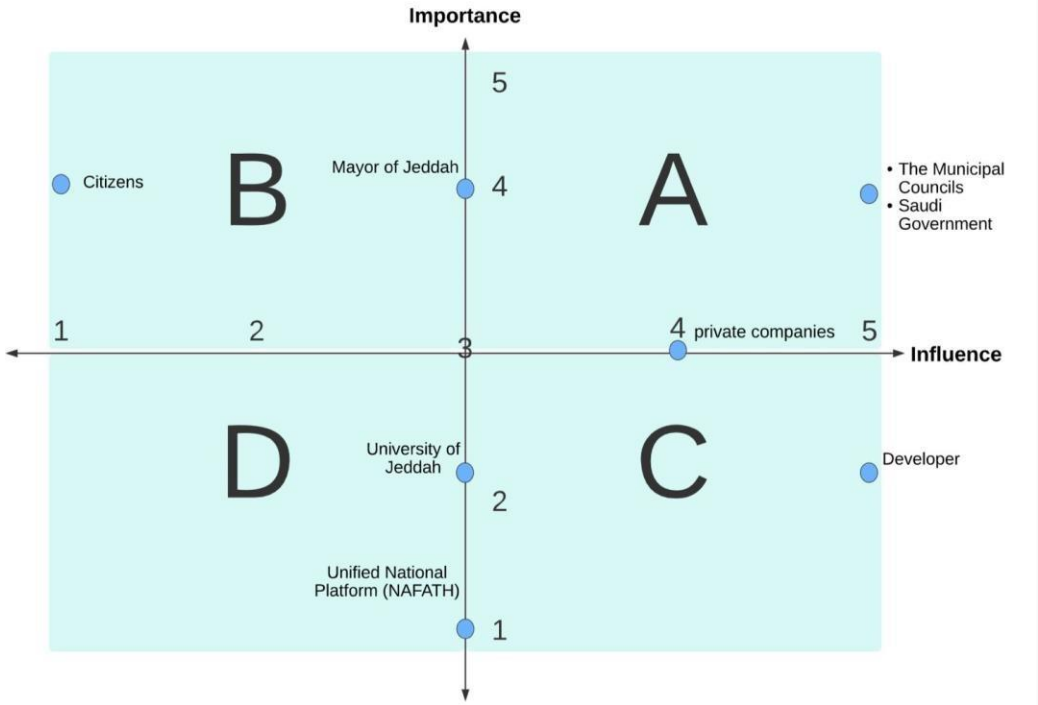
G3 Project

1. Define the Goals of the Project

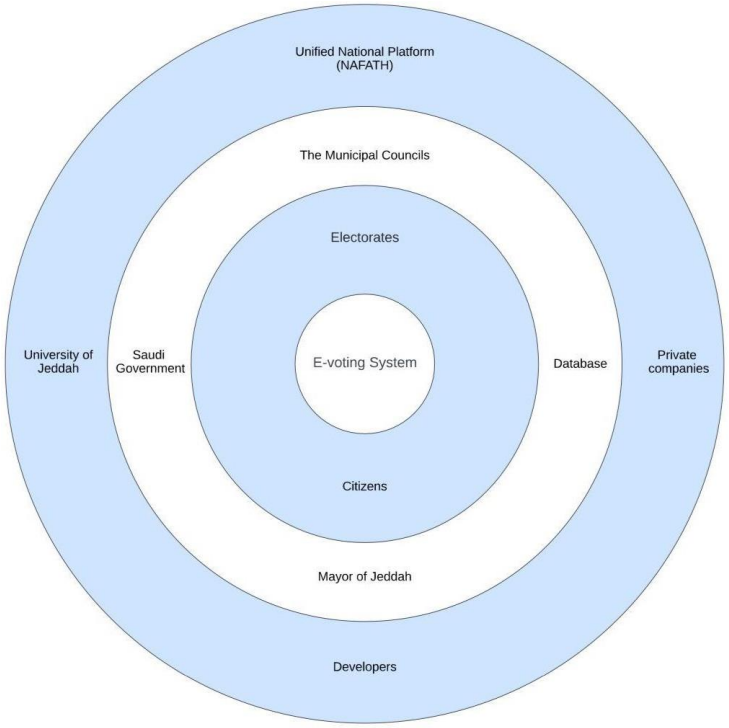
The goal of this project is to create a wide E-voting platform that helps the citizens to vote online considering the confidential and the security of its user's data. Furthermore, reaching the largest number of citizens to vote in the E-voting system especially at the local level, the municipality of Jeddah. Additionally, make the system support the E-voting. Finally, attract the young adults (i.e.,17-30) who uses the Internet frequently.

2. Stakeholders Identification and requirements elicitation

Contact person	Influence	Importance	Justification of Interests in the Project
The Municipal Councils	5	4	The owners of the system.
Saudi Government	5	4	Recourse providers, System guidelines.
University of Jeddah	3	2	Recourse providers and investor.
private companies	4	3	Data and security analyses.
Mayor of Jeddah	3	4	Electorate.
Unified National Platform (NAFATH)	3	1	System guidelines.
Citizens	1	4	Users of the system.
Developer	5	2	The people in charge of developing the system.



3. Drawing the stakeholder map



4. Project Constraints

Write the project's Constraints which describe the restrictions on the project and the product. The **Constraints** must cover: **Solution Constraints**, **Schedule Constraints** and **Budget Constraints**.

Solution Constraints:

- All citizens shall log in using The Unified National Platform GOV.SA (NAFATH).
- The communication between the citizen's computer/gadget and the vote server is protected by the protocol SSL128.
- The system should use two different types of servers:
  - the Internet application server that allows the communication with citizens by means of web pages, this machine uses an Apache web server and a Tomcat application server installed in two different partitions.
  - The database server that stores all the information related to the electoral roll and the e-ballot box; this server uses Oracle version 9.

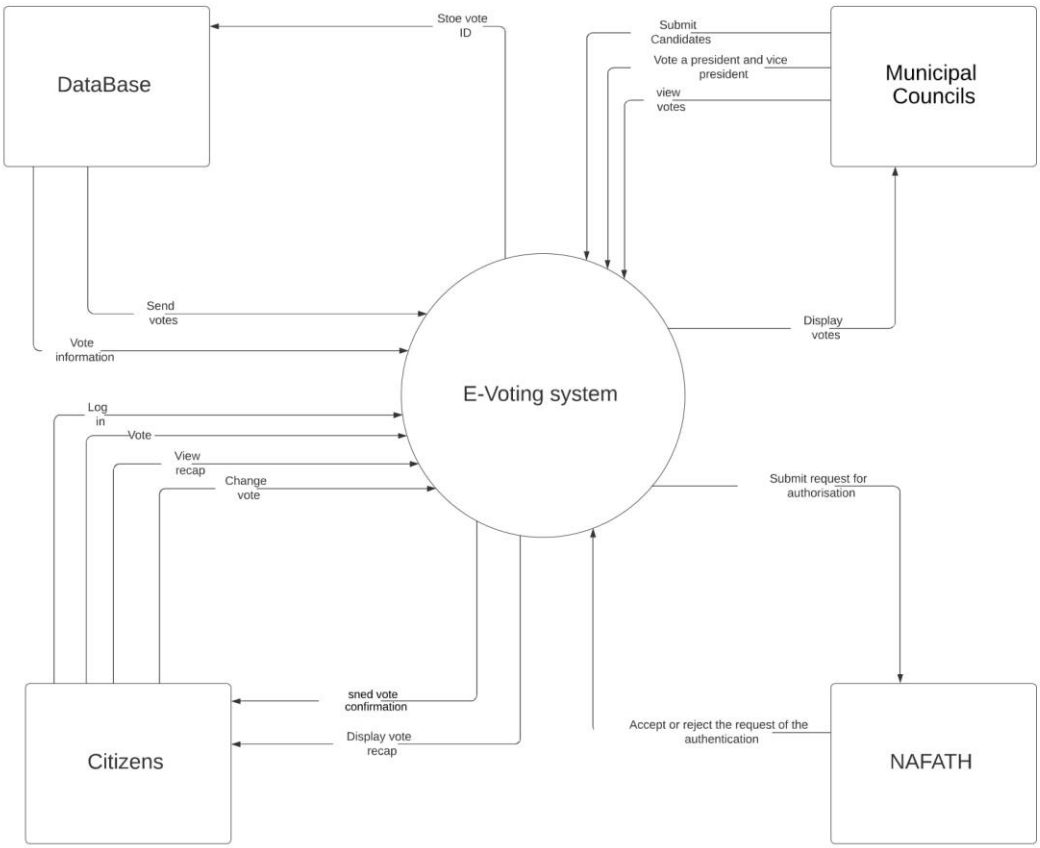
Schedule Constraints:

The system shall be developed in 6 months.

Budget Constraints:

The project’s cost should not exceed 3 million.

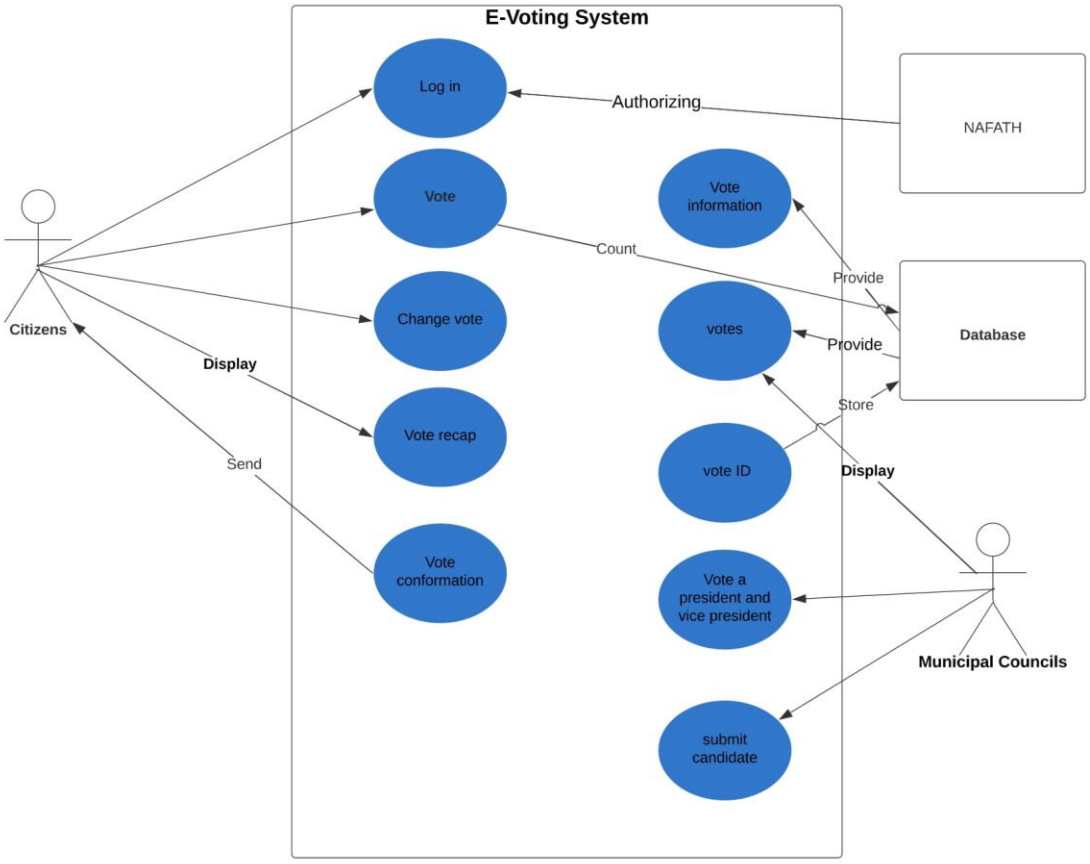
5. Context Diagram



Work Partitioning:

Event name	Input	Output
1. Citizen logs in.	Log in	None
2. Citizen Vote.	Vote	Send vote conformation
3. Citizen views recap.	view recap	Display recap
4. Citizen change vote.	Change vote	None
5. Municipal Councils submits a candidate.	Submit Candidates	None
6. The Municipal Councils vote for a president and vice president.	vote president and vice president.	None
7. Municipal Councils view votes.	View votes	Display votes
8. NAFATH receives authentication request.	None	Submit request for authentication
9. NAFATH authenticate an account.	Accept or reject the request of the authentication.	None
10. Database receives vote ID to store.	None	Store vote ID
11. Database sends votes.	Send votes	None
12. Database sends vote information.	Send vote information	None

6. Drawing Product use case diagram



PUC Number	PUC Name	Actor	Input and Output
1	Login in	Citizen	Log in(in)
2	Vote	Citizen	Vote(in)
3	Change vote	Citizen	Change vote(in)
4	Vote recap	Citizen	Display vote recap(in)
5	Vote conformation	Citizen	Send Vote conformation(out)
6	Votes	Municipal Councils	Display votes(in)
7	Vote a president and vice president	Municipal Councils	Vote a president and vice president(in)
8	Submit candidate	Municipal Councils	Submit candidate(in)
9	Vote ID	Database	Store vote ID (out)
10	Votes	Database	Provide votes(in)
11	Vote	Database	Count vote(in)
12	Vote information	Database	Provide Vote information(in)
13	Login in	NAFATH	Authorizing Log in(in)

Req#	Req type	Description	Rational	Fit Criterion	Sub system
Req#1	Functional	All voters cast shall be counted for.	To count the votes.	After the citizen votes the system shall count his vote.	Database
Req#2	Functional	The system shall refuse any vote from a citizen under the age of 18.	To avoid the underage votes.	The system should not accept any vote of a citizen who is not above 18 years old.	E-voting system
Req#3	Functional	Each voter must have a single vote and must vote only once.	To avoid votes manipulating.	The system should take only one vote.	E-voting system
Req#4	Non-Functional	The system should be easy.	to make it easy for citizens to vote.	The user shall be able to use the system without tutorial.	Interface
Req#5	Non-Functional	The server should be protected by the protocol SSL128.	To secure the E-voting server.	The server should be verified it use this protocol.	Server
Req#6	Non-Functional	The database shall be implemented using Oracle version 9.	To store all information with more security.	The database should be verified it is implemented using Oracle version 9.	Database

7. Functional Requirements

Requirement #: **1** Requirement Type: **FR** Event/BUC/PUC #: PUC11

Description: All voters cast shall be counted for

Rationale: To count the votes

Originator: **Municipal Council**
Fit Criterion: After the citizen votes the system shall count his vote.

Customer Satisfaction: **5** Customer Dissatisfaction: **5**
Priority: **High** Conflicts: **None**
Supporting Materials: **Municipal Council report**
History: **1/5/2022**

Volere

Requirement #: **2** Requirement Type: **FR** Event/BUC/PUC #: PUC2

Description: The system shall refuse any vote from a citizen under the age of 18.

Rationale: To avoid the underage votes.

Originator: **National Council**
Fit Criterion: The system should not accept any vote of a citizen who is not above 18 years old.

Customer Satisfaction: **5** Customer Dissatisfaction: **5**
Priority: **High** Conflicts: **None**
Supporting Materials: **National Council report**
History: **1/5/2022**

Volere

Requirement #: **3** Requirement Type: **FR** Event/BUC/PUC #: PUC2

Description: Each voter must have a single vote and must vote only once.

Rationale: To avoid votes manipulating

Originator: **Municipal Council**
Fit Criterion: The system should take only one vote.

Customer Satisfaction: **4** Customer Dissatisfaction: **5**
Priority: **High** Conflicts: **None**
Supporting Materials: **Municipal Council report**
History: **1/5/2022**

8. Non-functional Requirements

Requirement #: **4** Requirement Type: **NFR** Event/BUC/PUC #: PUC2

Description: The system should be easy.

Rationale: to make it easy for citizens to vote

Originator: Municipal Council
Fit Criterion: The user shall be able to use the system without tutorial.

Customer Satisfaction: **4** Customer Dissatisfaction: **2**
Priority: **Medium** Conflicts: **None**
Supporting Materials: Municipal Council report
History: **1/5/2022**

Requirement #: **5** Requirement Type: **NFR** Event/BUC/PUC #: PUC9

Description: The server should be protected by the protocol SSL128.

Rationale: To secure the E-voting server

Originator: **Municipal Council**
Fit Criterion: The server should be verified it use this protocol.

Customer Satisfaction: **4** Customer Dissatisfaction: **5**
Priority: **High** Conflicts: **None**
Supporting Materials: **Municipal Council report**
History: **1/5/2022**

Requirement #: **6** Requirement Type: **NFR** Event/BUC/PUC #: PUC9

Description: The database shall be implanted with Oracle version 9.

Rationale: To store all information with more security.

Originator: **Municipal Council**
Fit Criterion: The database should be verified it is implemented using Oracle version 9.

Customer Satisfaction: **3** Customer Dissatisfaction: **2**
Priority: **low** Conflicts: **None**
Supporting Materials: **Municipal Council report**
History: **1/5/2022**