

GGF International Summer School on Grid Computing 2005 (ISSGC'05)

Wednesday and Friday: Final Exercise – *Searching for Knowledge*

1 Introduction to the Exercise

In this exercise you will work together in teams to integrate and review the work of the summer school. You will prepare a presentation and give this on Friday morning.

This will be used as a part of the evaluation so that we can issue certificates. The criteria will be based on how well you organised your teams and made use of the skills you have available to you. You will be asked to include slides on how each person contributed to the group's goals.

2 Learning Goals

When you have completed this exercise, you should have:

1. Reviewed what you have learnt and achieved in the two weeks
2. Reviewed the technologies you have used
3. Experienced a larger research task which reflects the kinds of tasks which grids are used for.
4. Deepened your experience of using one or more of the technologies

3 Objective

You will *work together as a team*, and allocate resources and time as *you* decide is appropriate, in order to develop a presentation in PowerPoint format. The file is to be named "groupn.ppt". This is to be emailed to mjm@nesc.ac.uk by 17:30 **TODAY**, Wednesday. Minor amendments *only* can be made before your team presents its work on Friday.

The presentation will be as follows:

1. Title slide: "Group n"
2. Review and compare the technologies introduced during the ISSGC'05. To do this, create **5 slides** that discuss how ONE problem faced by a member of your group can be addressed.
3. The progressive exercise. **1 or 2 slides** – an "executive summary" of your progress to date. Further code can be developed today – see the section below for more information.
4. A summary (a table on **1 or 2 slides**) indicating how each member of your team contributed to the group.
5. Feedback on the Summer School: **1 slide** - for example: what inspired, challenged, frustrated, was enjoyed by your team?

Decide how your team will present: you will be allowed up to 12 minutes on Friday, with two minutes for questions.

4 The "Search for Knowledge"

There is a surface generating service `PillarsOfWisdom` (<http://server4.gs.unina.it:8080/PillarsOfWisdom/surface>, also in the same location on servers 5 & 6) which when probed with sets of 2D points returns the corresponding set of 3D points which denote the surface elevation at those probe points. This can be done using the code which you were given for completing exercises 1.1 – 1.3 and minimal additional code which generates a search using expanding squares on the surface, (see

explanation of the search in the accompanying document Scanner.doc) this will be placed in the repository directory for Wednesday 20th http://www.gs.unina.it/repository/wednesday-20/FinalExercise_Day9-11/.

There are ten pillars, each of which has a rectangular cross-section and a flat top. These pillars are small ($\approx 10^{-8}$) compared with the area of the search space and their axils are aligned with those of the search space. On the top surface of each pillar is a rectangular raised plaque, on which text is either embossed or etched. If you obtain the text from all ten pillars you have obtained all of the information. If you interpret the information correctly you will have obtained the “knowledge”. Some theorists state that the height of pillars above the surrounding surface is significant.

There are services for storing data which have a limited capacity similar to those that you have used in previous exercises.

There are the results of previous researchers' efforts:

Data URI	Notes
DeepThoughtII	Incomplete
People'sPublicData	XML and incomplete

The text of these can be found in the repository for the day and are one XML file and one text file.

It is generally believed that between them these researchers have got close to locating all ten pillars but they possibly made erroneous observations. Their technology was too poor to resolve information on the surface of the pillars and was liable to generate false positives.

Remember these are incomplete and may not be accurate – try to test all of the hints.