Universidad de las Fuerzas Armadas ESPE

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NRC: 3248

Object-Oriented Programming

Specification of Requirements according to the standard from IEEE830

Proyect: University Restaurant Capacity Control System

1 Introduction

This document is a Software Requirement Specification (ERS) for the People Control System in a university bar. This specification has been structured based on the guidelines given by the IEEE 830, 1998 standard.

1.1 Purpose

The purpose of this document is to define functional and non-functional specifications for the development of a people control and management system for edible products in a university bar.
Which will be used by students, teachers and those in charge of the bar.

1.2 System scope

University Capacity Control is a system aimed at the user of the system; it will help solve the current problem of covid 19 by distancing people in a place that is very frequented by all kinds of people at the university. This project aims to manage people, orders and products in a university bar.

1.3 Involved personnel

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1.4. Definitions, acronyms and abbreviations.

Name	Description
Usuario	Person who will use the system to manage processes.
SIS-I	Web Information System for the Management of Administrative and Academic Processes.
ERS	Software Requirements Specification.
FR	Functional Requirement.
RNF	Non-functional requirement.
FTP	File Transfer Protocol.
Moodle	Virtual classroom.

1.5 Referencias

Document Title	Reference
Standard IEEE 830 - 1998	IEEE

1.6.Reference

IEEE(03 January 2021) Specification of Requirements by IEEE 830 obtained from:https://www.fdi.ucm.es/profesor/gmendez/docs/is0809/ieee830.pdf

1.7 Summary.

This document consists of three sections. The first section introduces it and provides an overview of the system resource specification.

In the second section of the document, a general description of the system is made, in order to know the main functions that it must perform, the associated data and the factors, restrictions, assumptions and dependencies that affect development, without going into excessive detail.

2.General Description.

2.1 Product Perspective

The purpose of this software system offers a capacity and inventory control that can be adapted to different contexts of a changing commercial world, unlike most existing programs that are only focused on the current reality but not in the future in the conditions are determined by external factors such as a global health emergency.

The versatility of functions that the future software will have will allow it to adapt to cash control programs, billing, data registration, among others, such as those that commonly affect a large part of businesses today, since this software does not influence these characteristics if not rather complements them by adding extra information and additional functionalities.

Although this system is focused on improving the customer experience of a restaurant, it is not thinking of its present version to interact directly with customers, but rather through an intermediary, which in this case is the restaurant's employees and administrators. It is not oriented or adapted to a friendly interface for a general user or to be coupled to devices that facilitate its reach to a more general public. Its main objective is to serve small or large companies to have a better control of their commercial activities.

2.2 Product Functions.

The University Restaurant Capacity Control System will regulate and warn about violation of the capacity conditions allowed in the specifications of its configuration, the system will notify and anticipate both the restaurant employees and the customers about the availability of people who can enter.

For clients:.

The system will generate a random location between the tables that meet the minimum distance specifications defined in their previous configuration, thus guaranteeing the correct positioning between clients.

In order to guarantee a correct flow of people within the facilities, which will be indispensable for the availability of tables to be a test, this program will have a timer function that will notify both the client and the collaborator of the time limit that has been set. intended for a table in use.

For the restaurant:

This system will allow an independent inventory program to be carried out from information supplied to a not very extensive database that will allow the program to provide better control of:

- Inputs and acquisition of products as raw material
- Departure and sale of products present in a menu.
- Availability or exhaustion of products
- Maximum inventory capacity according to the conditions defined by an administrator according to the agreement for the business conditions

This information defined by the program can be reviewed and exported by a specific administrator in order to reproduce the data generated in a more formal report.

2.1.1 Function Relationship
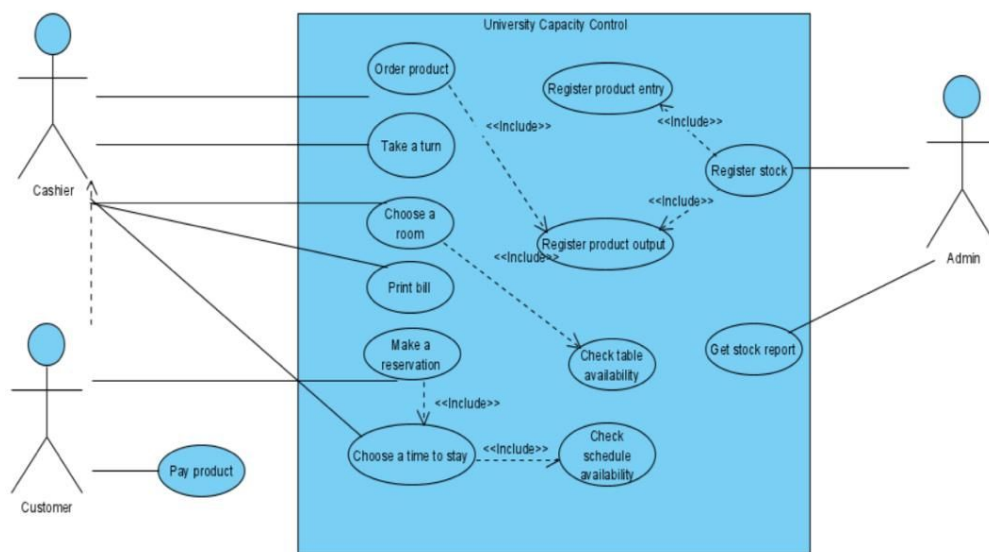
2.3 Users Characteristics.

Type of User	System administrator
Professional training	Business manager
Activities	-Authorizes the change or new entry of data on a product -Manages and defines the default configurations of the system

Type of User	Business collaborator
Professional training	Restaurant assistant
Activities	-Manipulates the system to provide information to the client or administrator -Gives shifts and assigns positions to the client -Registers entries and exits of products to inventory

Type of User	Customer
Professional training	Undefined
Activities	-Choose a room to which a positionit should be assigned -Request through a restaurant employee a table or an assignment shift

2.4 Restrictions

The restrictions for the software developers are the following:

- Hardware limitations: the software must run in a low-end machine so it must be easy to run.

- Ability requirements: the developing team needs to have a minimum to medium knowledge to be able to create the software.

- Programming language: the software has to be made in java language and in the NetBeans IDE software.

2.5 Dependencies and suppositions

The software is going to be developed for the restaurant at the "ESPE" University, for the control of the tables and seats that are inside and outside of the restaurant, it will have a

record of the menu of the restaurant, it complies with the most recent biosecurity protocols in Ecuador.

3 Specific requirements

Functional requirement 1

The cashier registers the order of the customer in the system.

Requirement identification	FR01
Requirement Name	Order
Characteristics	The order is registered in the system.
Requirement description	The cashier is the person in charge of registering the order.
Non-functional requirement	
Requirement priority	High

Functional requirement 2

The system will allow to create, delete and edit an order.

Requirement identification	FR02
Requirement Name	Order editor
Characteristics	The order can be created, changed or deleted.
Requirement description	Manipulate the orders.
Non-functional requirement	
Requirement priority	High

Functional requirement 3

The system will increase and decrease the amount of product in stock.

Requirement identification	FR03
Requirement Name	Stock actualization
Characteristics	Edits the totals in the stocks.
Requirement description	The amount of certain product in the stock can be increased or decreased.
Non-functional requirement	
Requirement priority	High

Functional requirement 4

The system will keep track of the expiration date of the products.

05Requirement identification	FR04
Requirement Name	Expiration dates
Characteristics	Checks the date of the products
Requirement description	Gives an alert if there is a product close to expiration date.
Non-functional requirement	
Requirement priority	Medium

Functional requirement 5

The system keeps track of the viable seats

Requirement identification	FR05
Requirement Name	Availability
Characteristics	Checks if the seats are empty.
Requirement description	If the seats are available the costumer can seat
Non-functional requirement	
Requirement priority	High

Non-functional requirement 1

The system will have an interface that is easy to use for the cashier

Requirement identification	NFR01
Requirement Name	Interface
Characteristics	Easy to use
Requirement description	The interface will have a low amount of clutter.
Requirement priority	Medium

Non-functional requirement 2

The system is going to realize all of the process in the minimum time possible

Requirement identification	NFR02
Requirement Name	Response time
Characteristics	The system loads and realizes orations quickly.
Requirement description	Fast System
Requirement priority	Medium