

## 8 Updated Client Requirements Specification

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### 8.1 The Web Client

Now we have decided to implement the client using Javascript and D3, we can make our requirements specifications more specific to the target platform.

### 8.2 What We Need

This first section will explain the parts of the client that we feel are most critical to the workings of our system.

We need the client to:

- visually represents the current state of the simulation,
- display the continuous changing states within the system efficiently,
- be cross platform,
  - this includes looking and functioning the same across different browsers,
  - this includes avoiding browser specific tools and API's,
  - this also means avoiding system specific API's such as Adobe Flash and Microsoft Silverlight that work differently or are not available on certain Operating Systems.
- allow the user to start, reset and pause the simulation,
- allow the user to control certain parameters of the simulation,
- meet current web standards.

### 8.3 What We Hope to Achieve

We would like the client to:

- visually represents the current state of the simulation in an aesthetically pleasing manner,
  - we would like the visualisation to display as much information as possible, without overcomplicating what is shown to the user,
  - because this is going to be a web based system, we think that scalability and efficiency are a higher priority than a graphically intensive visualisation,
  - include a visual indication of current actions, including it's current attraction or object it's avoiding,
  - show a visual representation of family units within human entities,
  - provide a visual representation direction of entities,
- seamlessly display the continuous changing states within the system efficiently,
- provide intuitive controls for the user,
- provide the user with option to change how the data is represented, for example:
  - heat maps for the grid,
  - graphs showing population over time,
  - normalised population graphs,