October 11-13, 2009
Amsterdam

Doing things normally not possible from a CA Gen server program using web pages.

Clifford Wills, University of South Africa

Session 4, Track 2,
12 Oct 2009, 13:30-14:15

UNISA

Programme

- Brief introduction of the speaker
- Introduce the University of South Africa (UNISA)
- Describe the history of CA Gen in UNISA and how it is used
- Describe the CA Gen environment at UNISA
- Describe the challenges faced and why CA Gen along would not work
- Present the 'very simple idea' with some technical details
- Describe how this idea was used to solve the challenges
- Give advantages and disadvantages of this approach
- Conclusion
- Questions, Answers and more technical details if required

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Brief introduction of the speaker

- Deputy-Director at the UNISA
- Head up the Study Material, Assessment and Workflow systems development section in the ICT department
- Started at UNISA in 1990 as a programmer
- Promoted to senior programmer in 1993
- Became Project Manager/Deputy-Director in 1999
- B.Com degree in Computer Science & Economics and a B.Com(Hons) in Computer Science
- Started with Composer 3 in 1996 and now on CA:Gen 7.5

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The University of South Africa (UNISA)

UNISA university of south africa

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The University of South Africa (UNISA)

- University of South Africa is a Open & Distance Learning Institution
- Currently have 280 000+ students registered
- 4000+ staff members to attend to academic and administrative needs
- Offer 1000+ Programmes/Quaifications
- Main student body is in South Africa, but have students world wide

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CA:Gen in UNISA

- UNISA started with Composer 3 in 1996 with a conversion project. Mainframe, Cobol, DMS II to Windows Clients, Unix Servers and an Oracle database
- Upgraded Gen every two to three years
- Currently using CA:Gen 7.5
- Our Student System in written in Gen. Some 900+ client/server functions and 600+ batch programs

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The two challenges for CA:Gen

Here are two challenges that were solved using web pages. The use of a very simple idea allowed us to extend the functionality of CA Gen server programs to do almost anything

1) Not been able to update file names/directories on a file server from a Gen server program

2) Not been able to read another database, not part of the data model, from a Gen server program

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File names on a file server

- Study material in hardcopy and .pdf on web
- One set of meta data for both
- Changes to meta data must also take place on the .pdf file names stored on the web server
- The file manager written in Java
- myUnisa written in Java
- The study material system in CA:Gen running on a Unix box

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File names on a file server

- Files are in a web server while Gen server on Unix
- No simple way to update the file names
- Could use external written in C
- Very few C resources thus difficult to maintain
- The resources for the .pdf study material only use Java
- Keeping a C external and the Java system in sync difficult

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Reading Database not in Data Model

- Matriculation board provide data to UNISA
- This data is in a VB application with SQL Server database
- UNISA wanted to access this data from a Gen program directly
- Large amount of data just for inquiry
- We use Oracle database on Student System
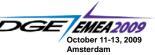- Oracle table space expensive
- Big changes to the data model

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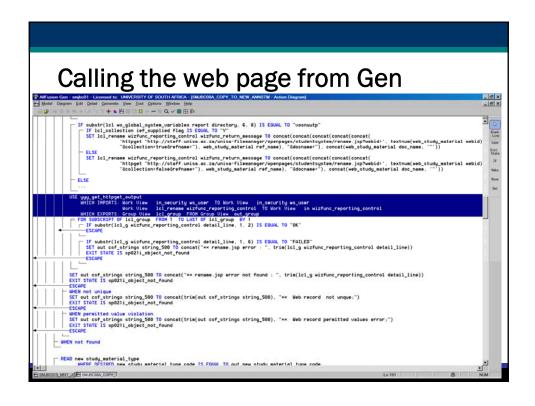October 11-13, 2009
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Very Simple Idea

- **Write a web page to do the work**
- For the files, the Java resources could easily write a .jsp
- For the VB application, it was easy to write an .asp to read the data
- The web pages are part of each system, not Gen
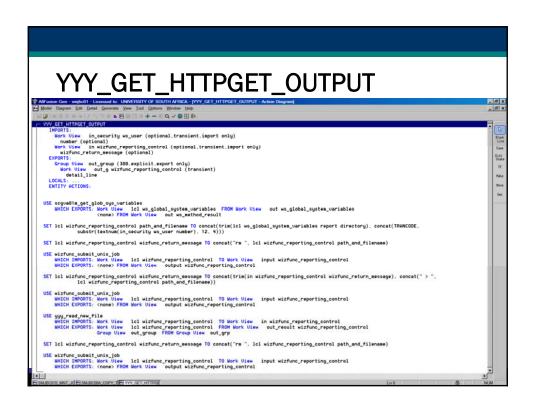- The Gen resources do not need to have .jsp or .asp skills

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How did we implement this idea ?

- A perl script was developed called 'httpget'
- It takes a URL and returns the results of the web page
- It is run from the command line
- A common Gen action diagram and standard C externals are used to call the perl script
- All the Gen resource must do is create a string with the URL and correct parameters

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Calling the web page from Gen

YYY_GET_HTTPGET_OUTPUT
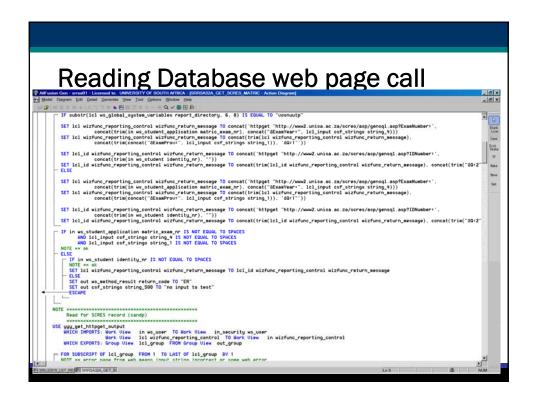
File names on a file server solution

- The Java resources that maintain the .pdf study material system wrote a .jsp (rename.jsp)
- The java team understand and maintain the web page
- The Gen team just use the web page
- The rename.jsp will change the directory/file names according to the parameters sent

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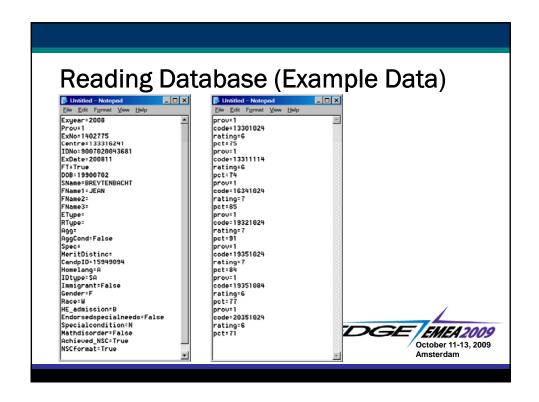**October 11-13, 2009**
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Reading Database not in Data Model

- One of our VB resources wrote a small .asp to retrieve the data given parameters
- The VB application remains standard as supplied by the Matriculation board
- If there are any changes to the database, we simply change the .asp

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Reading Database web page call

Reading Database (Example Data)

Advantages of this approach

- Main advantage, if you can write a web page to do it, Gen can do it
- The web page is maintained by the system owners
- The Gen developers do not need to know the details of the other system
- The same concept can be used in non Gen applications

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Disadvantages of this approach

- In read only type solutions, the only problem is if the web page is down, your Gen application will not work
- The is the same for all web services
- In update type solutions, the big disadvantage is the Gen developer must manage the roll back

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Conclusion

- Basically this uses to concepts of a web service

- It expands Gen functionality without having to re-skill Gen developers

- I hope this presentation has prompted you to think more creatively when designing Gen solutions

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Questions & Answers

- Any questions ?

- Please feel free to email questions to me

- Email: willscr@unisa.ac.za

- Thank you for your attendance

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