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SRS Document

CECS-4204 Software Engineering

Section 22 T-R 6:30-8:30

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1. Introduction

1.1. Purpose

The purpose of the Software Requirements Specification (SRS) is to establish the details of the agreement between the customer who is requesting a service and the software developer or developing team. The client, Mr. Harry Vega, owner of VESA Cellular & Internet Services requested the services of VLL Internet Services to develop the software. This document serves as a legal contract between both parts where the details of what they want and what is going to be developed are established. The customer will specify all the things we want and for the developer it serves as a detail guide of what he needs to do and how to do it.

1.2. Scope

VESA Claro is a website design to first of all promote Mr. Harry Vega's Claro cell phone kiosk. Besides of promoting the business it will bring customers an experience in the web where they can find information of the inventory, current plans and offers and reviews made by his review team of the current merchandise. The review team consists of José Carlos López, Harry Vega (son) and Emmanuel López.

1.3. Definitions, acronyms and abbreviations

Definitions

Term	Definition
Administrator	VLL Internet Services
Claro	Cell phone Provider
Customer	Person who requested our services
Database	All the information monitored by the system
Flowchart	A diagram that shows step-by-step progression through a procedure or especially using connecting lines and a symbols
Google Maps	Software that serves as the maps to indicate the location of the kiosk
Inventory	Quantity of each product
Kiosk	Physical locations where you can find our services
Review	Description of the product based on our experience with it.
User	People who access the website
VESA Cellular & Internet Services	Customer

VESA Claro	Software Name
VLL Internet Services	Company in charge of developing the software

Acronyms

Acronyms	Definition
CSS	Cascade Style Sheets
DBMS	Database Management Systems
DDR	Double Data Rate
GB	Giga Byte
GHz	Giga Hertz
GPS	Global Positioning System
GUI	Graphical User Interface
HTML	Hypertext Markup Language
http	Hypertext Transfer Protocol
IEE	Institute of Electrical and Electronic Engineers
LAN	Local Area Network
MB	Mega Byte
PC	Personal Computer
RAM	Random Access Memory
SDRAM	Synchronous dynamic random access memory
SRS	Software Requirement Specifications
SQL	Structures Query Language
UML	Unified Modeling Language
VLL	Vega López López
WWW	World Wide Web

Abbreviations

Abbreviation	Definition
e.g.	For example
etc.	etcetera
sec.	second

1.4. References

- 1.4.1. IEEE, IEEE Std. 830-1998 IEEE Recommended Practice for Software Requirements
- 1.4.2. <http://code.google.com/apis/maps/index.html>
- 1.4.3. Software Engineering: A Practitioner's Approach, 6th Edition, Roger Pressman, McGraw-HILL, 2004

1.4.4. Merriam Webster Dictionary: www.m-w.com

1.4.5. DARREL INCE. "Handshake protocol" A Dictionary of the Internet, 2001.
www.encyclopedia.com/doc/1O12-handshakeprotocol.htm

1.5. Overview

The rest of this document contains a macro and detail description of the product to be developed. The macro is an overall description that explains the uses and functionality of the website in a non technical form. It includes details about the problem, its solution, the function of all the services and UML diagrams. As the document progresses, all the details will be explain in full detail with explanation of technical specifications. This last part is mostly intended to the developer since it contains all the details in an elaborate form which serves as the guide during the development of the website.

2. Overall Description

2.1. Product perspective

The website is intended to promote Harry Vega's Vesa Cellular Company, by giving consumers a place besides their physical locations where they can find all types of information. Vesa Cellular & Internet Services is a company that sells all the product, cell phones, mobile broadband cars, plans and accessories of Claro. Besides being an additional source of promotion to the company, in a consumer perspective they will be able to find all types of information that can help them take a decision of using Claro's cell phone provider and to select the best cell phone that satisfy their needs and budget. The company itself, Claro, itself has a similar website with information but our product provides a more detail version than the company's website. Our product offers customers to find reviews of the cell phones and updated inventory of the products. The product incorporates with a database which contains the entire inventory with their descriptions.

2.1.1. System interface

The software consists of a webpage which incorporates a database to store and manage the information about the products. The website contains photos, technical specifications, reviews and a updated inventory of the phones we have in stock. The software's DBMS to be used will be MySQL.

2.1.2. User interface

This section contains an overview to the main page that will be prompted to the user. The VESA Claro is a software design to interface between the database and the user. The webpage manages all the information in the database, so the user can navigate easily into it. The webpage has many capabilities and features, the next flow chart will show in a graphic way all the features and the options the user will have when he/she accesses the webpage.

2.1.3. Hardware interface

The VESA Claro needs some hardware interfaces in order to accomplish its task. The hardware interfaces are: the computer, mouse, keyboard and monitor. The mouse will be used to select the different options the webpage will have. The keyboard will provide to the user the way to input information on the webpage, so he can get the desired information out of it. The interfaces that permit the use of the mouse and keyboard in the webpage will be provided by HTML, CSS and MySql, which are the tools used to develop the software.

2.1.4. Software interfaces

The system needs the following software interfaces:

1. Google Chrome
2. Mozilla Firefox
3. Opera
4. Safari
5. Internet Explorer

These internet browsers are required for the webpage, since it will be developed in the way to be compatible with any of those browsers.

Otherwise if the internet browser is other than the specified in this part, the webpage compatibility will be compromised and may not work correctly.

2.1.5. Communication interfaces

The communication interface required in this webpage is the internet. We need this interface to communicate to the webpage and between stores. Also the internet will be used to give update to it.

2.1.6. Memory Constraints

The memory constraints are almost insignificant to our product. Users should just complete with the requirement of their desired browser. The typical requirements for a browser are:

- Operating System: Windows XP Service Pack 2+, Windows Vista, Windows 7, Mac OS X 10.5.6 or later, Ubuntu 8.04 or later, Debian 5, OpenSuse 11.1, Fedora Linux 10
- Processor: Intel Pentium 4 or later and Athlon 64 or later
- 100 MB available of Hard Disk
- 128 MB available of RAM

2.1.7. Operations

The system performs the following operations:

1. The system has a simple design where anybody can use. It does not require users to create nor login to their account in order to access the website's services.
2. The system has a tab toolbar to facilitate the navigation through the website.
3. The system contains a map of Puerto Rico provided by Google Maps where tags are created to locate exactly each of the Vesa's kiosks. By clicking the one tag of the location of interest, the user will be redirected to the profile of the kiosk.
4. For directions, the system will implement Google Maps to indicate the exact location.
5. The software provides a personal review made by the administration team for each product.
6. The system will display the inventory of product for each kiosk.

2.1.8. Site Adaptation Requirements

The site will be adopting continuously the new available products. There is a possible adaptation when the company opens any new kiosk, all the information for this location has to be added to the profile and a tag for the map will be added. Additionally, if the company decides to incorporate a computerized system, a link can be made with the software they used and inventory section of the website. If Mr. Vega is interested, a shopping cart can be made so users can purchase product online instead of having to go to one of the local kiosks.

2.2. Product Functions

2.2.1. Administrator Use Case

Relationship between the Administrator and the Database consist of:

1. Administrator enters the information in the database.
2. Administrator can delete or update information from the database.

2.2.2. User Use Case

- 1) User can leave comment on the reviews posted of the products and its specifications.
- 2) User can see the location of every kiosk provided by a GPS.
- 3) User can see the availability of the cell phones in the different kiosk around the Island.
- 4) The users will be seeing the different plans and cell phones prices according with the plan.

2.3. User Characteristics

With this product users may have an interesting travel in the technology area, that counts with the develop of the skills that can provide more knowledge in the educational branch and also for technical levels for those people that are interested in the technology branch as in this case in the wireless communication. For the educational branch this products shows the technical specifications with a brief description of every specification named for every product, with which expands the knowledge for those users that are interested or they are already enrolled in this types of major areas of the wireless technology or communications. Also can provided description in areas that maybe the user unknown that may help in the decision in which the customer can have a clear vision of what is the best product according to the user's tastes or needs. Finally this product may have an useful area that can provide support for every user specifically for those that have technical expertise or technical levels titles, because the VESA Claro may have a forum in which the people can have the answer for any kind of question including troubleshooting support with the respective answer and solutions. This forum in complements with the specifications of every product can be an useful tools for this kind of people.

2.4. Constrains

a. Regulator policies

b. Hardware Limitations

Since the software in design consist of websites certain hardware are require. The product requires users to use a computer and an internet source to be able to access the website. Preferable, user should have a high speed internet since the website has photos and animations.

c. Interfacing with other applications

This part does not apply to our software. Our products does not require user to interface with other software. Our website has its own interfacing applications making it non dependable of any external interfaces.

d. Parallel Operation

Since our software consists of a website, many users will access them at the same time. The server of the website will send and receive data from users that navigate through the page.

e. Audit functions

The part does not apply to our software. Our website shows all the information to users, in order to users purchases something they need to go the kiosk they want. The website does not deal with any type of transaction nor calculates transaction make in the physical kiosk.

f. Control functions

This part does not apply to our software.

g. Higher-order language requirements

The software is develop in html, JavaScript and MySql , this part does not apply since non high-order language are require.

h. Signal handshake protocols

When users access the website their computer will be communication continuously with the software server. The server will receive the desire location that the user want to access from the website and the server will send then the data.

i. Reliability requirements

The servers of our website are going to be 24 hours, all the days available so users can access the software anytime they want. The only reliability problem will be when the servers experience any type of failure that users would not be able to access the website.

j. Critically of the application

The software can be used by any user with a computer that has internet access. The only critical constrain for the user will be that they need as specified previously, a computer with access to the internet.

k. Safety and security consideration

Users do not have to create an account with personal information to neither access the website nor leave a comment in the product reviews. The website is design with the highest security level so no one can access their computer remotely and since no personal information is require using the services users should not be worry.

2.5. Assumptions and dependencies

2.5.1. Assumptions

The following assumptions are made (any change to the following will compromise the integrity or stability of the program):

1. Vesa Claro is design to work on the browsers listed previously.
2. The database is created using MySql.
3. Users should have a computer with internet access.
4. Users can access the website as long as the servers are working.

2.5.2. Dependencies

Vesa Claro will work with the following dependencies:

1. A computer with internet access.
2. Any of the browsers listed previously.
3. The minimum available memory.
4. The serves that provide the access are available.
5. There are no communication errors between the database and the website.

2.6. Apportioning of Requirements

These are some features than can be implement in the future for the development of the software:

1. A shopping cart so user can make purchases online.
2. A mobile version of the website so users can access the page from a mobile device without any problem or compatibility issue.

3. Specific Requirements

3.1. External Interfaces requirements

3.1.1. User interfaces

Users will use their favorite internet browser to access the website. The interface by itself will be design the most users friendly possible so any user can find what they want. A toolbar will provide users easy access to all functions of the webpage. The tabs of the toolbar will link to the sections of the products, kiosk etc.

3.1.2. Hardware interfaces

This web page needs some hardware interfaces to give the user what he wants. Some of the as mentioned before are: mouse, keyboard and monitor. These are the basic hardware interfaces you need to run our webpage successfully.

3.1.3. Software interfaces

The software interface required to run this program successfully is an internet browser. Some of them are: Google Chrome, Mozilla Firefox, Opera, Safari and Internet Explorer. As indicated previously our DMBS will be MySql which will link to the website html.

3.1.4. Communications interface

The more important communications interface needed to run our web page is the internet. We need this interface so everyone can access our web page from their houses, or cell phones. Also the internet will be used to keep the page updated.

3.2. Functional requirements

3.2.1. User Class 1

Use Case Name: Set User

Reference: Section 2.2.1.1 User Use Case

Precondition: The Database is online

Main Path: The customer enter as a guest, and the system adds the new user to the database

Post Condition: The user as a guest can now leave comments, or opinions about the products they have in stock

Exception Paths: The database is offline

3.2.2. User Class 2

Use Case Name: Search Info

Reference: Section 2.2.2.2 User Use Case

Precondition: The Database is online

Basic Path: The user as a guest chooses what information wants to search

The choices are info about the cell phones or the reviews about them.

Alternative Paths: If the user selects a cell phone, the systems will pop-up a picture of it

If the user selects reviews of them, the system is going to show the comments about the users.

Post condition: The system show all the information requested.

Exception Paths: The Database is offline.

3.2.2. User Class 3

Use Case Name: Add info

Reference: Section 2.2.2.2 User Use Case

Precondition: The Database is online

Basic Path: The user as a guest chooses what information to add.

Alternative Paths: If the use wants to add a comment, he will get a name as a guest.

Post Condition: The system adds the information to the database.

Exception Paths: The Database is offline.

3.3. Performance Requirements

The system will support one terminal and one user to manage the information simultaneously; however it can be accessed by several users simultaneous. The only things that can be limit the maximum of simultaneous user it will be the web server provider. This system will have a capacity of data storage that can be set according with terminal storage capacity, since the database that we will use is my SQL that holds this characteristic and it can be used to link to a webpage programming language. This database is designed to serve a lot of simultaneous users at the same time. The types of information that the webpage will be handled are information and pictures about VESA CLARO like cell phones pictures, plans, products specifications and review and finally a forum with most frequently questions from the users and theirs answers. This systems should response the 80% of the transaction in less than 3 seconds, the other 20% may be depend on the internet bandwidth for upload the transactions and the items for the webpage.

3.4. Logical database requirements

3.4.1. Types of information used by various functions

The data is going to be used as a character type. The data will be names, descriptions, localization, inventory, and other things that are related with characters.

3.4.2. Frequency of use

The frequency of this web page is expected to be daily. Also the database will be updated every 3 days. The data must be verifying weekly to check for some irregularities and to have the report of the new information.

3.4.3. Accessing capabilities

The accessing of our data in the database will be by the program developer. This program is linked to the database. The program has the commands that are used in the database, but with one exception, no queries. The accessing capabilities will be easy since everything will be graphic.

3.4.4. The data entries and their relationships

The database of this web page has a GUEST table and a COMMENT table. These tables will be linked one to each other. The GUEST table links to the COMMENT table, so every guest (customer) will have the corresponding comment.

3.4.5. Integrity constrains

In both tables of the database exists elements that must be filled. This is because every customer must have a comment, and when that happens the same will be added to the database. The GUEST_NUM and the COMMENT_NUM are considered primary keys.

3.4.6. Data retention requirements

The regulation of the company is that the data will be kept unless the company tells a dictation that has to be eliminated. Additional it will be a back-up of the same, because we never know when the data can get corrupted. If all our storages devices are full, the company will buy new storages devices, so will never lose any data.

3.5. Design constraints

The webpage must be developed by the end of this year. This period was established by an agreement between the client and the developer. The client will provide the developers time to learn and realize the software documentation and time to develop the same. The client and the developers, both agree on a five hundred dollar cost at the beginning for the cost of the webpage alone. The charges of maintenance will be a hundred dollars monthly, and it will include database updates, product updates and error check. The place when the webpage will run must have a computer with internet.

3.5.1. Standards compliance

a. Report Format

The webpage must have a record of how many users enter to the webpage, and the ones that left comments on any of our products. Using this information we are going to make reports of the flow of the users. This way we will have an idea on how the webpage will response when they are a lot of users accessing it, and this way we can improve the same.

b. Data naming

The webpage will have a log file that count how many people enters the page. This will allow us to know when a user enters the page. Using the same principle we can know if the user entered as a guest and left a comment on some of our products.

3.5.1.3 Accounting Procedure

In order to get this data, the manager has to make a report of how the page is doing. This report will be able to print the data of the database. To assure the quality of the same the report must be printed out in paper. In the worst case the data can be stored in a storage device and kept in a safe place.

3.5.1.4 Audit tracing

The audit tracing of this webpage will be very important. Out of this information we will get an idea of how the webpage is doing, and how we can improve the same. In the database the trace file must be recorded with before and after values. Getting that information we get some value information on how the database is doing.

3.6. Software system attributes

3.6.1. Reliability

To establish reliability of the webpage and for avoid mismatches or other kinds of error, this software will be subjected to several tests for searching possible bugs before the delivery date. Also we shall be testing the implement of the database in the webpage in different scenarios to avoid system or webpage instability or freeze moments. After all these tests and the continuous monitoring, if the system presents any kind of problem the client will be able to call the technician for the support to fix it.

3.6.2. Availability

The system will be capable to save the information on the database at the moment in which the user administrator add or modify information. However all the information it will be available 24 hours in the webpage because it remain saved in the server. The only exceptions to that information will not be available will be maintenance routines, which requires disconnecting the webpage during this period and the other reason will be technical problems.

3.6.3. Security

The security of the system will be based on the login procedure. The login procedure will request to the user a username and password to restrict the access to the system and the information on it. The system will have two type of user: the administrator and the user. The administrator will not have any restriction and the user will have the delete information and the reports restriction.

3.6.4. Maintainability

The system will have a maintenance routine every week that will check possible system bugs and can be used to modify or update information. The user administration is the responsible for accomplish this tasks, and give a report to the client that's includes a statement that says all the modification or updates that are made and a part that says that the system is performed optimally.

3.6.5. Portability

The system will be easy to portable to another computer, since it is self-contained software and all the data will be on a single file. If the system will be transported to another computer the person that will do the operation

will need to know program files the location to ensure the correctly work of the system. For insurance this portability is important or recommendable make a backup of all the data to avoid lose of data.