Design Document

**Software Requirement Engineering**

(Unified-UN: Enhancing United Nations Management with Integrated Features)

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# **Introduction**

## **Purpose: Mission Statement**

The purpose of this management system is to develop a system which can be accessed by using a card to collect information and analyze the whole situation through login to the system. Every member of the UN must login to their system to participate in the meetings. That’s why we developed such a system that automatically record the attendance of the participants.

This system will be developed only for members of United Nation.

## **Scope**

The scope of this system is to develop a system which can be used by only those members of the united nation which has card because without card the member cannot register themselves to the system. This system can be developed by the developer team, and it can only be for the united nation members. This system includes functionality such as digitalizing the attendance of the members, access the information by inserting the card to the system.

## **Definitions, Acronyms, and Abbreviations**

UNMS – United Nation Management System.

## **References**

<http://ieeexplore.ieee.org/servlet/opac?punumber=7742>

## **Overview**

The project overview of this system is that it can bring technology to the UN because at first the work done is by hand which can be very difficult to manage, and update. After proving such system which can automatically manage data, or which can be used for many other operations, reduces the workload of human. Requirements can be categorized into functional and non-functional. The requirements which can be essential for this system must be provide as priority such as security, easily accessible. The cost of this system is not evaluated because the system is in developing process so it can be difficult to estimate cost. This system is designed only for the United Nation.

# **Overall Description**

## **Product Perspective**

The system developed must fulfill all the needs of the members of the United Nation because this system is highly protected from unauthorized user while it has some important information which cannot be lost at any cost. The members of the United Nation use this system for fulfilling their requirements such as presenting new laws, opposing laws, providing security measures to all over the word just by using their system to communicate through different members or countries. The veto countries members can give their order by means of this system.

## **Product Functions**

The functions of this system will be divided into different categories. The first function of system is its security measures because we are developing a United Nation Management System which have important information which cannot be accessed by unauthorized users, so security measurement will be their priority. Second function is to make the system accurate and efficient. This function is included because the system must respond to any of the decision in faster and efficient manner, because every operation must be performed by giving input from the system so the system must be accurate and efficient to perform tasks. The third function of this management system is easily accessible. Those who are new to the system do not need any extra knowledge or information to study about the system. Everyone will be able to use the system easily and the system provides a friendly environment and experience to the members. Last function of the system is automatic update. It will automatically update the information stored in the system and make a backup of information, so that if the data is lost the backup information is available.

## **User Characteristics**

The user of this system are the members of different countries, generals of different countries, and members of veto countries. The veto members are the members of United Nation who can decide whether the law presented in council be accepted or not. While other member of countries cannot decide the law, but there are only present or oppose law.

### **User/Stakeholder Profiles**

|  |  |  |
| --- | --- | --- |
| Stakeholder | Interests | Constraints |
| Members | Present law which can be useful for development of countries. | Members of veto countries. |
| Veto Members | Accept or reject the presented law which can benefit for all countries. | None. |
| Sponsor | Provides facilities to members, countries so they can look forward for the future of their countries. | None. |
| Developer | Making sure that system is feasible. | None. |

## **Constraints**

### **Security**

* The security for this system includes data privacy, authentication, access control, and data integrity.
* Every person of the united nation will be provided by a card which can be used to login to their system to access the required information and analyze the whole information which can be shared inside the general assembly.
* If the system of a member goes down, then the maintenance team should be able to check the system and find the errors, but they will not be able to access the information stored in the system without the card which can be only given to the respective member.

### **Usability**

The system should be developed in such a way that it is easy to use, and the interface of the system should be organized properly so that the user of the system attracts very easily and cannot have any difficulty for using them.

### **Reliability**

The required system should be reliable because this system has some sensitive information. If some information will be lost from the system, then it can cause a huge damage to the world, so the system should be very reliable so that it can generate the information in correct order and cannot lose any sensitive information.

### **Efficient**

This system should be made very efficient because the information can be shared or received very often so the system can perform any task in low time and the processing speed of the system will increase and it can also generate low recourses.

### **Assumptions and Dependencies**

This system is dependent on window and macOS operating system and any other operating system will not be able to run this system. If the required operating system is not available, then the system must be changed according to the requirements.

# **Core System Requirements**

This section will list all the core functional requirements for the United Nation Management System.

## **Central Processing Requirements**

* + 1. System shall operate on a low hardware requirement.
    2. System shall operate on a system that performs multi-tasking.
    3. System shall operate on a system that is capable of multi-processing.
    4. System shall operate on a system capable of real time execution of instructions.
       1. System shall receive instruction in no more than 50 milliseconds.
    5. System shall operate in a highly available and fault tolerant manner.
       1. System shall recover from locked state in less than 2 seconds.
    6. System shall have a database connected with it which can process information at a rate of thousands of instructions per minute.
    7. System shall perform periodically backups of all information stored in system.
    8. System shall support wireless encryption protocols WPA [1-2] and WEP.
    9. System shall support wired Ethernet for 1 gigabit per second and contain cat 6e cabling.
    10. System shall contain separate SAN device for separate flexibility.

# **Access to the system**

* 1. A security pass will be provided to each user. This pass will be in physical form and is some sort of card.
  2. For entering the system, users will swipe the security pass through the scanner.
  3. If the system lock, then it can only be unlocked using card.
  4. If a member is joining system through a different access point, a thumb impression will be required to save the record.
  5. An additional security pin will be required to login.
  6. A new security pin will be required after every 6 months.
  7. User can reset pin on Admin’s approval.
  8. If an unauthorized user tried to enter to another system with his/her card, then the system shall generate a security alarm.
  9. Admin shall be able to add a new account and a new member. And a key card will be given to every new member.
  10. Admin is also able to remove an account or a member by simply blocking access to the card.
  11. At the time of exiting, the user will have to swipe the card again to confirm exit.
  12. In case of system failure system will be put on hold and require verification again.
  13. In case of system down system will be put on hold and require verification again.
  14. In case of inactivity system will be put on hold and require verification again.

# **Different Access Point**

* 1. Members can join the meeting of general assemble from any of the offices of united nations.
  2. They can address to general assemble through online meeting.
  3. Member can present the agenda of the meeting through online meeting.
  4. Member shall be able to refer to a specific part of a document on the main screen.
  5. To cast a vote member should be able to be at the general assemble by him/herself.
  6. To present a motion presence of a member at UN will be necessary.
  7. To oppose a motion, presence of a member will be necessary.
  8. System will process all the activity done by user and update in the record on the same date(different than normal systems at GA).

# **Law Making**

* 1. United Nation can make the law through innovative technology.
  2. System shall update the data base immediately after passing the ruling.
  3. An amendment in the previously existing law shall be saved along with the original law.
  4. System shall update all connected platforms immediately.
  5. The recent added law of an amendment in the law shall be featured on the website of UN.

# **Special systems**

* 1. Admin shall be able to give mic
  2. Admin shall be able to disconnect a mic.
  3. Admin will be able to point something on screen.
  4. Admin will be able to share the screen on the projector.

# **General systems**

* 1. Members will be able to share documents with other members.
  2. Member can request to open mic.
  3. Members shall be able to oppose a law.
  4. Members shall be able to present a law.
  5. Members will also be able to propose an amendment to the law.
  6. Members can share information from one system to another their cards.
  7. Members will be able to point something on screen.
  8. Members will be able to share the screen on the projector.
  9. Members will be able to raise their hands virtually, on the screen.
  10. During someone’s presentation, the user shall be able to pinpoint something on their screen or can make notes on their system.
  11. Speech mode enables a system to convert speech of a speaker to text.
  12. If someone is quoting a specific document which is presented in the system, the user will be able to read them on their screen.

# **Electronic Polling**

* 1. Electronic polling is implemented, in which each member will be able to cast its vote through their system.
  2. Users can only select the option once.
  3. Users can also discard their vote if they have not cast yet.
  4. Users have to swipe their passes to confirm their cast votes.
  5. The result of polling will be displayed only after polling ends.
  6. The system will display total number of votes of each candidate, total turnout, discarded votes, percentage difference and vote difference.
  7. If the member proposes a new law in the assembly, then the veto countries will be able to approve the law through their system.
  8. The polling result shall be shown on every member screen.

# **Gestures based commands**

* 1. For projecting, swipe up from monitor to projector to start projecting.
  2. For presentation, Swipe right for previous slide and Swipe left for next slide.
  3. Members squeeze the screen to zoom in and pinch out for zoom out.
  4. Snap and swipe index finger to top right corner to exit screen sharing.
  5. For scroll down, swipe up the screen.
  6. For scroll up, Swipe down the screen.

# **Non-Governmental Organization**

* 1. System shall connect to different social groups or NGO’s.
  2. Monthly progress of each NGO will be submitted separately to their respective UN part.
  3. Users can conduct online meetings/webinars throughout the world using this platform (Online seminars to spread awareness or guidance)
  4. There will be online meetings across united nation councils to discuss world problems.
  5. Progress of each NGO will be shown in a performance chart.
  6. If there is a threat arising in the world then all the systems in the security council generate a security alarm.
  7. If there is a fund raising going on at any part of the world, the live collection count will be going on, on the website.

# **Non-Functional Requirements**

* 1. There will be a dedicated database for this system.
  2. If the database of all systems goes down, then all systems will not store any information in the system.
  3. All systems connect to the server, so if the server damages, then all system stops working and gives an error message.
  4. There will be a mechanism in the system which performs functionality according to priority.
  5. Every member shall be able to conduct any meeting by sending message to all systems.
  6. There will be a separate device attached to the system for storing information in case of system failure.
  7. If there is an issue in a system, and the system cannot perform any task, then the system shall be replaced immediately.
  8. Each system is independent of other system. So, if one system crashed then another system keeps working.
  9. There will be a backup of every system, so if the system loses its content, then it can be recovered.
  10. System shall update after every 1 month.
  11. If a virus attacks any system, then the system activates the antivirus.
  12. If the system remains untouched for 5 minutes, then the system will lock automatically.
  13. Every system shall run at a low processing speed, consume low memory, and perform tasks efficiently.
  14. System shall provide some constraints, so the information which is sensitive cannot be shared among individuals.
  15. The systems should be protected from unauthorized users, hackers, and unnecessary viruses.
  16. While updating the system, it also performs its functionality and tasks.

# **Access to common people**

* 1. People will be able to watch different world leaders addressing to UN live via the live telecasting on the website of UN
  2. Common will have access to the laws or the amendments in the laws of UN via the website of UN.
  3. All the rulings of international court of justice will be narrated to the website right after the hearing.
  4. If there is problem with a certain government, the people of that country will be able to report it’s wrongdoing to UN. It’s still up to government to respond to UN but it will cost some damage to the reputation of government.
  5. There will be an official website of the system, where only a considerable amount of information will be uploaded.

There will be a session for local people where the specified system connects to the local system to gather the people's feedback.

# **Covid protocols**

* 1. Every delegate should provide the information of the members prior to the meeting.
  2. System should check the vaccination of every member of the delegate.
  3. System should not allow the entrance of the members of the delegate unless they all are vaccinated.
  4. Members previously infected with the virus shall provide the covid test results.

# **Artifacts**

## **Use case diagram:**

Diagram

Description automatically generated

## **ER diagram:**

Diagram

Description automatically generated

## **Data Flow Diagram**

Diagram

Description automatically generated