xl–caBIG Smart Client

Progress Report

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Knowledge ME
Sponsored by: MSR's *Smart Clients for eScience RFP 2005*

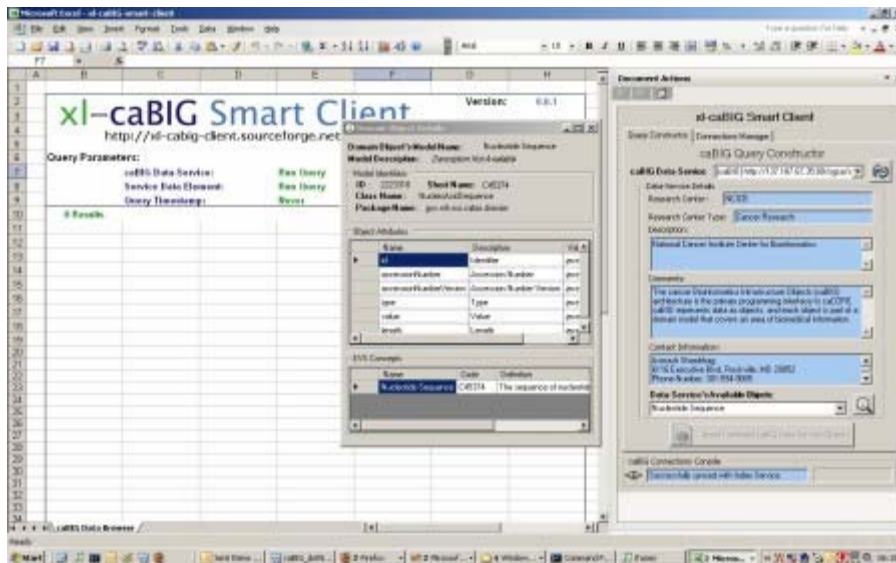## <u>Evaluating Microsoft Academic Research Support</u>

1. General Status:

What is the current status of the project?

The proposed design and implementation of the prototype xl-caBIG Smart Client, a set of extensions to Microsoft Excel 2003 that give scientists a graphical interface for accessing caBIG data-services, has been completed. Using this project as a proof-of-concept we are planning to secure additional funding to expand the project's original objectives. (Please see section: *Next Steps*)

Describe the progress that has been made against the milestones and outcomes described in the original proposal.
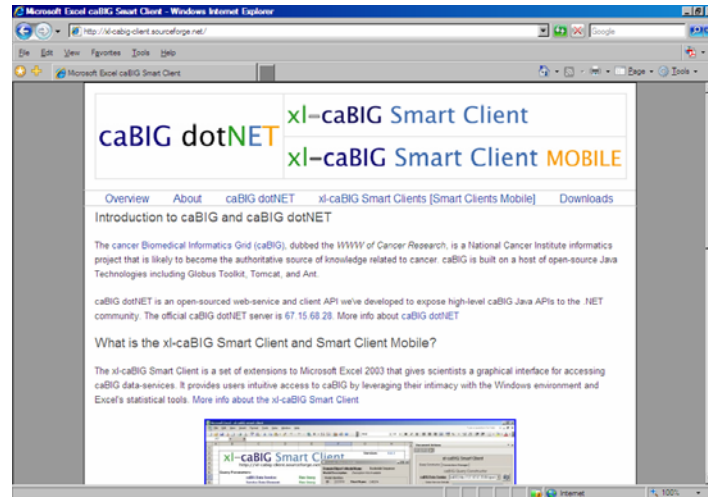
In our funded proposal (http://xl-cabig-client.sourceforge.net/docs/Small-Clients-RFP.pdf), we wrote:

(i) *"We will produce extensions to MS Excel as Windows Form Contextual GUIs that will allow users to access **caBIG** data-sources. The GUIs will transparently*
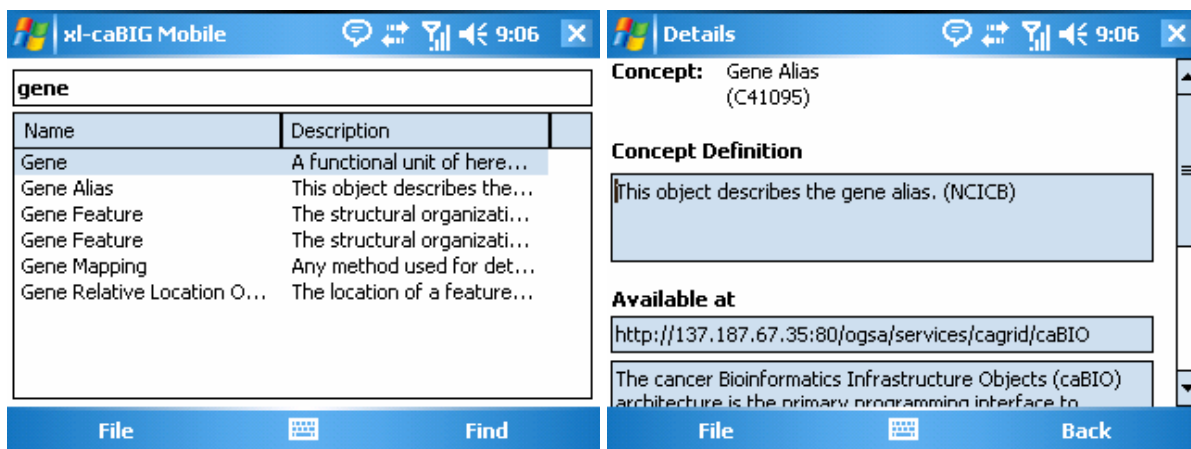
> *construct appropriate **caBIG** XML queries and reformat the serialized **caBIG** XML responses as cells in the Excel Worksheet."*

The extensions to MS Excel were released as **xl‑caBIG Smart Client** to the public in mid July 2006.

> *(ii)   "project's website will advertise the project, offer tutorials and be a distribution source for downloading the MS Excel extensions. Developer's will use our Tiki page, CVS, bug reporting, and public mailing-lists."*

The project website has been hosted on SourceForge (http://xl-cabig-client.sourceforge.net) since January 2006. It contains descriptive HTML pages, an active CVS repository, and PDF reprints of our posters and presentations. We provide example code (BasicClient.cs) designed to be a tutorial to developers. Since the project's community is still too small to justify it, we haven't yet implemented a Tiki page, bug reporting, or public mailing list. Instead we maintain contact with developers via email.

> *(iii)   "[xl-caBIG Smart Client MOBILE] translates into **caBIG** access on a wide range of computing devices including PDAs and mobile phones."*

xl-caBIG Smart Client MOBILE (released in mid July 2006) is an application for SmartPhones running Windows Mobile 5.0. This tool lets mobile phone users to check "on-the-spot" whether data they're interested in is available on caBIG.

2. Specific Outcomes:

Website:

The project's SourceForge website has been judged "very relevant and authoritative" by Web Search engines. This is bringing us significant visibility.

Search Term	Live Result	Google Result
xl-caBIG or caBIG dotNET	#1	#1
Excel caBIG	#1	#1
Microsoft caBIG	#1	#1
caBIG client	#1	#1
caBIG	#6	#13

Presentations:

We produced posters for *caBIG Annual Meeting 2006* and *Microsoft Faculty Summit 2006,* and also presented our work at the *Faculty Summit 2006* and *Microsoft eScience Workshop 2006.* Our poster and presentations are available on the project website: (http://xl-cabig-client.sourceforge.net/downloads.html)

Tool Development:

All project deliverables are released on our SourceForge website under the BSD license as installable executables and source-code Visual Studio projects. **caBIG dotNET** is our toolkit that other developers can use to create their own .NET applications that connect with caBIG data. We have simple example code (BasicClient.cs) that is designed as a tutorial for interested developers.

3. Additional Benefits:

Funding / Duration:

The **cancerGRID** and **caBIG** projects have expressed interest in collaborating and leveraging **caBIG dotNET**. We are in ongoing discussions regarding future funding. (Please see section: *Next Steps*)

Education:

An undergraduate and a PhD student contributed to this project. They learned transferable skills software development and technical skills in .NET Framework/JAVA/Web+GRID Services. They also practiced their written and spoken communication skills.

Other:

As a direct unique result of Microsoft Research funding, the PIs were able to attend the Microsoft Faculty Summit 2006. This was a very educational and memorable experience. Most notably, we enjoyed presentations by Criag Mundie and Jim Allchin as well as the *Computing in the Life Sciences Breakout* session.

Obstacles:

When we started our project, Visual Studio 2005, .NET 2.0, and caGRID 0.5 (Beta) had just been released. We found caGRID had bugs, was difficult to install, and didn't have complete documentation. Third-party middle-ware projects to bridge .NET and Java initially didn't support .NET 2.0 (just 1.1). We invested additional time working around those problems and succeeded. These obstacles just underscore the difficulties of doing "cutting-edge" projects.

4. Next Steps:

We are very grateful to Microsoft Research for providing us with seed funding that we could use to realize our ideas into a working prototype. We are very enthusiastic about continuing this project by expanding its scope. Our immediate goals are:

(i) *To design the second generation of* caBIG dotNET *built on .NET Framework 3.0 and caGRID 1.0. The current version is based on .NET 2.0 and caGRID 0.5.*

(ii) *To solicit feedback from the **caBIG** community to shape the continued development of* caBIG dotNET *. Based on this feedback we will decide what caGRID functionality needs to be exposed in .NET, we will finalize decisions on architecture and create tutorials and documentation.*

(iii) *To become adopted by the **caBIG** community as the official .NET connection for caGRID.*