Addis Ababa Institute of Technology

Course: Computer Database Systems- ECEG-4191

PROJECT TITLE: BOOK AND ELECTRONICS GALLERY

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Contents

1) Introduction
1.1 Purpose
1.2 Scope
1.3 Definitions
1.4 Overview
1.5 References
2) Overall description
2.1 Product function
2.2 User characteristic
2.3 General constraint
3) Specification requirement
3.1 Functions
3.2 Conceptual database requirement
3.3.1 Database design
3.3.2 Requirement Analysis
3.3.3 ER diagram

1) INTRODUCTION

1.1 PURPOSE

The purpose of this document is to specify the different requirements of the Book and Electronics Gallery project. Samples of the user interface, the functional requirements, the interface, the database design requirements, and its constraints that we considered are all included in it. This SRS provides the necessary information on what website does and how it is going to do it for whoever who gets access to this document.

1.2 SCOPE

The project in this SRS document describes is named “Book and Electronics Gallery”. As its name indicates the project is a website design to handle the database of a book and electronics, meaning smartphone, gallery/shop. The main function it aims to provide is the database system of the shop: to communicate customers what materials and goods are currently available to purchase. This will require coming up with regular updates on which books/electronics are currently available in the shop. The website also allows the customer to order for the desired item, book or smartphone. So, the website aims is to provide a relevant information of books and electronics materials that are available in the store and their updates.

The benefit of this project is basically that it facilitates the transaction between the shop and its customers. Customers usually face difficulties to find the book/electronic device they plan to purchase, and usually waste their time and energy in search of that. The website project avoids such problem in relation to the transaction with this specific shop. Therefore, it enables efficient transactions. The project doesn’t involve online payment, since it is only designed to aid the transaction.

1.3 DEFINITIONS

·Database- collection of data on computer: a systematically arranged collection of computer data, structured so that it can be automatically retrieved or manipulated

·Catalog- list of books- list of books- a list of the holdings in a library, usually arranged according to the subject, title or author.

· Shipping- act of transporting goods: the act or business of transporting goods

· Retail- sale to consumers: the selling of goods directly to customers

· Genre- category of artistic works: one of the categories, based on form, style, or subject matter, into which artistic works of all kinds can be divided.

REFERENCES

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- Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation
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OVERVIEW

The documentation includes 3 sections: the Introduction, the overall description and specific requirement section. The Introduction section includes the purpose, scope, definitions of key terms, references and the overview. Under the overall description section the product function, user characteristics and the general constraints are included. In the last section, the functions and the conceptual database requirements which includes the ER diagram are discussed.

2) Overall description

2.1 Product Function

As stated earlier this project is aimed at designing the database of a specific book & electronic gallery. As it is designed for a shop its basic function is going to be able to send online orders of books/electronics, thereby facilitating transactions. The customer can order what he wants from where he is and the website with a database end will be accomplish the task of displaying the request to the administrator so that the information can be communicated and goods can be exchanged through delivery.

Some of the basic functions of the product are provided below:

-To announce the products of the gallery to the online community so that the business expands.

·To enable customers to do their transaction from where they are through sending online orders.

·Customers will be notified if the book or electronics items they want are currently available in this store. This is done through the response provided after checking the database data.

2.2 User Characteristics

The prediction of the customers who get use to the website has been set depending on the type of products that are to be sold in the shop. It has been assumed that the users are going to be retailers, including students, readers and all those who want to purchase electronic devices. Of course the users of this website are required to have a smartphone/computer with an internet access. The users of the application need not have such a vast exposure of or expert knowledge about sending online orders. They are just required to be familiar with how to use smartphones/ computers and access websites. The rest guide in the step by step process will be offered by our website. In general, due to the items included for sell, the scope of our users will be vast enough.

2.3 General Constraints

There things that we could state as constraints that could drop the efficiency of our project with regards to accomplishing its goal. These factors we considered include:

·The state of qualification of the user with respect to the user characteristics mentioned previously.

·The internet connection of the user location and the shop /gallery/, incase connection problems occur.

· Language which is also a constraint since there may be customers that are not familiar with English language.

-Fake orders may not be tracked efficiently, in case there are fraudsters.

3) Specification requirement

3.1 Functions

The basic functions of the website include: the sign up, login, search and order.

1) Sign up

Introduction	Used for registration
Input	First Name, last name, phone number, address, e-mail, username, password and confirmation
Description	Filling the required info correctly and selecting register adds the user's profile to the database.
Output	It shall display a notification that assures successful registrations.
Error Handling	· If the user inserts an invalid email, the system shall notify the user to insert a valid email. · If the username is already occupied the system shall notify the user to look for another
Reference	Use Case 1

2)User Login

Introduction	User gets in to the system if allowed
Input	Username and password
Description	The user provides username and password. If the information entered is correct the system shall login
Output	The home page will be displayed
Error Handling	If the username or password is incorrect, the System shall ask the user to enter a valid user name and password.
Reference	Use Case 2

3) Search

Introduction	User searches for the book or smart phone desired
Input	Book name/author or Smart phone model name
Description	The user enters the book name/author of the book or the smartphone model he wants to search

Output	The result of the search will be displayed.
Error Handling	If the search is not found, the system shall display “search not found”.
Reference	Use Case 3

4) Order

Introduction	User orders a desired item available in the store
Input	Respective order button selection
Description	The user selects and then orders the delivery of the book/smartphone he wants to purchase.
Output	The System will display a notification that the order has been sent successfully and user will receive a phone call within a limited period of time.
Error Handling	If the order is currently unavailable, the system shall notify the user accordingly.
Reference	Use Case 4

5) Admin Login

Introduction	Admin gets in to the system if allowed
Input	Username and password
Description	The admin provides username and password. If the information entered is correct the system shall login
Output	The System enables the admin to access the database.
Error Handling	If the username or password is incorrect, the System shall ask the admin to enter a valid user name and password.
Reference	Use Case 5

Use case 1: Sign up

Goal: Registering user
Primary Actor: User
Level: User

Precondition: No preexisting account and all the necessary fields must be filled appropriately

Post condition: User gets registered.

Main success scenario:

1. The user click on the sign-up button

2. System displays the details to fill the sign up like personal information such as Full Name, Email, phone number, address user name and Password.

3. User fills the information and clicks on the register button

4. If successful the system displays successfully registered and returns to home page

Use case 2: Log in:

Goal: To get into the system

Primary Actor: User with an existing account

Level: User

Precondition: The user must provide correct username and password.

Post condition: The user is allowed to get into the system.

Main success scenario:

1. The user click on the login button
2. System displays the details to fill for login in, like User-name and Password
3. User fills the information and clicks on login button
4. If successful, the system will take the user to home page

Use case 3: Search Item

Goal: To search for book or smartphone desired
Primary Actor: Customer
Level: Registered user
Precondition: active search bar

Post-condition: The desired book/Smartphone will be displayed

Main success scenario:

1. User inputs the book's name/author or the smartphone's name.
2. System searches for the item specified.
3. System displays the results.

Use case 4: Order Item

Goal: To order for book or smartphone desired
Primary Actor: Customer
Level: Registered user
Precondition: Desired item found and selected

Post Condition: The item will be ordered

Main success scenario:

1. User selects the desired book/smartphone

2. The system shall display the smartphone details

3. User clicks the order button.

4. The system shall notify the user that the order is sent successfully

Use case 5: Admin Log in

Goal: To get into the system to access the database

Primary Actor: Admin with an existing account

Level: Admin

Precondition: The Admin must provide correct username and password.

Post condition: The Admin is allowed to get into the system.

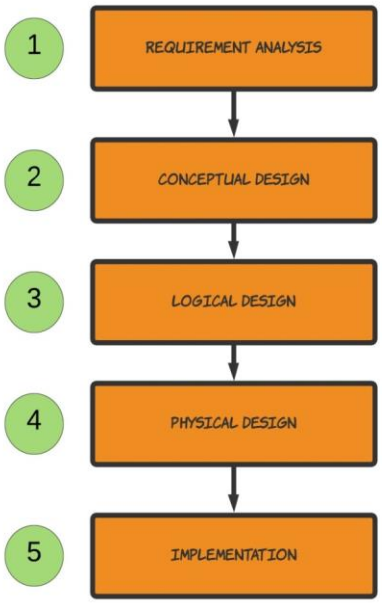
Main success scenario:

1. System displays the required fields to login, User-name and Password
2. Admin fills the required information and clicks on login button
3. If successful, the system will enable the admin to access the database.

3.2 Conceptual database requirement

3.3.1 Database design

Database design is defined as a collection of steps that help with designing, creating, implementing, and maintaining data management systems. The main purpose of designing a database is to produce physical and logical models of designs for the proposed database system. In a database designing there are mainly 5 steps



At This phase we are going to prepare the requirement analysis and conceptual design out of the 5 stages.

3.3.2 REQUIREMENT ANALYSIS

Requirement analysis is the process of determining what the database is to be used for.it is analysis of data and users requirement to entity sets and relation sets.

The main points under requirement analysis are the following

A. What the user wants from the database?

B. What is going to be stored in the database?

C. What Application is going to be used to build the database?

D. Evaluate existing systems

E. Consider security

F. What are the most frequently asked queries?

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A. What the user wants from the database?

This stage involves interviews with user groups and other stakeholders to identify what functionality is required from the data base. As we mentioned earlier in the introduction part of the document, our objective is to develop a web application that serves as a gallery for books and electronic equipment such as phones. So the database that we're going to design is capable of storing data on different attribute of books, electronic equipment (phone) user information and credentials (login and sign up), admin credentials and shopping cart that we'll illustrate specifically in the second point of requirement analysis.

Before deciding the entities and attributes that are going to be stored in the database , we have tried to make a survey on what peoples think and further we've been researching and discussing with some people that have experience on such design. So from that point we decided what user wants to get from the database of such web application (book and electronics gallery).

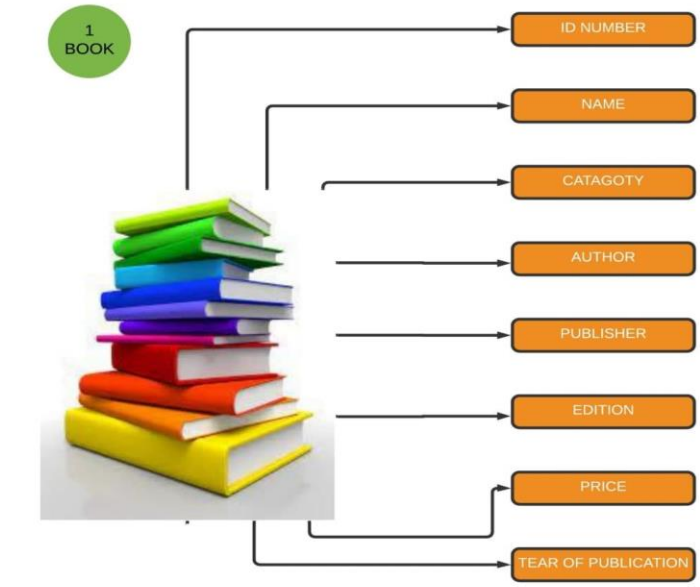
From the five main things that will be stored in the database that we're going to develop, the first one is BOOKS gallery. It consists of different attributes such as book price, Author, overview description,

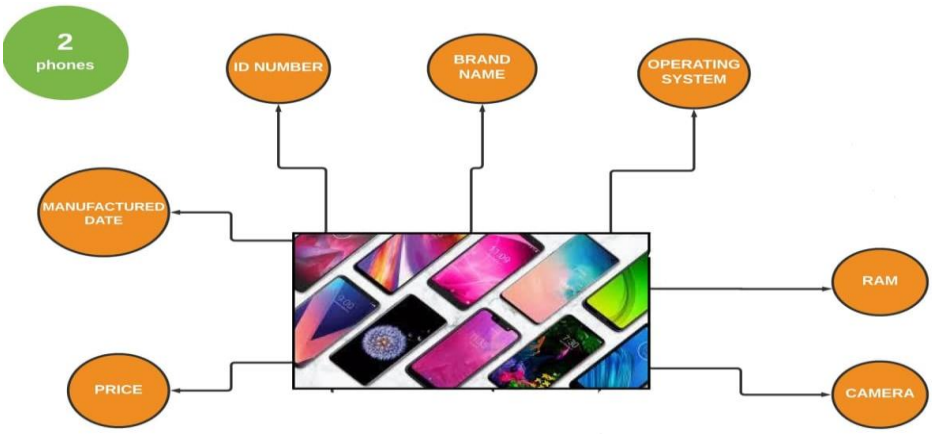
The second one is electronics (phones) that have attributes of brand name, price, RAM, CPU, Camera and so on.
The third one is user information and credentials that are stored in the time of log in and sign up.
The fourth one is user name and password of the admin
The last one is shopping cart that consists of shipping date and date of order.

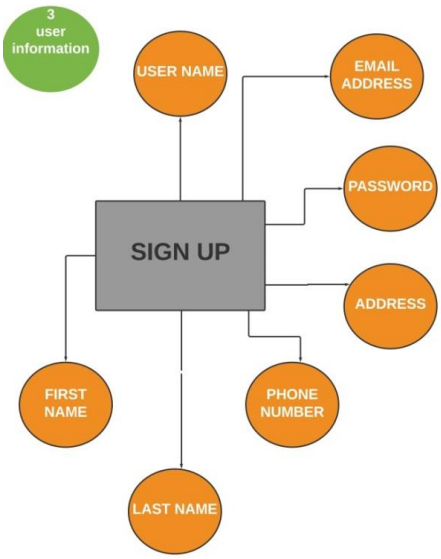
Therefore, the user is able to get information regarding to the product he/she wants from the database. The information on each product and user information is stored in the data base as described in the next part.

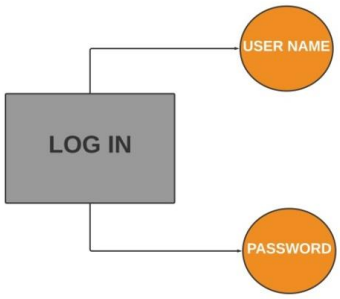
B. What is going to be stored in the database?

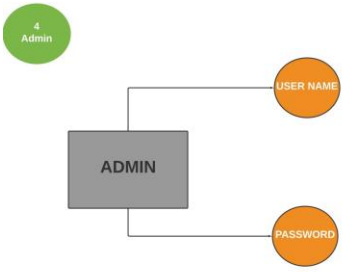
As we mentioned before the database that we're going to design stores different attributes of BOOKS, ELECTRONIC DEVICES AND USER INFORMATION. The following figure describes what they are.

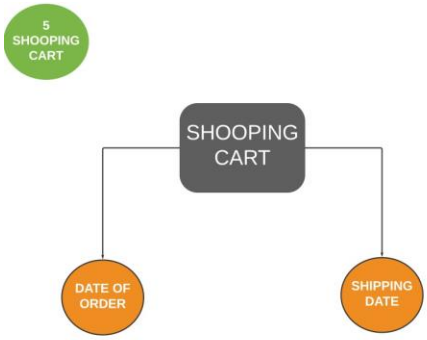





3
user
information
USER NAME
EMAIL
ADDRESS
PASSWORD
SIGN UP
ADDRESS
FIRST
NAME
PHONE
NUMBER
LAST NAME


USER NAME
LOG IN
PASSWORD


4
Admin
USER NAME
ADMIN
PASSWORD


5
SHOOPING
CART
SHOOPING
CART
DATE OF
ORDER
SHIPPING
DATE

C. What Application is going to be used to build the database?

As a general development environment, we use XAMPP. XAMPP (cross-platform, Apache, MySQL, PHP and Perl). It allows us to build web Application offline, on a local web server on our computer.

The reason why we choose XAMPP for our development is, since web application isn't a stand-alone application, XAMPP provides three essential components. Apache server and MYSQL and PHP.

MySQL is a relational database management system based on SQL (Structured Query Language). The application is used for a wide range of purposes. But, in the meantime, we use it for the purpose of a web database.
Apache Server is a free and open-source web server that delivers web content through the internet.
PHP **(**Hypertext Pre-processor**)** is a server side scripting language. That is used to develop Static websites or Dynamic websites or Web applications.
Therefore, we use the above technologies to develop our web application.

D. Evaluate existing systems

Now days, there are a number of web applications that serve as a gallery for electronics, book market, cars, residents, and other products. One thing that we improve from the existing systems is that other systems are more known by having a gallery in specific product but, our system Collaborated two most important products (books and phones). So this makes our system advantageous than other systems because if fills the gap in terms of time and money.

E. Consider security

Database security concerns the use of a broad range of information security controls to protect databases such as stored data, database application, database servers and network links against compromises of their confidentiality, integrity and availability. It involves various types or categories of controls.

Security risks to database systems include

- Unauthorized or unintended activity or misuse by authorized database users, database administrators, or network/systems managers, or by unauthorized users or hackers using attack methods such as SQLINJECTION.

- Malware infections causing incidents such as unauthorized access, leakage or disclosure of personal or proprietary data, deletion of or damage to the data or programs, interruption or denial of authorized access to the database, attacks on other systems and the unanticipated failure of database services and so on.

- Overloads, performance constraints and capacity issues resulting in the inability of authorized users to use databases as intended (DOS ATTACK)

- Using brute force attack to get into the system without using legal method of authentication.

These different security controls help In order to defend such attacks our database

A. DBMS configuration
B. Application security
C. Backups
D. Authentication
E. Encryption

3.3.3 ER diagram