiguous, misleading, low detail requirements.	Avoid	Meetings with Team-Leads and PMs from both companies until they reach agreement on the level of detail.	HI	VHI	High	Supplier PM
R3	Budget exceed	The final cost of the project may surpass the accepted budget	Accept (w/ Provision)	Reserve 70.000€ for risk	LO	HI	Medium	Supplier PM
R4	Change avoidance	The client may show reluctance to use the new technology	Mitigate	Make a workshop to motivate and explain the benefits of the new technologies we offer.	HI	LO	LOW	Team Leader IE
R5	Client disappointment	The client may not be happy and cancel the project	Accept	No refund policy	MED	VHI	High	Supplier PM
R6	Integration fail	The integration of DM4IRetail with RetailERP may fail	Avoid	Understand the limitation of the old and new systems and test throughout the development iterations	LO	VHI	High	Team Leader IE
R7	K-user/technician indisponibility	Some K-user or technician may be unavailable to perform training	Mitigate	Reach an agreement on the test date	MED	LO	LOW	Supplier PM
R8	Low skill	Some members may not have the skills needed to this project	Avoid	During recruitment, assess and test members skills	LO	MED	LOW	Supplier PM
R9	Schedule delay	Schedule may be delayed by some circumstances	Accept (w/ Provision)	Delay the dependent tasks or use the slack times.	LO	HI	Medium	Supplier PM
R10	Security breaches	Some security breaches can happen, exposing personal data and information that may harm the company	Accept	It is no possible to guarantee the system is completely failproof	VLO	HI	LOW	Team Leader BE
R11	Team members low performance	Some team members may not perform like they were supposed to	Mitigate	Evaluate the possibility of the member working better in the future and either fire him or give him a break	LO	HI	Medium	Team Leader BE
R12	Warranty delay	The external supplier may delay the delivery of the warranty	Accept (w/ Provision)	We will offer a period of provisional warranty	MED	MED	Medium	Supplier PM
R13	Work tools malfunctions	The Hardware or software tools to do the project is done and fail	Transfer/Sharing	Have insurance to cover the failures and get replacement tools immediately	LO	HI	Medium	Team Leader IE



Risk control procedures

1. Risks should be identified and classified during the project start with the collaboration of all the team leaders and members, and the project manager of our company.
2. Each owner should monitor their risks throughout the development of the project.
3. If a risk occurs, its measure should be activated immediately, but the other risks should still be monitored for changes.

Price and Supplier Conditions

Licenses	€ 50.000
Services (labour+risk+travelling+printing)	€ 213.117,60
Total	€ 263.117,60

# - Invoice date	Milestone	Amount
1 - November 2015	Plan approved	20 % - € 52.623,52
2 - December 2015	Test specification approved	20 % - € 52.623,52
3 - February 2016	Implementation completed	40 % - € 105.247,04
4 - June 2016	Project complete	20 % - € 52.623,52

Additionally, VAT should be added to all prices.

Payment Conditions

- Each amount must be bank transferred (Number 000123456789PT) until the last working day of the month;
- If the client fails to pay, an additional fee will be charged 0.5% of that payment per day;
- If our companies fails to achieve the milestones, cost will be reduced in 500€/day;
- Receipt will be sent by email to the client company, after the transfer received.

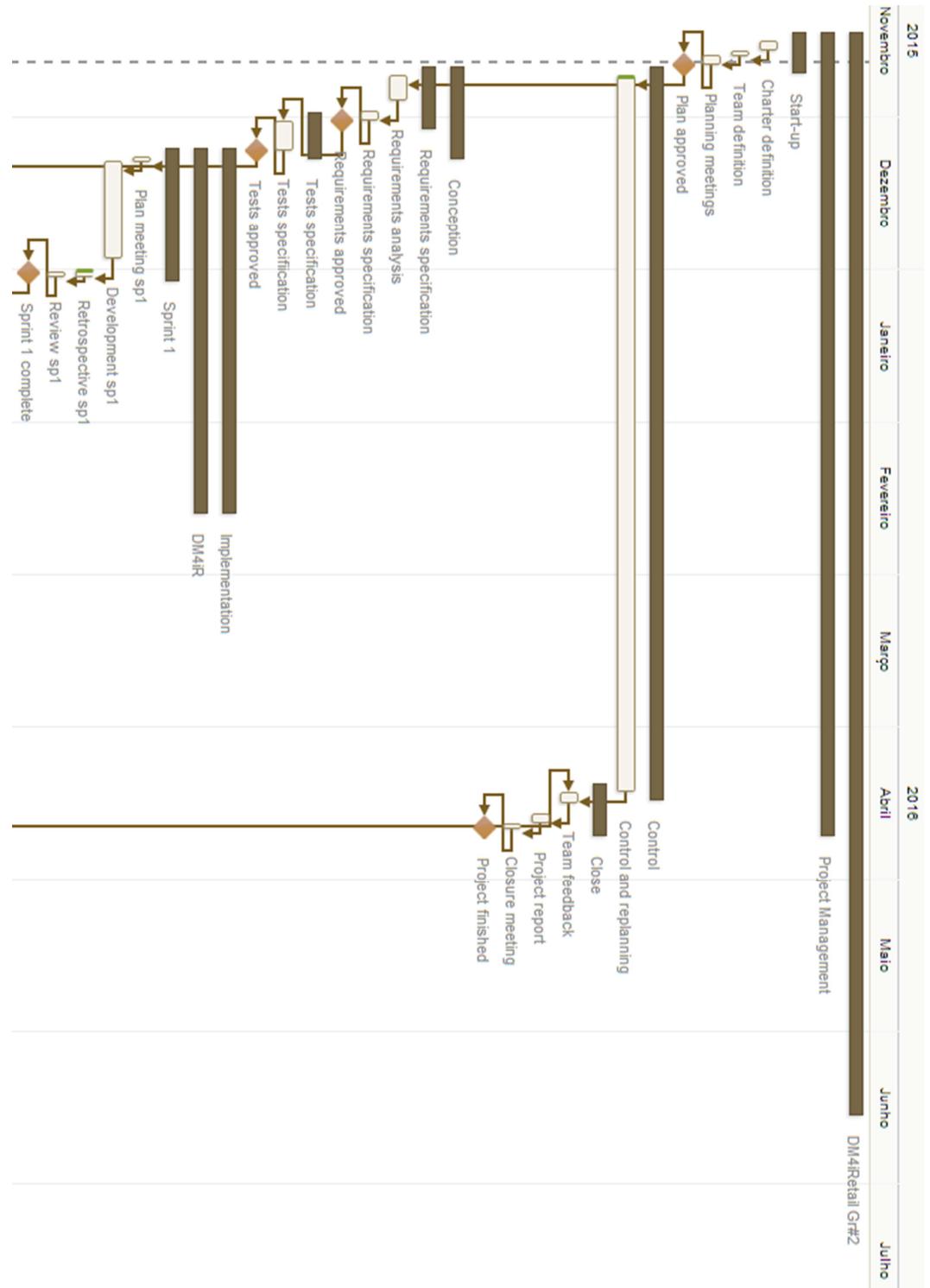
ANNEXES - GANTT CHART - RESOURCES-TASKS 1

WBS	Nome	Data Início	Data Fim	Duração	Recursos Atribuídos
1	■ DMAIRetail Q#2	16/11/2015	16/06/2016	152 dias	
1.1	■ Project Management	16/11/2015	20/04/2016	112 dias	
1.1.1	■ Start-up	16/11/2015	20/11/2015	5 dias	
1.1.1.1	■ Charter definition	16/11/2015	17/11/2015	2 dias	Project Manager [100%]
1.1.1.2	■ Team definition	18/11/2015	18/11/2015	1 dia	Project Manager [50%], BE Team Leader [100%], IE Team Leader [100%]
1.1.1.3	■ Planning meetings	19/11/2015	20/11/2015	2 dias	Project Manager [50%], BE Team Leader [100%], IE Team Leader [100%]
1.1.1.4	■ Plan approved	20/11/2015	20/11/2015	0 dias	Project Manager [100%]
1.1.2	■ Control	23/11/2015	13/04/2016	102 dias	Project Manager [50%]
1.1.2.1	■ Control and replanning	23/11/2015	13/04/2016	102 dias	Project Manager [50%]
1.1.3	■ Close	14/04/2016	20/04/2016	6 dias	Project Manager [50%], IE Team Leader [100%], BE Team Leader [100%]
1.1.3.1	■ Team feedback	14/04/2016	15/04/2016	2 dias	Project Manager [100%]
1.1.3.2	■ Project report	18/04/2016	19/04/2016	2 dias	Project Manager [100%]
1.1.3.3	■ Closure meeting	20/04/2016	20/04/2016	1 dia	Project Manager [100%]
1.1.3.4	■ Project finished	20/04/2016	20/04/2016	0 dias	Project Manager [100%]
1.2	■ Conception	23/11/2015	07/12/2015	11 dias	
1.2.1	■ Requirements specification	23/11/2015	07/12/2015	7 dias	BE Team Leader [100%], Project Manager [50%]
1.2.1.1	■ Requirements analysis	23/11/2015	27/11/2015	5 dias	Project Manager [50%], BE Team Leader [100%]
1.2.1.2	■ Requirements specification	30/11/2015	01/12/2015	2 dias	Project Manager [50%], BE Team Leader [100%]
1.2.1.3	■ Requirements approved	01/12/2015	01/12/2015	0 dias	Project Manager [50%], BE Team Leader [100%]
1.2.2	■ Test specification	02/12/2015	07/12/2015	4 dias	BE Team Leader [100%], Project Manager [50%], Miguel de Oliveira Martins Melicá Cruz [100%]
1.2.2.1	■ Tests approved	02/12/2015	07/12/2015	4 dias	BE Team Leader [100%], Project Manager [50%], Miguel de Oliveira Martins Melicá Cruz [100%]
1.2.2.2	■ Tests approved	07/12/2015	07/12/2015	0 dias	BE Team Leader [100%], Project Manager [50%], Miguel de Oliveira Martins Melicá Cruz [100%]
1.3	■ Implementation	09/12/2015	18/02/2016	50 dias	
1.3.1	■ DMAIR	09/12/2015	18/02/2016	50 dias	
1.3.1.1	■ Sprint 1	09/12/2015	01/01/2016	18 dias	
1.3.1.1.1	■ Plan meeting sp1	09/12/2015	09/12/2015	1 dia	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.1.2	■ Development sp1	10/12/2015	29/12/2015	14 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.1.3	■ Retrospective sp1	01/01/2016	01/01/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.1.4	■ Review sp1	01/01/2016	01/01/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Tiago Miguel Pedro do Nascimento [100%], Project Manager [50%]
1.3.1.1.5	■ Sprint 1 complete	01/01/2016	01/01/2016	0 dias	

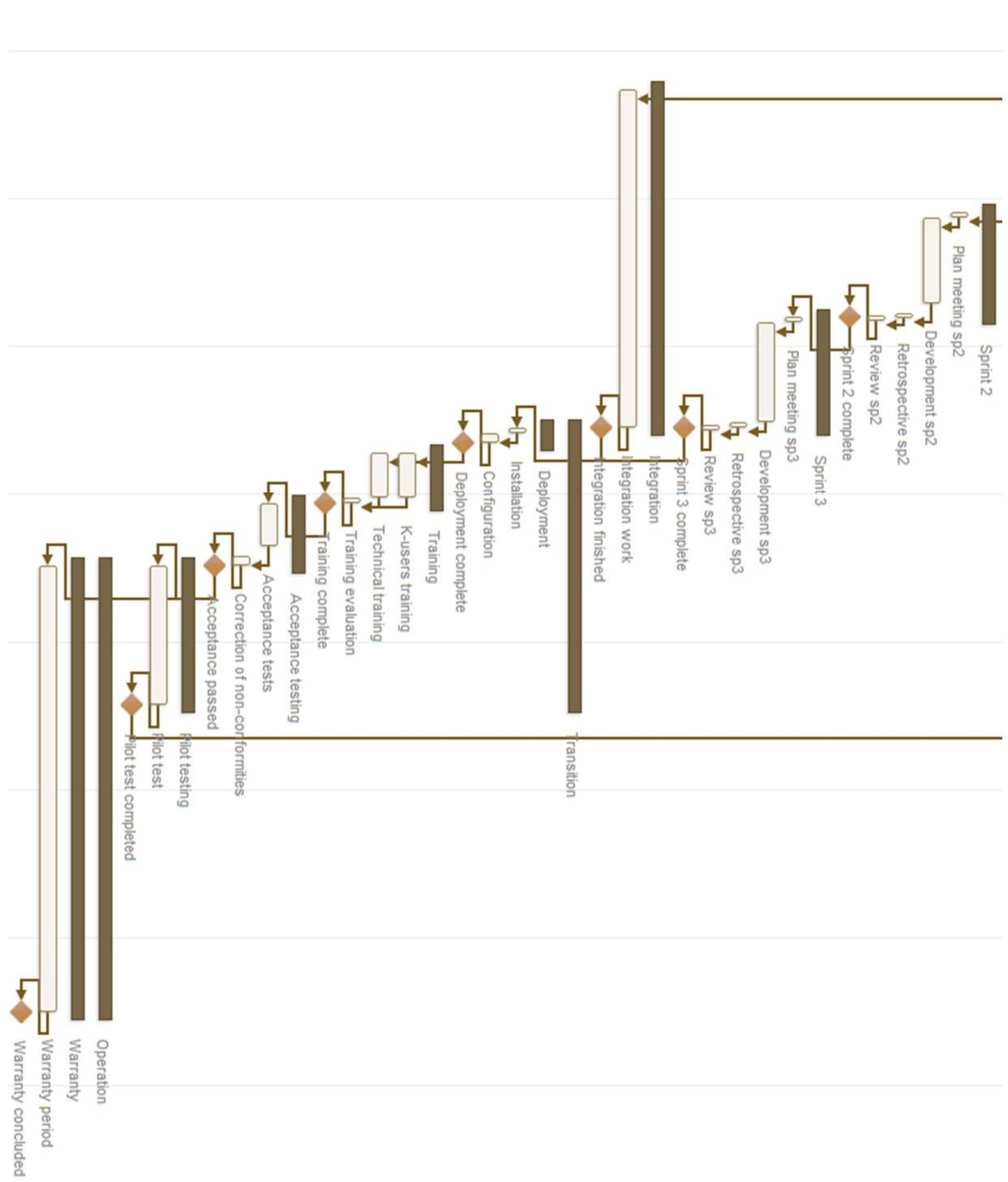
ANNEXES - GANTT CHART - RESOURCES-TASKS 2

		Sprint 2	04/01/2016	26/01/2016	18 dias	
1.3.1.2		Plan meeting sp2	04/01/2016	04/01/2016	1 dia	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.2.1		Development sp2	05/01/2016	22/01/2016	14 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.2.2		Retrospective sp2	25/01/2016	25/01/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.2.3		Review sp2	25/01/2016	25/01/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.2.4		Sprint 2 complete	25/01/2016	25/01/2016	0 dias	
1.3.1.3		Sprint 3	26/01/2016	26/01/2016	1 dia	
1.3.1.3.1		Plan meeting sp3	26/01/2016	26/01/2016	1 dia	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.3.2		Development sp3	27/01/2016	15/02/2016	14 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.3.3		Retrospective sp3	16/02/2016	16/02/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.3.4		Review sp3	16/02/2016	16/02/2016	0.5 dias	Artur José Lourenço Fonseca [100%], BE Team Leader [100%], Project Manager [50%], Tiago Miguel Pedro do Nascimento [100%]
1.3.1.3.5		Sprint 3 complete	16/02/2016	16/02/2016	0 dias	
1.3.2		Integration	09/12/2016	18/02/2016	80 dias	
1.3.2.1		Integration work	09/12/2015	16/02/2016	50 dias	E Team Leader [100%], Miguel de Oliveira Martins Melicia Cruz [100%]
1.3.2.2		Integration finished	16/02/2016	16/02/2016	0 dias	
1.4		Transition	17/02/2016	13/04/2016	41 dias	
1.4.1		Deployment	17/02/2016	19/02/2016	3 dias	
1.4.1.1		Installation	17/02/2016	17/02/2016	1 dia	BE Team Leader [50%], Artur José Lourenço Fonseca [50%], E Team Leader [25%], Project Manager [50%]
1.4.1.2		Configuration	18/02/2016	19/02/2016	2 dias	Tiago Miguel Pedro do Nascimento [50%], Project Manager [50%], BE Team Leader [50%], E Team Leader [25%]
1.4.1.3		Deployment complete	19/02/2016	19/02/2016	0 dias	
1.4.2		Training	22/02/2016	02/03/2016	8 dias	
1.4.2.1		K-users training	22/02/2016	01/03/2016	7 dias	Project Manager [10%], BE Team Leader [10%], Project Manager [10%], BE Team Leader [10%]
1.4.2.2		Technical training	22/02/2016	01/03/2016	7 dias	Project Manager [10%], BE Team Leader [10%], Project Manager [10%]
1.4.2.3		Training evaluation	02/03/2016	02/03/2016	1 dia	Project Manager [25%]
1.4.2.4		Training complete	02/03/2016	02/03/2016	0 dias	Project Manager [25%]
1.4.3		Acceptance testing	03/03/2016	15/03/2016	9 dias	
1.4.3.1		Acceptance tests	03/03/2016	11/03/2016	7 dias	Project Manager [25%]
1.4.3.2		Correction of non-conformities	14/03/2016	15/03/2016	2 dias	Project Manager [50%]
1.4.3.3		Acceptance passed	15/03/2016	15/03/2016	0 dias	
1.4.4		Pilot testing	18/03/2016	13/04/2016	21 dias	
1.4.4.1		Pilot test	16/03/2016	13/04/2016	21 dias	Project Manager [25%], BE Team Leader [25%]
1.4.4.2		Pilot test completed	13/04/2016	13/04/2016	0 dias	
1.5		Operation	16/03/2016	15/05/2016	66 dias	
1.5.1		Warranty	16/03/2016	15/05/2016	66 dias	Miguel de Oliveira Martins Melicia Cruz [5%], BE Team Leader [5%], Project Manager [10%]
1.5.1.1		Warranty period	16/03/2016	15/06/2016	66 dias	
1.5.1.2		Warranty concluded	15/06/2016	15/06/2016	0 dias	

ANNEXES - GANTT CHART - SCHEDULE 1



ANNEXES - GANTT CHART - SCHEDULE 2



D2

Financial Evaluation

In the Total column, the labour cost of €89848 will have a commission of 20% added, resulting in €107.817,60 for the client. The other costs will not be under a commission.

Recursos	Rate Type	2015				2016				Total	
		2015-11 Atribuido	2015-12 Atribuido	2016-01 Atribuido	2016-02 Atribuido	2016-03 Atribuido	2016-04 Atribuido	2016-05 Atribuido	2016-06 Atribuido	Unit	
Artur José Lourenço Fonseca	Junior Consultant 20€	0,00	120,00	168,00	100,00	0,00	0,00	0,00	0,00	388,00	h
BE Team Leader	Middle Consultant 25€	64,00	160,00	168,00	117,60	30,40	42,40	8,80	4,40	595,60	h
IE Team Leader	Middle Consultant 25€	16,00	136,00	168,00	102,00	0,00	16,00	0,00	0,00	438,00	h
Miguel de Oliveira Martins Melícia Cruz	Junior Consultant 20€	0,00	168,00	168,00	96,00	4,80	8,40	8,80	4,40	458,40	h
Project Manager	Project Manager 60€	64,00	112,00	92,00	105,60	151,20	102,80	17,60	8,80	654,00	h
Tiago Miguel Pedro do Nascimento	Junior Consultant 20€	0,00	120,00	168,00	104,00	0,00	0,00	0,00	0,00	392,00	h
Labour Cost		5840	22280	24000	17826	9928	7796	1452	726	89848	€
Transports/Accomodation		400		3000		200		1200	4800		€
Licenses		40000							1200	40000	€
Printing materials				500						500	€
Total (internal)		46240	22280	24000	21326	9928	7996	1452	1926	135148	€
Labour + Comision	20%									107817,6	€
Risk management										100000	€
Invoices % total price		20%	20%		40%					20%	100%
Invoices		52623,52	52623,52		105247,04					52623,52	€
Cash Flow		6383,52	36727,04	12727,04	96648,08	86720,08	78724,08	77272,08	127969,6	263117,6	€

Resources Table

In the next page, we present the resources table, with each resource's name, rate type, role and hours of work.

Recursos	Role	Rate Type	2016						Total	Unit	
			2015-11	2015-12	2016-01	2016-02	2016-03	2016-04	2016-05	2016-06	
Artur José Lourenço Fonseca	BE Team member	Junior Consultant 20€	0,00	120,00	168,00	100,00	0,00	0,00	0,00	0,00	388,00 h
BE Team Leader	Leader of the BE Team	Middle Consultant 25€	64,00	160,00	168,00	117,60	30,40	42,40	8,80	4,40	595,60 h
IE Team Leader	Leader of the IE Team	Middle Consultant 25€	16,00	136,00	168,00	102,00	0,00	16,00	0,00	0,00	438,00 h
Miguel de Oliveira Martins Melicia Cruz	BE and IE Team member	Junior Consultant 20€	0,00	168,00	168,00	96,00	4,80	8,40	8,80	4,40	458,40 h
Project Manager	Manager of the project	Project Manager 60€	64,00	112,00	92,00	105,60	151,20	102,80	17,60	8,80	654,00 h
Tiago Miguel Pedro do Nascimento	BE Team member	Junior Consultant 20€	0,00	120,00	168,00	104,00	0,00	0,00	0,00	0,00	392,00 h