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| Lab 01 | Implement Poll Simulator |
| IT618 Enterprise Computing, Autumn'2021, DAIICT, Gandhinagar; pm_jat | |

The objective of this lab is to appreciate *factoring* for “multi-tier application architecture”. As a hands on small exercise, let you attempt implementing a web based “Poll Simulator” as described below. You can use any set of technologies that you are familiar with.

Suppose there is election for Present, SBG (Student Body Governance) at your institute. Let following be in the scope of this work:

- There are number of student candidates nominates themselves for fighting election for the position of Present, SBG.
- Students are voters; each student votes for the post.
- Let the system record IDs of all students who vote so that we can detect repeat voting by same student; however we do not record who votes whom.
- We do not use any database for recording proceedings of polling; let us use some in memory data objects for storing the same.
- Let web browser be only client for accessing the application.
- We would want to allow polling to be performed from multiple web clients (i.e. browsers from different machines)

Use Cases to be implemented

1. Specify Candidates in race : Actor Admin

List of ID and Candidate Names is captured through appropriate UI

2. Cast a vote : Actor Voter

Following sketch show UI of this use case. Here, you can assume that only authorized user gets access to this page, and do not have to implement any login sort of functionality.

Here voter types in his/her ID and checks on radio button corresponding to a candidate!

Student ID:

☐ Deep Goyal

☐ Sneha Mohan

☐ Praveen Shah

☐ Akshay Singh

☐ Somin Majumdar

Let the system report the response as following. Response is one of following:

- (1) <student-id>, your vote has been recorded successfully.
- (2) <student-id>, you have already voted!

3. Report Winner and Runner : Actor Admin

System shows up names of Winner and immediate Loser with their vote count, typically as following:

Poll Result:
Won: Deep Goyal(23)
Lost: Akshay Singh(18)

4. Report Result: Actor Admin

Systems shows up vote count for all candidates, typically as following

Voting Report:
Deep Goyal: 23
Sneha Mohan: 5
Praveen Shah: 9
Akshay Singh: 18
Somin Majumdar: 2

Implementation Guidelines:

1. Let following be a home page for Polling having hyperlinks to all options

Poll Simulator
[Add Candidates](#)
[Vote](#)
[Poll Result](#)
[Voting Summary](#)

2. Let it be implemented using any of the web technologies that are familiar with.
3. You may require having required object(s) for recording poll proceedings, in appropriate scope to enable voting possible from multiple clients.
4. Make sure that you clearly separate **Presentation** and **Business Logic**. For simplicity let us say we do not have any database storage in this application. As already said, we have some in memory objects for storing required data.
5. It is also desirable that you apply MVC factoring at presentation tier if you are familiar with!

Deliverables:

Share *github* link having complete implementation. In addition to all source, the *git* repository also contains a readme file that describes functionalities implemented in all source files