

GridBee

Web Computing Framework

*Research and Development project
- Not released yet -*

Henrik Schnell

*BME VIK, Student
Project Lead Developer*

Attila Szarvas

*BME VIK, Student
Developer, Docs*

Gábor Molnár

*BME VIK, Student
Developer, PR*

Imre Szeberényi

*BME IIT, Deputy Director for R&D
Project Supervisor*

<http://webcomputing.iit.bme.hu>

2011 Hannover



Volunteer Grids

- Extending the user base
- Many potential donors
- Need an easier approach
- We chose browsers and the web
- No need for installing
- Embeddable into webpages

GridBee Framework

- General Web Computing Framework
- Custom Work Sources
- Persistency, Checkpointing

Gears GUI

Boinc Work Source

...

GridBee

<http://webcomputing.iit.bme.hu>

2011 Hannover

Prototype demos

- Try them out on the website!
- BOINC WorkSource
- Early prototype demo
- Prototype client: Gears
- Test application: Pebble Bifurcation
- Parameter study, statistics, simulation

Used Technology

- Web Workers (Threads)
- Local Storage (Persistence)
- CORS
(Cross Origin Resource Sharing)
- HaXe (haxe.org)
- Supported Browsers:
Chrome 12, Firefox 4, Safari 5, IE 10

Javascript

- Language of the web
- Cross platform
- Very fast, and getting faster
- Whetstone
- 2x-5x slower than native code
- Competition of browsers

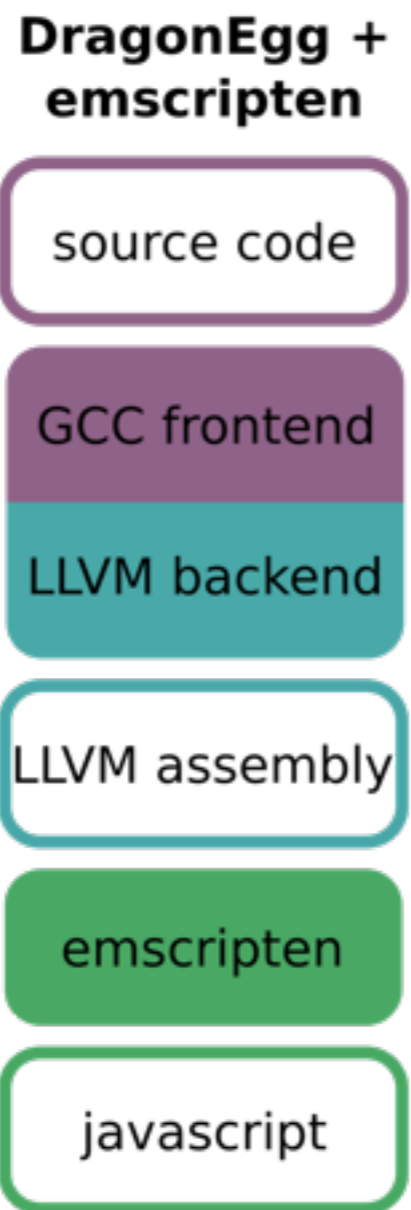
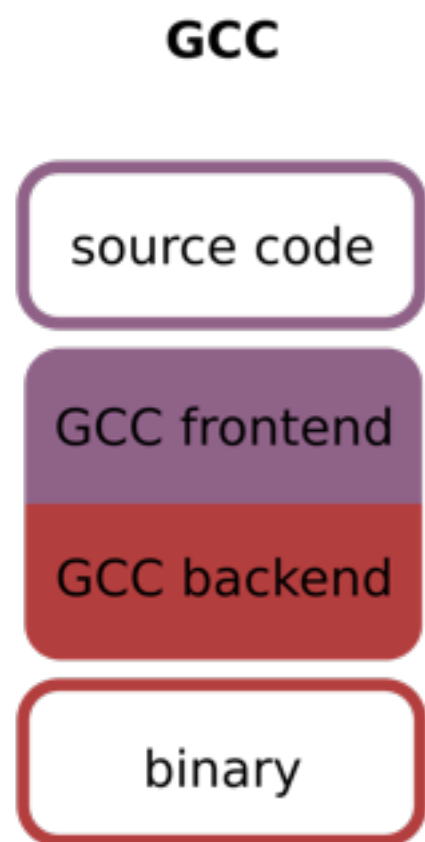
<http://webcomputing.iit.bme.hu>

2011 Hannover

Workunits in Javascript

- ✓ Secure - runs in sandbox
- ✓ Portable - browser or js engine
- Consider:
 - ➔ Data size - limited ~ 2-5 Mb
 - ➔ Running time - shorter the better
 - ➔ Checkpointing intervals

Porting applications



- Slower
- Experimental
- Compatibility layer needed
- But works

<http://webcomputing.iit.bme.hu>

2011 Hannover

Looking for applications

- Which want to reach more users
- Can be split into small workunits
- Can be ported to Javascript

Thank you!

<http://webcomputing.iit.bme.hu>

2011 Hannover