Per assignment document (emphasis added on requirements):

Voting System
The city of Pacopolis wants you to develop an electronic voting system. While the mayoral race between Pat Mann and Dawn Keykong is the most visible election, there are other elections and issues that will also need to be decided. And, of course, the electronic voting system must be **usable in future elections**, too.

The system shall **allow a voter to identify themselves through authentication**, after which they shall be presented with **the ballot**. After **making their selections**, the voter shall be offered the opportunity to **review and change their selections**. Once **submitted**, the voter's choices shall be **recorded**. The system shall **prohibit a voter from voting more than once in the same election**. At the end of the voting day, the system shall **determine the winner of each election and the outcome of each issue**.

While it shall be **possible for a voter to later view their recorded vote** to confirm that it was recorded correctly, and it shall be possible for a **third party to determine whether a particular voter voted**, it shall be **impossible for a third party to determine how any particular voter voted**. The system shall allow an **unlimited number of voters to vote from their own computers or from a shared computer at a polling location**.

The system may be implemented in text-mode or with a GUI.

Scope - Voting System Project Components:

➔ Voter ID Authentication (basically login, access to prev voting records)
➔ Admin login option -> workflow to settings/options/record access, instead of ballot
➔ Selection of Election (multiple elections possible)/Unique Voter per Election Validation
➔ Interactive Ballot
➔ Ballot Review/Edit & Submission by Voter (ballot recorded - saved to database)
➔ Confirmation Page (general, no specific info "Your Vote Has Been Recorded" etc)
➔ Outcome/Tally after Election (database query or continuous running tally using business logic? admin function or automatic?)
➔ Results of a Specific Election Display - no login required?
➔ Voting Record Access - voter login required
➔ Voter Participation (without vote information) - third-party access

UI Views & Authentication - User Stories

as a user, start at **login page** - voter or admin->id authentication
as a user, view **election results** - no account/login necessary? running totals or final results?
as a voter, **select election** to participate in - validation of one vote per person per election
as a voter, make selections on a **ballot**
as a voter, **review and edit** ballot before submitting
as a voter, receive **confirmation** that my vote has been recorded
as a voter, view my **individual voting record**
as an admin, **create new election/issues**
as an admin, view **voter participation**

Business Logic - Model

<u>container classes</u>
user + interface
 ->voter + interface
 ->admin + interface
election + interface
ballot + interface
voting record + interface
election results + interface
voter participation + interface

<u>methods</u>
view election results (continuous or final)
login as voter, authenticate
login as admin, authenticate
select election, validate unique voter
interactive ballot
review/edit ballot
submit ballot/return confirmation message
record vote
record running total (if keeping ongoing tally)
pull individual voting record
create new election
view voter participation

Database

Queries
election results: select from ballot where election = ? and candidate = ? count
login id authentication: select firstName, lastName, lastFourSSN from User
login id authentication: select ***** from password where foreignKeyUserId = User.userId
uniqueness validation: select ballot where election = ? and User.userId = ?
record ballot: insert into ballot where election = ? etc (insert true/false in 'voted' field)
view individual voting record: select: vote from ballot where userId = ?
view voter participation: select voted(true/false) from ballot where electionId = ?
create new election/issues/ballot: insert into election ..etc

Tables
user
  -voter
  -admin
election
ballot
  -issues
  -voted (action taken, boolean)