PCEnv: Status Update

Justin Marsh (Auckland Bioengineering Institute)

Major components

- PCEnv code
- CellML API
- Mozilla framework

Mozilla

- Keeping near the head revision
- Unstable and unfrozen APIs
- Rapid new functionality
  - Ability to render most MathML representable mathematics
  - Ability to link to and display web accessible databases
  - Ability to render embedded pathway diagrams

CellML API

- Further componentization into services
  - Validation, Code Generation, Integration, Annotation, CellML querying
- Communication and invocation via XPCom, IDL or FFI

CellML API

- Use case: services for third party use
  - Extract information on components
  - Instantiate a CellML file into a DOM like model
  - Validate CellML models
  - Generate code from CellML
- Services have minimal dependencies

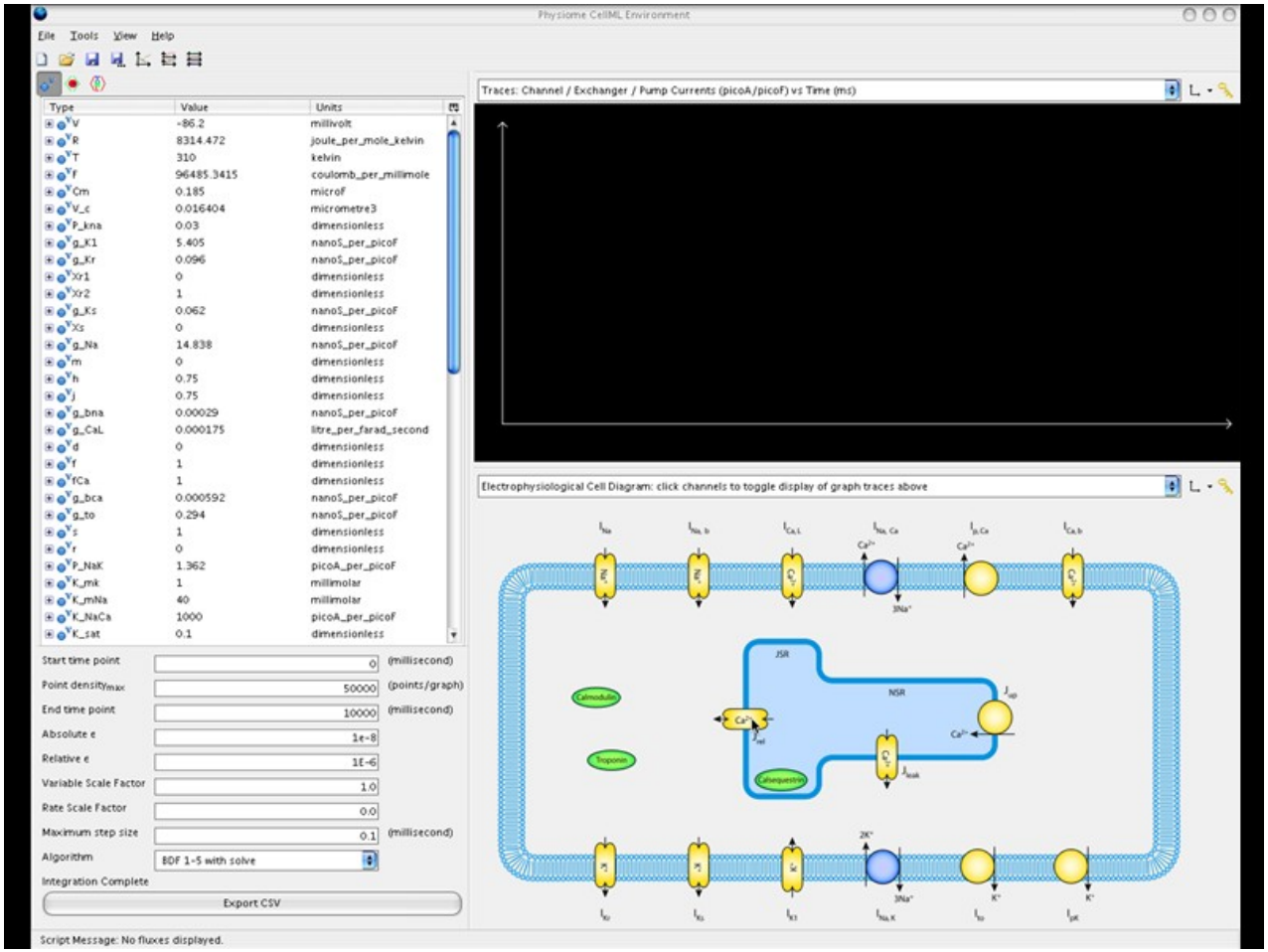
CellML API

- Platform agnostic
  - XPCom and other platform independent technologies used
- Solver library agnostic
  - CVODE and GSL used as standard libraries
- Generated code language agnostic
  - C and Octave code generated; any language which can be described by the MaLaES service's language description language can be generated

PCEnv 0.3

- Embedded functionality
  - XML editor
  - Linked content display
  - Basic Javascript api for interaction with linked content
- Extending session functionality
  - Linked content

Embedded content



PCEnv 0.3

- Graphing improvements
  - Normalization
  - More gesture recognition
  - Gridlines
  - More sensible scaling
- Less verbose output

PCEnv latest updates

- Embedded functionality
  - Display of generated code
- Extending session functionality
  - Metadata standards for representing more arbitrary state
- Slightly wider class of CellML files solved
- More robust model loading

Concluding remarks

- Focus on individually reusable components
- Focus on agnosticism
- Opening up development process
  - Bugtracker at https://tracker.physiomeproject.org/