General description and mindset of the company

Description and Organization baseline

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Introduction

In this document we will give a brief description of our company elements, of the infrastructure and the methodologies that are going to be used in our project management policies. These are going to be discussed here in order to establish a consistent and sustainable company.

In order to support our business goals we are going to use some standards as models to follow and apply in our company, being ISO 12207 one of the most important in order to have a model for our software life cycle processes, and ISO 25010 as our quality model.

The total fulfillment of these standards will be carried out by internal auditing of our established processes following some of the procedures established in ISO 33000 for the process evaluation and maturity model.

Life cycle and Organizational model

In our company our main goal is to develop and deliver high quality software. One of the most important aspects in order to achieve this goal is to have a well defined and established development methodology and software life cycle processes.

The aspect of product quality will be discussed in another document as part of the analisys process of our software projects that will contain priority concerns about quality according the ISO 25010 as quality requirements and a description of the quality evaluation criteria to be followed, so in this paragraph we can focus only on our organizational processes.

In this document our main goal is to clarify our concern about making sure a good organizational level of maturity is achieved taking advantage of ISO standards and mainly ISO 33000 to achieve this goal.

Processes related with software development

NAME	Development process
STANDARD	ISO 12207
DESCRIPTION	Activities and tasks concerning software project development that should be followed in any new, or former, software project developed in our company.
ACTIVITIES.	1. Follow unified development process as software development framework at any software project, new projects or the modification of former projects. 2. Respect the iterative and incremental life cycle provided by UDP. 3. Respect the quality requirements and keep in mind that quality is one of the most important features of our products. 4. Follow the documentation process in order to generate appropriate documentation for any project developed in the company.
ROLE IN CHARGE	Software development team.
INPUT	User requirements, Cost restrictions and Time restrictions.
OUTPUT	Development documentation, Software product, Project budget and agenda.
COST	Cost of the development will depend in the project to be developed and will be estimated by the development team, the cost of the project will be shown in unitary tables providing the cost estimation approved by the commercial department of the organisation.

Most important aspects of implementing this process are the usage as unified development process (UDP) for software development as our main development methodology with the iterative and incremental life cycle this methodology carries out.

For any software project there's important to specify a planning and project management methodology, for this purpose we have defined the following process:

NAME	Project planning process
STANDARD	ISO 12207
DESCRIPTION	Activities and tasks concerning software project development that should be followed in any new, or former, software project developed in our company and also all activities concerning project planning and cost estimation.
ACTIVITIES	1. Follow UDP and the iterative and incremental life cycle in order to establish a planification for any project. 2. Understand and identify which ieterations belong to the main UDP phases. 3. Consider the human resources working hours as one of the most important characteristics in order to assure no worker spends more hours than the necessary. 4. Following the previous activities provide a precise estimation of the cost and the time needed to develop any project with low error margin
ROLE IN CHARGE	Project manager.
INPUT	Use case diagram, Time restrictions, Cost restrictions, Available human resources and Requirements analysis.
OUTPUT	Time planning of the project, Cost estimation of the project and working hours assignation for all human resources designated for the development of the project.
COST	Will be calculated based on the working hours spent by the role in charge and shown in an unitary table after being approved by the commercial department when the planification of the project is finished.

Note about the project planification process that it implies a preliminary analysis phase in order to get a well defined use case diagram about the project to be developed which will imply some additional cost.

The generation of the preliminary use case diagram will take part during the Inception phase, this phase defined by UDP implies also some important decisions about the initial feasibility of the project and also the establishment of life cycle objectives of the project, it it's supposed that the project management process starts only when there’s a well defined use case diagram and not before.

The Inception phase will be included in the planification after the generation of the use case diagram and will include also the initial cost estimation for this phase.

NAME	Life cycle management process.
STANDARD	ISO 12207, ISO 29110
DESCRIPTION	Activities and tasks concerning software project development life cycle, in the case of our company the iterative and incremental one that UDP provides.
ACTIVITIES	1. Generate the required reports whenever a change is required or a problem occurs providing a brief description of the problem and a impact estimation. 2. Follow the established planification and deliver the produced artifacts whenever there's a milestone (end of any iteration). 3. Keep in mind that changes in finished iterations means more time for the project to reach its end so try to understand perfectly what it is supposed to be done at any iteration of the development.
ROLE IN CHARGE	Software development team, Project manager.
INPUT	Planification of the project and Risk estimations.
OUTPUT	Reports produced during the development life cycle, Delivered milestones and Change petitions.
COST	The cost of this process depends on the degree that the planification was followed, if there's any change, any problem during the life cycle the cost will increase depending on the impact of such change or problem. Extra costs produced by life cycle concerns will be depicted in the reports generated and will be estimated by the project manager and approved by the commercial department.

The process described above is our process in order to manage the iterative and incremental life cycle provided by UDP that has many advantages for our company in terms of software development.
Just to mention about the life cycle management is the generation of reports which is a very important aspect of this process in order to obtain a clear and brief explanation of what exactly happens when a change or a problem appeared.

NAME	Assessment and control process
STANDARD	ISO 12207, ISO 25040
DESCRIPTION	Activities and tasks concerning the evaluation and control of the software development projects being held by the company. Includes internal auditing (Self assessment) activities.
ACTIVITIES	1. Generate a document containing all possible detected risks and problems that are encountered in a project and provide this document to the internal auditing team. 2. Start an internal auditing project intended to improve our development processes and to detect and correct problems following mainly the processes established by ISO 12207 and the software product evaluation provided by ISO 25040.
ROLE IN CHARGE	Software development team, internal auditor/s
INPUT	Risk report, Detected problems reports, Self assessment request, Project documentation.
OUTPUT	Self assessment report and Learned lessons, general improvement on the development processes.
COST	Budget of the auditing project approved by the commercial department that will be depicted in the generated auditing reports.

The advantages of internal auditing are that the person in charge of the auditing will know exactly the actual state of the project and also will know how the processes are implemented in our company.
We intend this process to be as fast as possible in order to be budget friendly to the company and to not overload the work effort of the internal auditor.

Last but not least in terms of software projects management we describe the quality assurance process below.

NAME	Quality assurance process.
STANDARD	ISO 25010, IEEE 830, ISO 25040.
DESCRIPTION	Activities and tasks concerning the assurance of quality for any of our software products establishing compliance levels according to the requirements and quality characteristics for the quality model specified in ISO 25010.
ACTIVITIES	1. Analyze the requirements specification provided by the requirements analyst in order to obtain a list of suitable quality requirements. 2. Establish adequate levels of compliance according to the ISO 25010 in order to be able to evaluate the level of compliance regarding the quality of the product. 3. Evaluate the quality of the developed product according to the established compliance levels and provide a real and precise estimation of the quality of the product. 4. Decide if the obtained level of compliance is adequate to consider the evaluated product as a product of quality.
ROLE IN CHARGE	Requirements analyst, Project manager.
INPUT	Requirements specification, Quality requirements and a Quality model for the software developed product.
OUTPUT	Software product of quality or a change request. Also the quality evaluation report will be included with the final decision of the team about the product quality.
COST	Cost will be determined by the fact of the output due to possible change requests (that will produce extra costs) or a finished product (that will produce benefits). In case the output is a change request the cost of the change will be determined by the impact estimation approved by the commercial department.

Organizational processes

In this section we will describe the organizational processes and their corresponding activities starting with the supply process.

NAME	Supply process.
STANDARD	ISO 12207
DESCRIPTION	Activities and tasks concerning the supply for the company resources and use of new technologies.
ACTIVITIES	1. Consider all possible needs in terms of resources (hardware, software or even human). 2. Prepare a formal document specifying the needs in terms of: a. Needs regarding a project. b. Needs for updating the company infrastructure. c. Lack of human resources in specific areas of the company. d. Needs in terms of furniture, or any material needed to improve the company. 3. Deliver the generated document to the supply department. Supply activities concerning the supply department: 1. Maintain a list of providers for any category of need (for the human resource needs there is the human resources department). 2. Approve or reject supply requests.
ROLE IN CHARGE	Supply department.
INPUT	Any need in terms of hardware, software or human resources.
OUTPUT	Acceptance or rejection of a supply request.
COST	The cost for this process will consists on an approved budget in terms of the acquired need that will be approved by the commercial department.

Other important process regarding the organization is the measurement process in which we describe how our company processes will be measured in order to improve our company processes.

NAME	Measurement process.
STANDARD	ISO 33000.
DESCRIPTION	Activities and tasks concerning the evaluation and establishment of capacity of processes and levels of improvement regarding those processes in order to establish a incremental improvement in the organizational processes.
ACTIVITIES	1. Prepare a collection regarding all the performed processes inside our organization. 2. Detect possible risks and problems regarding the performance of the collected processes. 3. Perform an internal auditing process establishing the level of capacity for each process to be evaluated. 4. Request for external auditing if needed considering external auditing as a need in case important problems or risks are detected or the need of a certification is required. 5. Obtain a list with improvement suggestions and document any change tracking the state of the process before and after the improvement.
ROLE IN CHARGE	CIO and Internal auditors.
INPUT	Collection of processes documentation and possible risks including also an objective and scope of the measurement process.
OUTPUT	Improvement suggestions, corrective measures in terms of defective processes, measurement and improvement report and even a new maturity organizational level certificate in case the external auditing decides it.
COST	Cost of an auditing project depending on the objective and scope of the process. Budgets will be approved by the commercial department and will be depicted in the measurement and improvement process documentation.

Stakeholders management is also a very important aspect for any company so we define a Stakeholders needs management and requirements capture process below.

NAME	Stakeholders needs and requirements management process.
STANDARD	IEEE 830.
DESCRIPTION	Activities and tasks concerning the relationship with stakeholders and requirements capture.
ACTIVITIES	1. Follow the established code of behaviour regarding clients and stakeholders relationships. 2. Assure quality in any software product developed by our company by following an strict quality measurement process. 3. Use different techniques regarding requirements capture and following IEEE 830. 4. Follow a proper client attendance policy in order to obtain no more than 5 complains per week.
ROLE IN CHARGE	Human resources department, Requirements analyst.
INPUT	Client attendance policies, Code of behaviour, Quality model for software product, Requirements capture techniques.
OUTPUT	Clients and stakeholders satisfaction and Requirements specification.
COST	Following a code of behaviour and assuring quality will bring more benefits than costs. The process of obtaining the requirements specification will imply costs regarding the requirements analyst salary so an approved budget and salary for the requirements capture and analysis will be provided by the commercial department.

The last of the organizational processes is the configuration management process and it will be depicted below.
In terms of configuration management a more detailed document will be produced and can be found in our company repository.

NAME	Configuration management process.
STANDARD	IEEE 828.
DESCRIPTION	Activities and tasks concerning establishment of the configuration control board and the management of software artifacts.
ACTIVITIES	1. Identify important software artifacts that will be produced during the software development process. 2. Establish a versioning convention in order to identify the software artifacts inside the development process phases. 3. Identify phases for the released artifacts versions in order to establish a set of main characteristics those versions will have. 4. Establish a configuration control board in order to approve or reject changes.
ROLE IN CHARGE	Software development team.
INPUT	Software artifacts, Development process, Naming conventions.
OUTPUT	Configuration management document.
COST	The configuration control board members salaries and Configuration management document time to be produced. Salaries will be established by the human resources department and approved by the commercial department.

All of these processes have been defined in this document in order to use them as a guide to perform the activities of the company, in our company some more processes are applied but without the need of being explicitly mentioned and depicted.

Company Infrastructure and Technologies.

Our company is a small one starting in this business, so it is necessary that there's an adequate and reasonable financial management.

Related with the infrastructure, acquiring our own infrastructure would rise our costs hugely and the company financial status can't afford paying those amounts of money. Creating our own infrastructure would also lead to a great cost and it will also be a great loss of time, as our objective is to start working as soon as possible in the software projects our clients has asked us to develop, so that we end in the established time that we agreed with them, maintaining a high level of quality in the final product. In the end, the most viable solution in terms of finances and time would be the contraction of the needed resources to a third party, for example the use of cloud storage as Google Drive, instead of buying our own server to store our data.

As a company, we are focused on the development of applications such as management desktop and web applications, using technologies like GitHub to make the company work in a collaborative way, Eclipse as the IDE for developing and coding the applications, Maven in order to manage the dependencies of the project classes and Visual Paradigm for the design and analysis part of the development. Our reasons to choose these technologies are directly related with the previous experience of our team with these tools and with the fact that are the ones our company can work with in a most optimal way.

In order to get visibility we have decided to create a website for the company with general information about us, about our company and our projects. We have also decided to have a twitter account in order to make contact with potential clients and to provide our followers with updates about the company state.
The URL of the company is: https://sites.google.com/view/kiwitsolutions/main?authuser=0.
The Twitter account is: @KiwIT_Oficial.
The GITHUB Repository is: KiwIT Solutions Repository

Company Departments:

NAME	Directorate General.
DESCRIPTION	This is the forefront area of the company. It establishes the objectives and the guidance of the company so that they are to always be fulfilled. This department is related with the other functional areas as it is the one in charge of controlling and managing all of them.

NAME	Administration and Human Resources.
DESCRIPTION	This department is the one related with the internal functioning of the company. It is the business operation itself as it is in charge of managing the hirings of new personnel, the human resources campaign application and all related with the employees.

NAME	IT
DESCRIPTION	This department will be in charge of maintaining always the good technical and technological functioning of the company to avoid that the tasks carried out by means of a computational server will be in bad shape and don't accomplish the company objectives. It is also the department in charge of developing the software products.

NAME	Finances and Accounting.
DESCRIPTION	This department will have to take into account all money movements, from inside and outside the company. It will also be the one calculating all employees rents so that the human resources department can get the payment done.

NAME	Marketing.
DESCRIPTION	This area is in charge of doing market research to determine which product will be the next one to commercialize and doing a maintenance of existing products to get to a market negotiation. It is also required to keep linked to the production department so that the results obtained in the investigation come to fruition.

Hiring qualified personel.

Roles:

The IT department is the one in charge of developing the project. In this department, and to be able to complete the project, we establish the following roles:

NAME	Project Manager.
DESCRIPTION	It is in charge of detecting all the users necessities and managing the economical, material and human resources to obtain the expected results in the scheduled time. As project manager, it has access to all the documentation and the information about the processes involved in the development of the software product. This allows the employee with this role to be able to do a self assessment of the project based in a project audit.

NAME	Software Architect.
DESCRIPTION	It is in charge of Identifying adequately the requirements related with the architectonic design and the quality of them so that we can establish a technical solution that satisfies, as far as possible, the requirements related with the architecture.

NAME	System Analyst.
DESCRIPTION	It is in charge of the development of applications, in terms of design and algorithm obtention, and also analyzes all possible utilities and all needed modifications.

NAME	Programming Analyst.
DESCRIPTION	Carries out the functions of a technical analyst and a programmer, which means working with previous information received from the functional analyst. Depending on this information, the programming analyst develops the applications and organizes the data.

IT resources:

For developing our projects, the company needs to have an adequate infrastructure that is composed of a local that we will rent, four working computers that the company will buy, a contracted internet connection and the program licenses for our needed technologies.

In the next tables we have the IT department staff further description with their salaries:

HUMAN RESOURCE CODE	HR1.
ROLE	Project Manager.
DEVELOPMENT STEP	Requirements Capture.
EMPLOYEE NAME	Enrique Valverde Soriano.
SALARY	45 €/hora.

HUMAN RESOURCE CODE	HR2.
ROLE	Programming Analyst.
DEVELOPMENT STEP	Requirements Analysis.
EMPLOYEE NAME	Samuel González Linde.
SALARY	35 €/hora.

HUMAN RESOURCE CODE	HR3.
ROLE	Systems Analyst.
DEVELOPMENT STEP	Design.
EMPLOYEE NAME	Raquel Del Castillo Pérez.
SALARY	35 €/hora.

HUMAN RESOURCE CODE	HR4.
ROLE	Software Architect.
DEVELOPMENT STEP	Implementation.
EMPLOYEE NAME	Daniel Ballesteros Almazán.
SALARY	40 €/hora.

Economical concerns of the organization.

As we start as a small company in Ciudad Real using mostly free software and platforms to develop our software projects the main concerns about economical and budget estimations are related with the Visual Paradigm license and hardware acquisition.

Adquired need	Quantity	Price per unit
Workstations	4	650€
Desktop table	5	80€
Desktop chairs	5	65€
Blackboard	1	100€
Printer	1	60€
Working place (rent/month)	1	350€
Electric supply (month)	1	200€
Water supply (month)	1	50€
Office material	1	150€
Software	1	350€
Projector	1	300€
Coffe machine (nespresso)	1	100€
office chairs	5	30€
Internet + tlf (month)	1	40€
TOTAL	5.175€	

So considering this as an initial estimation and providing also an initial monthly cost estimation of human resources costs shown below.

Human resource	Hours	Salary per hour
HR1	88	45€
HR2	88	35€
HR3	88	35€
HR4	88	40€
TOTAL	13.640€	

Considering a month as 30 days period with 8 days concerning weekends and including in the HR salary the IRPF and social security concerns.

It's important to notice that the working hours a day are estimated to be 5 hours a day as we are an starting company and also the salaries are reduced due to this fact and also it is important to notice that this estimation is considering a fully working team working all the possible hours they can (this means having a lot of projects to develop and a lot of processes to carry out).

So, after all the estimations considered we decided to establish **an initial investment of 40.000€** in order to also implement the established processes that were depicted in this document and expecting to obtain benefits after the development of the initial projects. Bigger investments can be considered in case of lack of investment to deal with projects development and processes performance.