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**Exercise-1**

**Identification Of Functional Requirement**

**Of Online Voting System**

**1.Online Voting is simple, attractive and easy to use. It reduces manual efforts and bulk of information can be handled easily. System should provide concrete security features like creating users and assigning privileges to users of the system. System should be capable of keeping track of all the detailed descriptions of the client and the whole details of services offered by the client organization. Document suitable problem description with functional requirements specification for Online Voting System.**

**Problem Description:**

The current voting system in many countries is outdated, time-consuming and often leads to errors. Physical ballots can be misplaced, tampered with, or simply not counted accurately. This can lead to inaccuracies and discrepancies in election results. Online voting systems have been proposed as a solution to these issues, but they come with their own set of challenges. Security is a major concern as it is crucial to ensure that the system is secure and not susceptible to hacking or manipulation.

**What is Online Voting?**

Online voting, often known as electronic voting, allows voters to vote from any location as long as they have internet access.End-to-end encryption and anonymity are among the security measures offered by [online voting providers](https://www.g2.com/categories/voting-management).Using [a voting system provider](https://www.gevme.com/en/blog/simple-guide-to-choosing-virtual-event-software/) is preferable to the manual procedure. It simplifies the complex voting procedure and provides a positive experience for both voters and administrators. Voting is increasingly easier, more cost effective, and ensures high voter turnout thanks to technological advancements.

**Functional Requirements Specification:**

**User Management:** The system should allow for the creation of users, with different roles and permissions. There should be an administrator role, which can create and manage other users, and a voter role, which can only vote.

**Authentication and Authorization:** The system should implement strong authentication and authorization mechanisms to ensure that only authorized users can access the system. This includes using secure passwords, two-factor authentication, and role-based access control.

**Eligibility Verification:** The system should verify the eligibility of voters before they can cast their votes. This can include checking their age, citizenship, and other criteria based on the election rules.

**Ballot Creation**: The system should allow for the creation of ballots, with options for customizing the layout and design of the ballot. This can include the ability to add images, logos, and candidate information.

**Vote Casting:** The system should allow for secure and anonymous voting, with measures in place to prevent double voting or fraud. This includes encryption of votes, unique voter IDs, and a tamper-evident audit trail.

**Vote Counting:** The system should automatically tally votes and provide accurate results. It should also provide reports and analytics to help administrators analyze the results and identify any irregularities.

**Security:** The system should implement strong security measures to protect against hacking, manipulation, and other forms of cyber-attacks. This includes using encryption, firewalls, intrusion detection systems, and regular security audits.

**Accessibility:** The system should be accessible to all eligible voters, regardless of their abilities. This includes providing options for voters with disabilities or limited mobility, such as audio or visual aids.

**Compliance:** The system should comply with all relevant laws and regulations related to online voting, including data privacy laws and election regulations.

**User Support:** The system should provide user support, with options for contacting technical support or customer service in case of any issues or concerns.

**Types of Voting Channels Online**

[Online voting](https://www.judgify.me/l/blog/harness-your-audience-with-a-leading-online-contest-voting-platform/)

is used to make any political process and business agreements more efficient and manageable. However, for some companies functioning in rural places with no internet connectivity, implementing electronic voting can be difficult. Choosing different voting methods allows your stakeholders and members more opportunities to vote regardless of where they are assigned or currently located.

**Here are the multi-channel voting systems for your members:**

1. **Online voting**  
   Electronic voting is the principal voting channel and a suitable solution for virtual ballot boxes. You can utilize this form of voting as long as you have an internet connection. The vote question appears once you have gained access to the voting panel via your mobile or tablet device. The vote button works properly on any device (laptop, desktop, or mobile) and can be accessed from anywhere.
2. **SMS voting**  
   If the internet is unavailable, voting through SMS is an excellent alternative if your members live in rural places. Sending a text message is what short message service is all about. SMS voting is exceptionally safe, simple, and rapid.  
   Using the mobile device’s security and biometrics functions, an SMS is delivered to the voters’ mobile number, to which they simply respond with a Yes or No. Voters can participate in the election as long as they can receive a text message.  
   SMS voting is ideal for a distributed workforce. This has been known to work on oil rigs or in regions where there is no internet access. Judgify can assist you in conducting your vote over SMS on the mobile phones of your employees. The vote can be cast from any location with mobile coverage at any time during the election.
3. **Phone voting**  
   Phone voting is a viable option for people of all ages and demographics. It enables groups to vote without the requirement for postal ballots or an internet connection. The accessibility and convenience of use encourages eligible voters to vote in a secure and reliable manner.

Mobile or telephone voting works by the voter dialing a phone number and listening to audio prompts, such as “Press 1 for Yes, 2 for No.” It then asks the voter the proper voting question when they enter their unique login and pin. This is quite simple and ideal for senior staff or those who are not computer adept. You will be able to vote as long as you have a phone connection, whether mobile or landline.

**NO MATTER THE TYPE OF VOTE YOU ARE PLANNING, OUR FLEXIBLE JUDGIFY ONLINE VOTING PLATFORM CAN SURELY SUPPORT YOUR NEEDS**

Organize an online vote among your association or company’s members; elect your board of directors; organize a public consultation; arrange a targeted referendum; establish polls and contests; and collect votes and input on multiple significant subjects and themes of interest at the same time. [Send us a request](https://www.judgify.me/l/contact-us/) for whatever project you have in mind, and one of our staff members will contact you to discuss your specific needs.

Overall, an online voting system should provide a secure, efficient, and reliable way for voters to cast their ballots and for administrators to manage the election process. It should be designed with strong security measures, user-friendly interfaces, and compliance with all relevant regulations.

**Exercise 2**

**Identification Of Functional Requirement**

**Of Library Management System**

**1-B. Library Management System gives us the complete information about the library and the daily transactions done in a Library. We need to maintain the record of books and retrieve the details of books available in the library which mainly focuses on basic operations in a library like adding new member, new books, and up new information, searching books and members and facility to borrow and return books. It features a familiar and well thought-out, an attractive user interface, combined with strong searching, insertion and reporting capabilities. The report generation facility of library system helps to get a good idea of which are borrowed by the members, makes users possible to generate hard copy. Document suitable problem description with functional requirements specification for Library Management System.**

**Problem Description:**

The Library Management System is a software system that provides complete information about the library and its daily transactions. It aims to maintain the record of books, members, and the details of transactions. The system allows users to perform basic operations like adding new members, adding new books, updating book information, searching for books and members, and borrowing and returning books. It should have a user-friendly interface with strong searching, insertion, and reporting capabilities.

**Functional Requirements Specification:**

**User Management:**

The system should allow the library staff to add new members, edit member information, and delete member accounts. The system should also store information about the members' borrowing history.

**Book Management:**

The system should allow the library staff to add new books, edit book information, and delete books. The system should also store information about the books' availability, borrowing history, and return date.

**Search:**

The system should provide a search feature to search for books and members. The search can be performed based on various parameters like author name, book title, member name, member ID, and book ID.

**Borrowing and Returning:**

The system should allow the members to borrow books and the staff to mark the books as borrowed. The system should also allow the staff to mark the books as returned and update the books' availability.

**Reporting:**

The system should provide a report generation feature that generates reports based on the data stored in the system. The reports should include details about books borrowed by members, books currently available in the library, and members who have borrowed the maximum number of books.

**User Interface:**

The system should have a user-friendly interface that allows users to easily perform the required tasks. The system should also provide clear instructions and error messages to guide the users.

**Security:**

The system should ensure the security of the stored data by implementing access controls and user authentication. The system should also backup the data regularly to prevent data loss in case of system failure.

**Integration:**

The system should be able to integrate with other systems like the library catalog system, accounting system, and email system to provide a seamless experience for the users.

**Performance:**

The system should be able to handle a large number of users and transactions without any performance issues. The system should also be scalable to accommodate future growth.

**Maintenance:**

The system should be easy to maintain and update. The system should also provide a way to log system activities for auditing purposes.

The following are the brief description on the functions achieved through this case study:  
  
**End-Users:**

•Librarian: To maintain and update the records and also to cater the needs of the users.  
•Reader: Need books to read and also places various requests to the librarian.  
•Vendor: To provide and meet the requirement of the prescribed books.  
  
**Exercise 3**

**Identification the fuctional requirements**

**Of Online Shopping System**

**3. Online Shopping system aims to develop an online shopping for customers with the goal so that it is very easy to shop your loved things from an extensive number of online shopping sites available on the web. With the help of this we can carry out an online shopping from our home. Here is no compelling reason to go to the crowed stores or shopping centers during festival seasons. Upon successful login the customers can purchase a wide range of things such as mobiles, books, apparel, jewellery, infant care, gifts, tools, etc. can be dispatched using online shopping system. Document suitable problem description with functional requirements specification for Online Shopping system.**

The process of buying products and services through the channel of the internet is called online shopping. It has great advantages over real markets. Many online stores are giving their best services to the people. The system of online shopping has increased it so vast. By sitting at any corner of the world you can avail the services. Due to the online shopping system, you can shop for any product from any place and get the delivery at your home. This online system has made it possible to approach any world’s market easily. You can go [online einkaufen österreich](https://almanda.at/)or other countries easily via the internet. Behind the online shopping system there are many objectives that you should know:

**The following points show how online shopping takes place:**

1)Connect to the internet and open online shopping website

2)Browse the website and choose purchase items

3)Add the item in the shopping cart

4)Continue shopping

5)Checkout and submit orders

6)Login or register on the website

7)Choose transport mode and delivery speed

8)Choose payment mode

9)Enter personal details like shipping address, phone number, email etc

10)Confirm order(s) and complete the payment

11)Shopping success and logout

1. **Manage the shopping details**: The whole system of online shopping manage the detail of each shopping done by the customers. They extract the product details of what consumers shopped.
2. **Manage the payment details:** In online shopping, customers get many options for mode of payments. Websites give them the option of online payment through debit or credit cards. Customers have also the option of net banking or cash on delivery payment option.
3. **Generate the information of customers and products**: Online shopping system manages the whole information about the customers and the purchased products.
4. **Reduce the cost of management:** Online shopping or digital shopping help in reducing the management cost of products.

**Following is some of the key features of our system, which distinguishes it from others:**

* Display all the available categories for shopping on the home page.
* Display all the subcategories on the home page, that are associated with any particular item.
* Admin has the authority to add new particulars to the items list whenever needed.
* Permission to the administrator to remove items, anytime.
* Allows the admin to modify the price of each item, whenever required or felt like.
* Admin has the authority to update the description of each item.
* Permission to the admin to view information about each customer who checkouts the items list.

**Conclusion:**

Online shopping system is developed by using a proper channel. The objectives of online shopping are pre-defined on which the whole system work to achieve them by managing the details of all customers, payments, bills, products, shopping, and so on. This system helps in boosting efficient services.

**Exercise 4**

**Identification of Non-Functional Requireements**

**Of Online Voting System**

**2-A.**

* Electronic voting has been attracting the attention of governments and research groups with most work on the subject referring to the user requirements such a system should satisfy.
* For several cases, though, requirement identification seldom goes further than a simple narrative description of a basic set of non-functional characteristics related to security.
* On the other hand, governmental reports usually refer to requirements as the set of applicable laws pertaining a certain voting procedure. Both sides seem to underestimate the fact that an electronic voting system is an information system with functional, as well as nonfunctional, requirements.
* In this paper we apply the Rational Software Development Process for identifying and presenting the requirements an electronic voting system should meet.
* The requirements are based on a generic voting model that has been developed having in mind the European Union member states legislation, the organisational details of currently applicable voting procedures and the opportunities offered and the constraints imposed by the state-of-the-art technology.

**Exercise 5**

**Library Management System**

**2-B**

A Library Management System is software that provides the ability to find books, manage books, track borrowed books, managing fines and bills all in one place. It helps the librarian manage the books and books borrowed by members and automates most of the library activities. It increases efficiency and reduces the cost needed for maintaining a library and saves time and effort for both the user and the librarian.

### Non - Functional Requirements :

**Usability**  
Usability is the main non-functional requirement for a library management system. The UI should be simple enough for everyone to understand and get the relevant information without any special training. Different languages can be provided based on the requirements.

**Accuracy**  
Accuracy is another important non-functional requirement for the library management system. The data stored about the books and the fines calculated should be correct, consistent, and reliable.

**Availability:**  
The System should be available for the duration when the library operates and must be recovered within an hour or less if it fails. The system should respond to the requests within two seconds or less.

**Maintainability**  
The software should be easily maintainable and adding new features and making changes to the software must be as simple as possible. In addition to this, the software must also be portable.

**Exercise 6**

**Online Shopping System**

**2-C.**

Designing interactive systems with graphic user interfaces is an important step in the development of online devices and websites. Online shopping systems and recommender applications have improved in the last decade and they are now widely used all over the world. However, it is important to understand online shoppers needs and preferences and to take them into account. In this regard, several online shopping systems rely on customer preference elicitation while others suggest products based on other customers recommendations. The focus of this paper is the interaction design of a system for Managing Preferences and Constraints (MPC) and Preferences Learning (PL). An evaluation method is utilized to obtain user feedback on how effective the system is and how easy it is to use, compared to other systems. The Volere requirements specification template was used with the six step framework to guide the evaluation.

Non-functional requirements articulate the quality attributes of the website that buildpositive user experience and optimal website performance. The Bible of business analysts — BABOK — distinguishes between NFRs for merchants (e.g. maintainability, scalability, reusability) and for users (e.g. usability, security, accessibility). In our opinion, they are all equally important at different stages of your business journey: as your store scales, your non-functional requirements may add up.

Here are some basic types of non-functional requirements that should make it to the website specification document of all ecommerce businesses.

**1: Usability**

No matter the size of your business, you want your website to be intuitive and easy-to-use. It takes about 0.05 seconds for users to figure out if your website is worth their time and attention. So you’ll definitely want to work on your homepage design, calls-to-action, and easy checkout to get past those milliseconds of doom.

**2: Security**

Security is paramount while dealing with monetary transactions and sensitive data. A simple SSL certification and data privacy policy will instill trust into your website and convert the customers into your brand advocates. It is also about different admin roles allowing you to control who can create, see, copy, change, or delete information. Depending on your business location, security also means complying with the customer data protection rules (case in point: GDPR in Europe).

There are many factors at play when it comes to security; specifying this non-functional requirement means taking the first step to ecommerce fraud prevention.

**3: Performance**

If your goal is increasing your website traffic, performance should be the priority NFR in your specification document. This NFR is often found in briefs from large enterprises or websites with legacy architecture: they want their e-stores to load fast no matter the number of integrations and sales seasons. Set up the speed benchmark, a maximum number of SKUs to be added, or any other performance indicator suitable to your business. Don’t include third-party system delivery time, though; your developers can’t do much if a certain business operation depends on an API call to another database.Testing website performance will help you understand whether you’ve achieved your KPIs set out in non-functional requirements. Prepare for Magento performance testing following our in-depth guide on the matter!

**4: Maintainability**

It’s widely known that the tricky part of planning a business budget is accounting for the operational costs of business maintenance. Striving to make the website maintainable from the initial development phase means cutting the time and cost to identify and resolve the system faults in the future. As saddening as it may seem, there’s no escape from the future issues and you can see many cues on how to maintain an ecommerce website. But your task is to make the system easy-to-maintain right from its launch.

**5: Scalability**

If you’re looking into a future-proof solution, scalability should be your take. This requirement defines how the website can grow and expand its functionality without affecting its performance. You should be able to add more memory, servers, or disc space to complete more transactions on your website.

On the server-side, you might want to add localization features in case you plan to enter new markets and sell products internationally. Overall, this NFR accounts for painless business expansion and has both hardware and software implications