# Final project – Efrat Tsadok, Shira Mandelbaum, Ninel Khaykin

Leader Election algorithms play an important role in distributed systems. The goal of the project is to build a demo based on a few variants of a leader election protocol.

The demo should include 3 parts:

- Distributed Protocol
  - Implemented in go
  - Uses go concepts like coroutines and channels for simulating the players
  - Use good coding practices, for example built in unit tests
  - Parameterized so can be run in different setting

- User interface
  - Implemented in any HTML5 / Javascript framework
  - Show graphical simulation that helps understand the algorithm
    - The simulation is only for a small amount of steps/players

- Result Log analysis
  - With some built in dashboards and queries showing the results
  - This is completely separated from the simulation User Interface
  - Use data visualization tool like Grafana to show data

The protocol itself:

- We would like to implement the following protocol: https://www-verimag.imag.fr/~devismes/WWW/rapports/sss07.pdf
- This is an interesting protocol, as it can "tolerate" two separate phenomena
  - Transient - messages getting lost
  - Crash - servers crashing