CCSW 227
Software Requirements
Engineering

CCSE

جامعة جدة
University of Jeddah

Software Requirements Engineering Project

Group 6 :

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1. Define the Background and Goals of the Project

Background: E-voting is a system of electronic voting that allows citizens to cast their votes online or through other digital means.

Purpose: Transforming the old voting system into a fully electronic voting system

Advantage: take the time to count the votes faster

Measurement: The number of voters was up 60% over the previous time% over the previous year.

Purpose: Trying to reduce the cost of printing paper

Advantage: Reducing the annual program cost

Measurement: 40% cost reduction in the first year of the system

2. Stakeholders Identification

1- Saudi government

2- University of Jeddah

3- development companies

4- president of the municipal council

5- municipal council members

6- voters

7 - Candidate

8- citizens

9 - Unified National Platform (NAFATH)

10- mayor of Jeddah

- For each stakeholder identifying their influence and importance during the project (Stakeholder Analysis).

Contact person	Influence	Importance	Justification of Interests in the Project
Saudi government	Strong	H	The owner of the system
University of Jeddah	Strong	H	The University will be involved in commissioning the legal and socio. studies
Development companies	Strong	H	develop some parts of the application, test its security
President of the municipal council	Strong	H	The position the candidate nominated for
Municipal council members	Little	L	members
Voters	Strong	H	The end users
Citizens of the city	Little	H	Participants in the election
candidate	Strong	H	Running for President of the municipal council
Mayor of Jeddah	Strong	H	Pilot partner
NAFATH	Strong	H	Login by

3. Drawing the stakeholder map.

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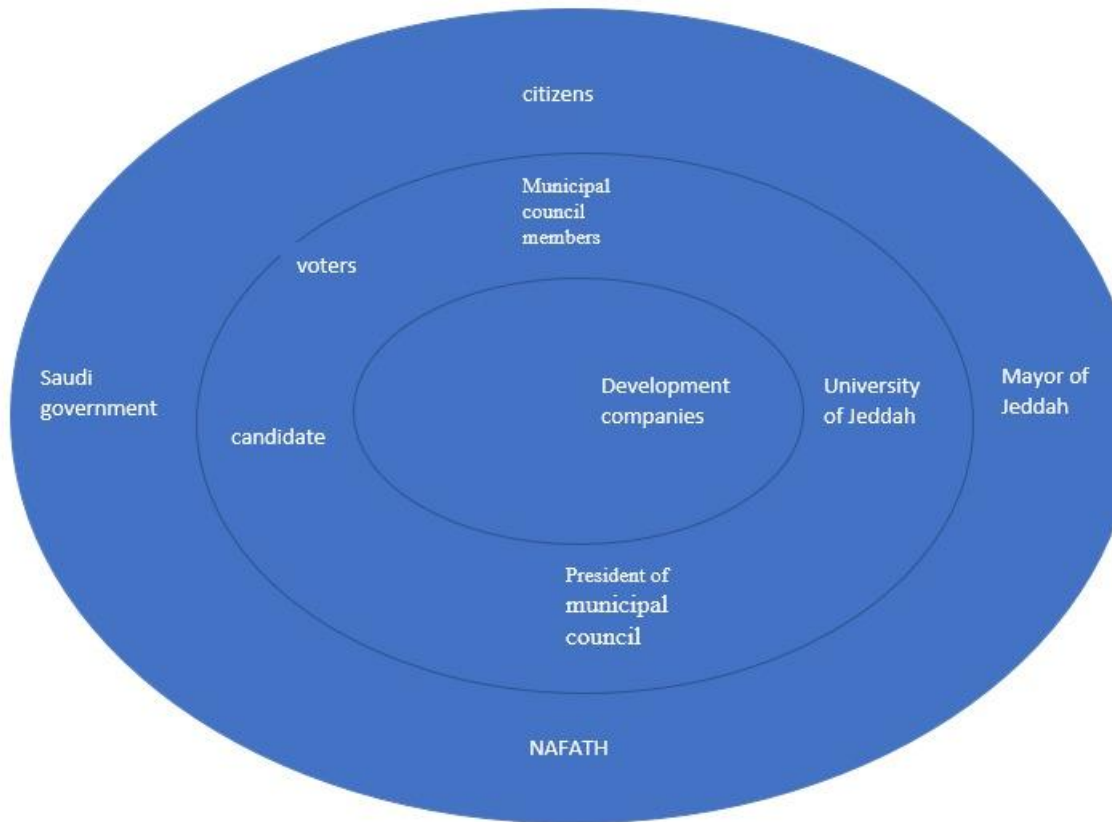
4. Requirements Elicitation Techniques

Contact person	Elicitation Techniques	Requirement type
President of the Municipal Council (name, phone number)	Interview	Business Requirements
Municipal council members (name, phone number)	Workshops	Business Requirement
Voters (name, phone number)	Focus Group	User Requirement
citizens of the city	Survey / Questionnaire	Expectation / Constraints

5. Project Constraints

Solution Constraints:

A - For the authentication procedure, the system must use the Unified National Platform.

B - The system will employ a special database to record voting Identification numbers and flag any that have been previously used to cast a ballot. in order to prevent multiple votes being cast by the same voter.

C - The system must communicate with the vote server using the SSL128 protocol from the voter's computer or device.

D - The e-voting system should employ two distinct kinds of servers:

- The Internet application server (Web pages) should use an Apache web server and a Tomcat application server.

- The database server should use Oracle version 9 to hold all the data linked to the voter list and the e-ballot box.
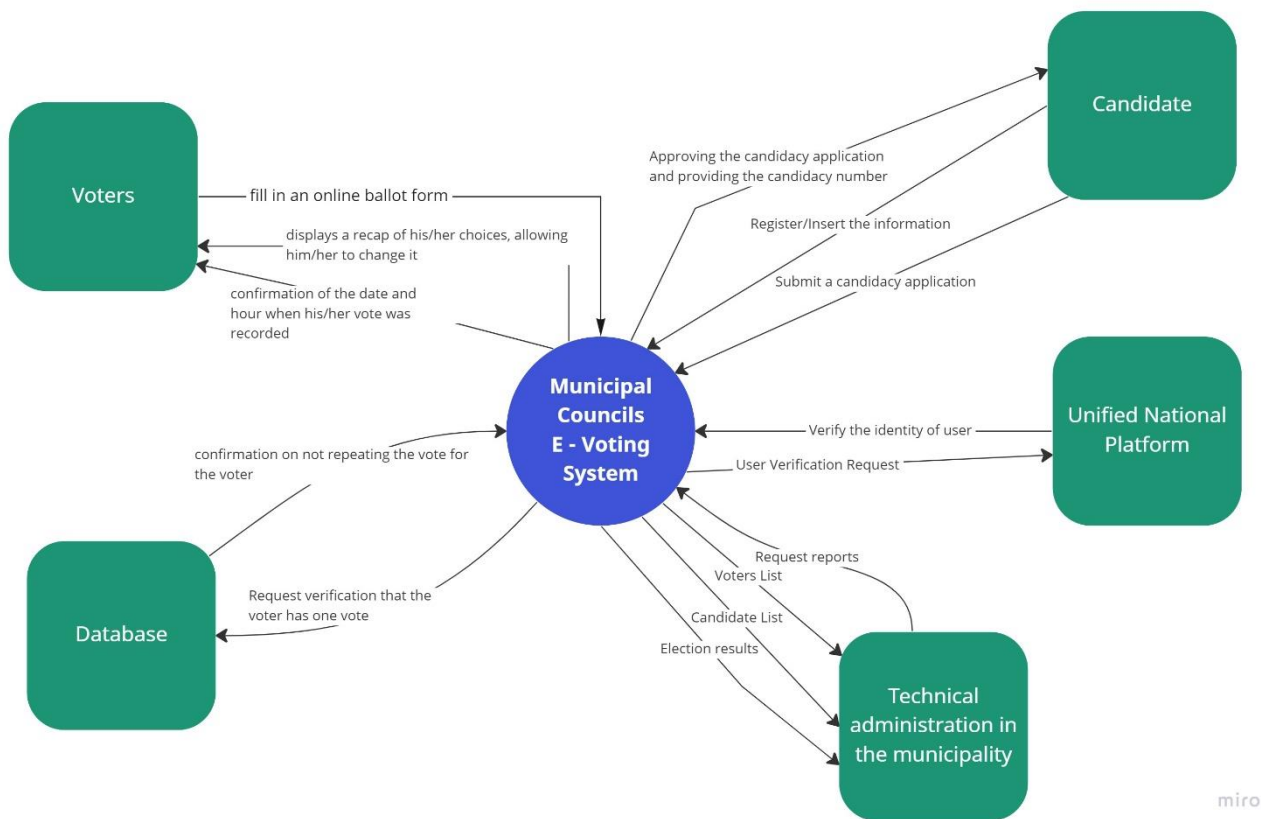
Schedule Constraints:

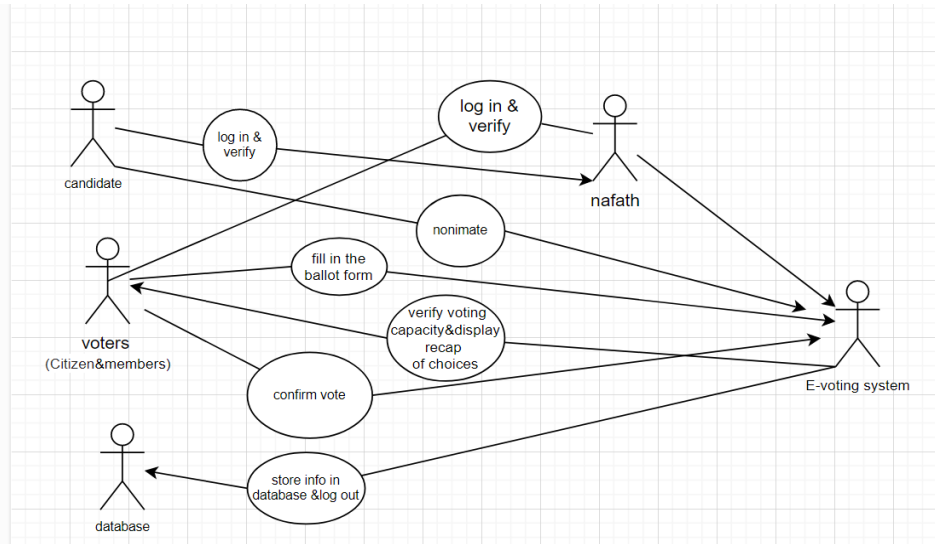• Prior to the upcoming council elections, the system is being created. or within a four-year window at most.

Budget Constraints:

• An investment of 400 to 600 million SAR is thought to be necessary to cover the costs.

6. Context Diagram

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7. Drawing Product use case diagram

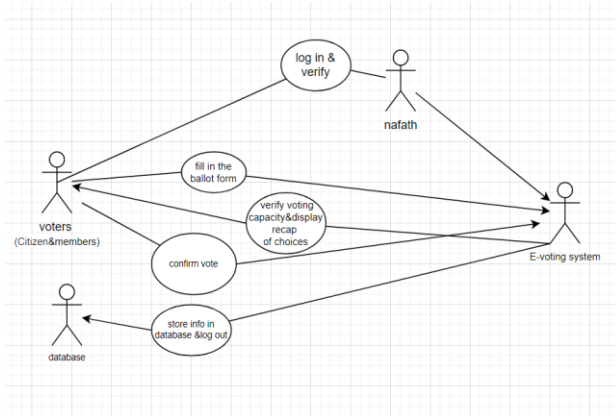## 8. Use case Scenarios

Write use case Scenarios for two use case.

- Actors:
     1- Voter(citizen & members)
     2-nafath
     3-E-voting system

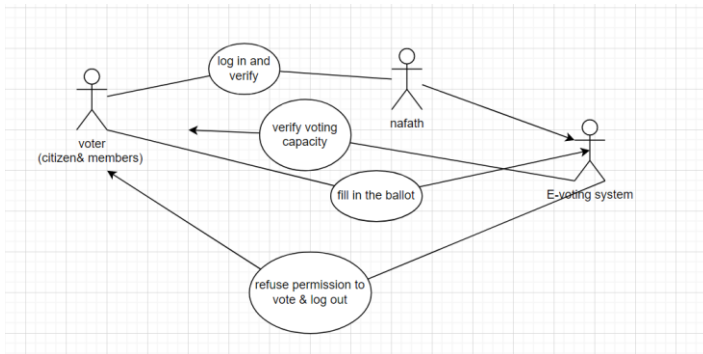-Scenario:

1-voter log in to the E-system through nafath

2- fill in the ballot

3- system confirm he has the capacity to vote& show recap of choices

4- confirm vote

5- save in database & log out

-Scenario:

1-voter log in to the E-system through nafath

2- fill in the ballot

3- system confirms he don't has voting capacity

4-log out

9. Functional Requirements

Requirement #:Flexibility Requirement Type: FUNC Event/BUC/PUC #:

Description: The system shall be flexible in that it allows a variety of ballot question formats including open-ended questions

Rationale: Makes it far easier to understand the real need and candidates intentions

Originator:
Fit Criterion: the voters can use survey and candidate's speech to build their questions

Customer Satisfaction: 4   Customer Dissatisfaction: 3
Priority: Conflicts:
Supporting Materials: survey, interviews
History: 2/9/2023

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Requirement #:Accuracy Requirement Type: FUNC Event/BUC/PUC #:

Description: The system shall record and count all the votes and shall do so correctly.

Rationale: having no tampering the election and manipulating in the result

Originator:
Fit Criterion: matching the votes with voters number

Customer Satisfaction: 3   Customer Dissatisfaction: 5
Priority: Conflicts:
Supporting Materials: counters, diagrams
History: 2/9/2023

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Requirement #: Convenience   Requirement Type: FUNC   Event/BUC/PUC #:

Description: The system shall allow the voters to cast their votes quickly, in one session, and should not require any special skills

Rationale: so no one can intimidate the voter or change their votes

Originator:

Fit Criterion: the voters can vote when he access the system and never then

Customer Satisfaction: 3   Customer Dissatisfaction: 4

Priority: Conflicts:

Supporting Materials: counters, diagrams

History: 2/9/2023

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10. Non-functional Requirements

Requirement #: Voter Anonymity   Requirement Type: non-f   Event/BUC/PUC #:

Description: Ensure that votes must not be associated with voter identity

Rationale: unsure Vote integrity and protect voters from any hates

Originator:

Fit Criterion: the voter should be Relieved and reassured when he votes

Customer Satisfaction: 5   Customer Dissatisfaction: 5

Priority: Conflicts:

Supporting Materials: high security

History: 2/9/2023

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Requirement #: Simplicity   Requirement Type: non-f   Event/BUC/PUC #:

Description: The system shall be designed to be extremely simple, as complexity is the enemy of security.

Rationale: easy to manage for all parties using the system

Originator:
Fit Criterion: not facing troubles when using the system

Customer Satisfaction: 5   Customer Dissatisfaction: 5
Priority: Conflicts:
Supporting Materials: context daigram
History: 2/9/2023

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System Integrity
Requirement #:   Requirement Type: non-f   Event/BUC/PUC #:

Description: Ensure that the system cannot be re-configured during operation.

Rationale: maintain confidently and precision of data.

Originator:
Fit Criterion: using nafath identify induvial

Customer Satisfaction: 4   Customer Dissatisfaction: 4
Priority: Conflicts:
Supporting Materials: context daigram
History: 2/9/2023

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