

ISSGC 2005

Final Exercise

Group 2:

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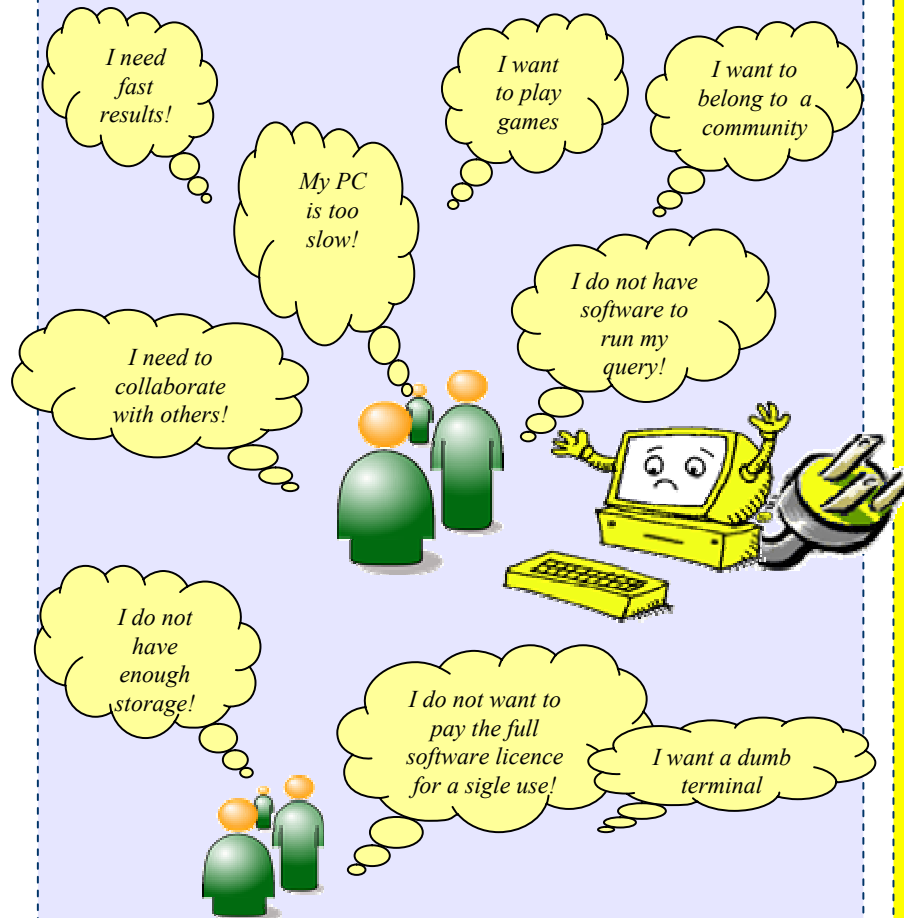
The Problem

- Consumers face exponential data growth in all aspects of digital life
- Consumers cannot keep up to Moore's Law
- Consumers demand a cost-effective and efficient solution to address:
 - Application Upgrades
 - Hardware Upgrades
 - Additional Storage Facilities
 - Flexible Bandwidth
 - Flexible Computing Power
- Consumers cannot afford multiple solutions, too costly on individual basis.
- Consumers looking for a consolidated solution.....

PLUG 'n GO

"Providing cost-effective, efficient usage of grid-enabled resources and services"

CONSUMER



MIDDLEWARE

PROVIDER

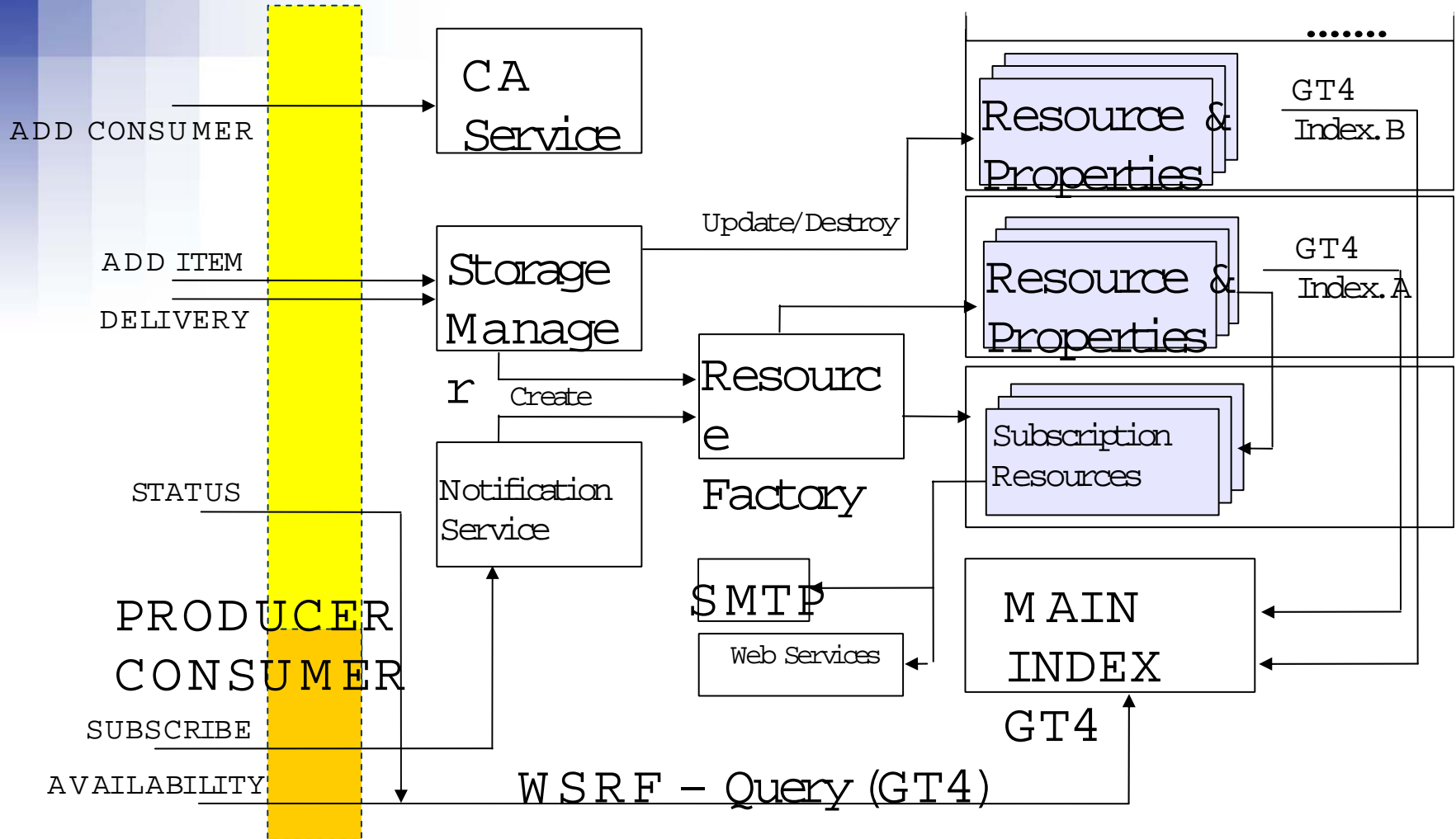
RESOURCES & SERVICES:

- **Application sharing**
 - . Office tools, games, etc.
- **Storage sharing**
 - . Multimedia, registries, etc.
- **Computing power**
 - . Data mining appl., simulations, etc.
- **Other services**

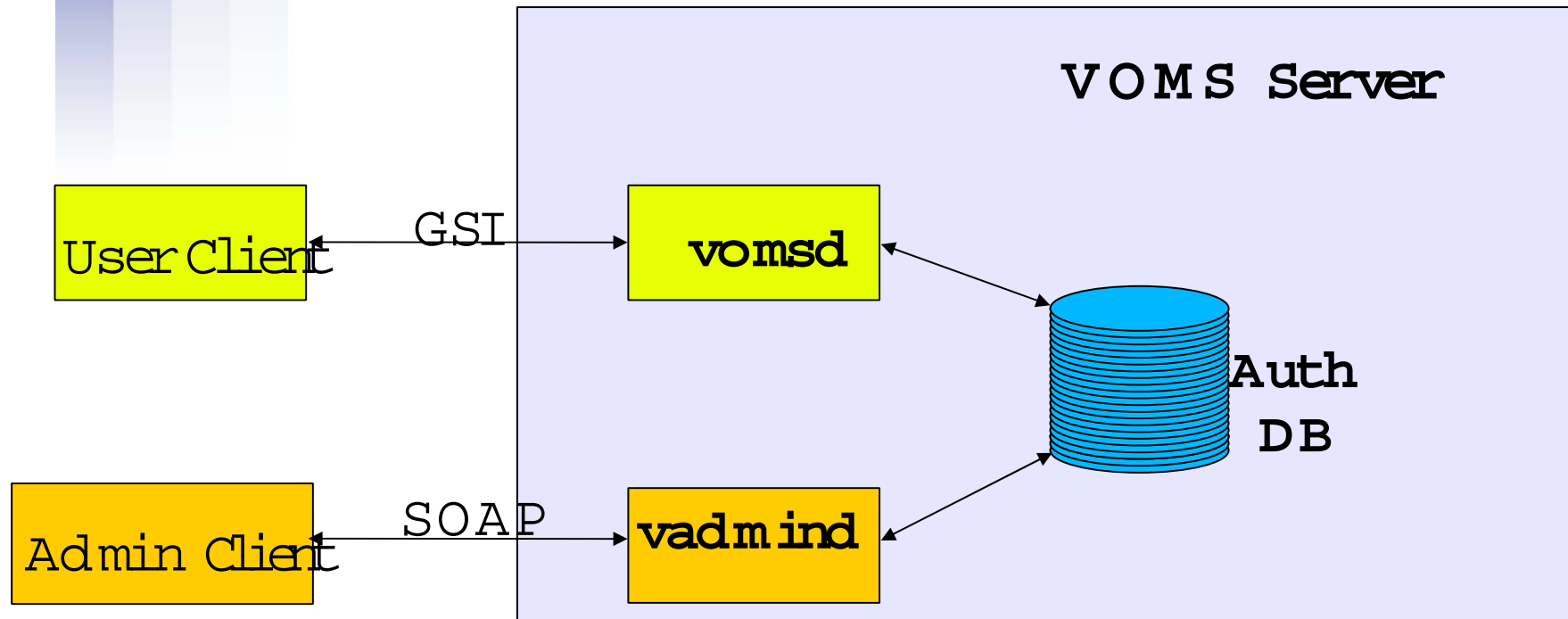
REQUIREMENTS:

- **Reliability**
- **Transparency**
- **Security**
- **Guaranteed privacy**
- **Digital rights managements**
 - . Licence sharing
- **Ownership**
- **Policies**

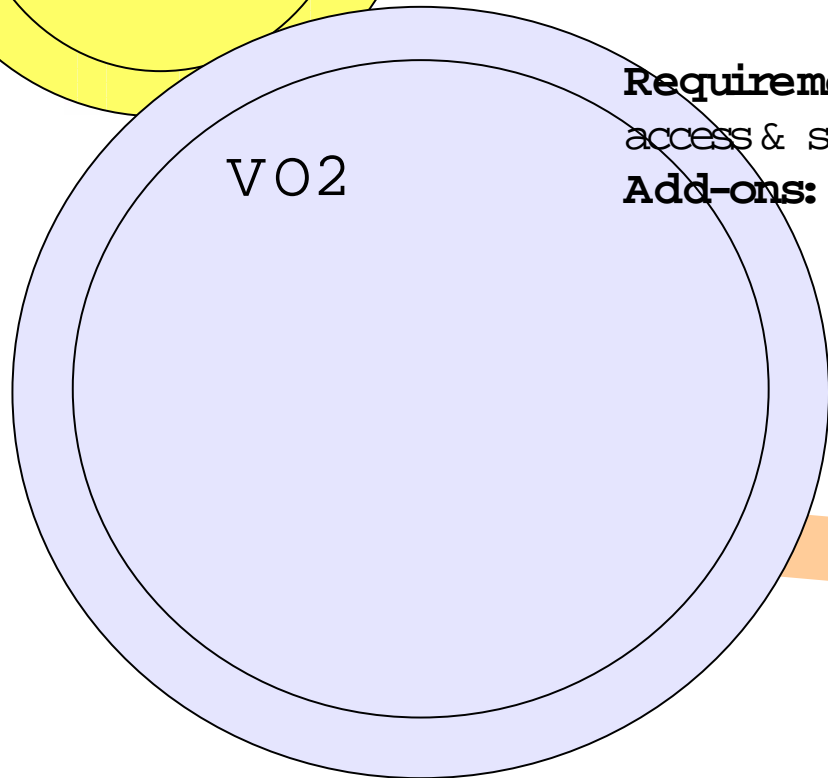
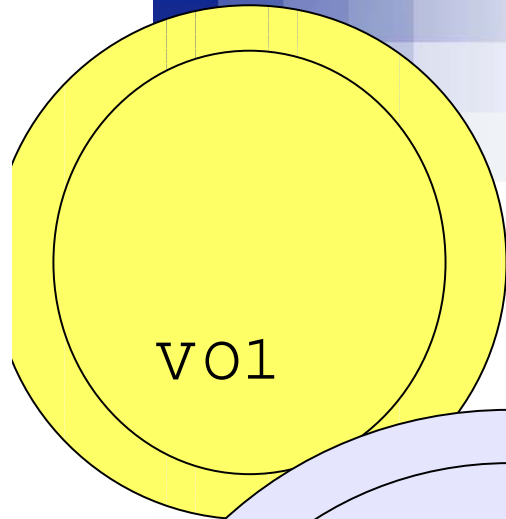
Underlying Infrastructure



Underlying Infrastructure



Future



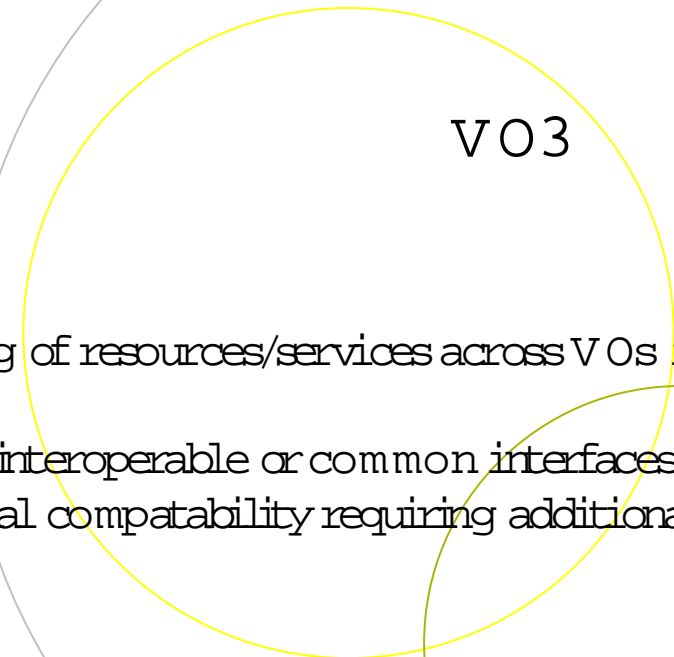
V0^

Key:

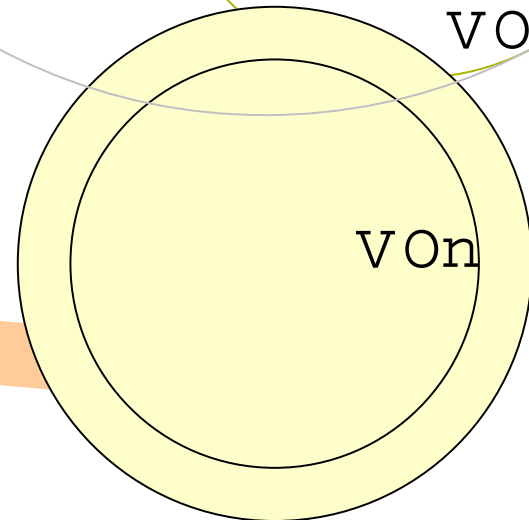
- Potential partial sharing of resources/services across VOs is encouraged
- Overlapping indicates interoperable or common interfaces
- Pipeline indicates partial compatibility requiring additional middleware

Requirements: interoperable interfaces, standards, access & service policies

Add-ons: Utility, Pervasive computing, Wearable Services



V05

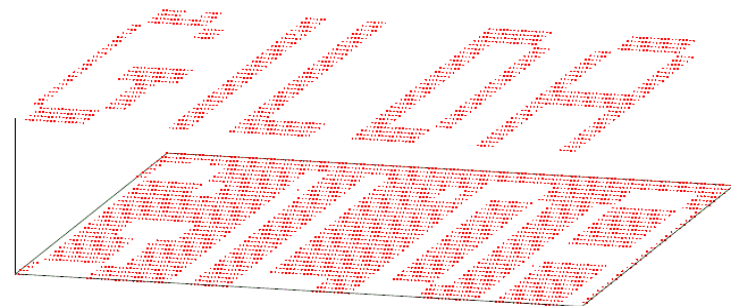
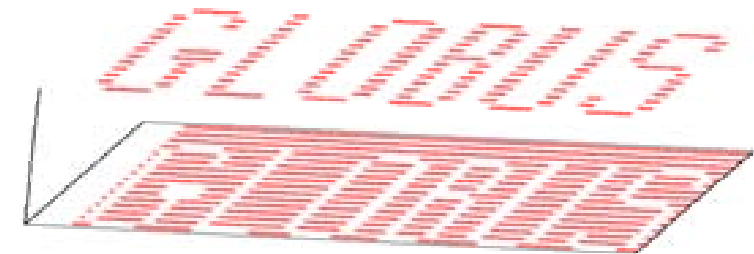


VOn

Progressive Exercise

1.1	Done	Local Implementation on "local" (nfs!) files with local batches
1.2	Done	Refactoring 1.1 based on future use of web services: services are provided as external .jar files computation done locally
1.3	Done	Tested on 10'000 points (500 probes of 20 points each) -> 401 seconds Replaced most of the tools (probe, randgen, ...) with web services Tested on 10'000 points -> 22 seconds Explanation (more than 18 times faster): - Computation is close to data 1.2: local computation, remote (nfs!) storage 1.3: remote computation and storage)
3.1	Done	Installation GT4
3.2	Done	Porting client to GT4 + WSRF for stateful services New class -> FileFactoryWrapper.java (EPR creation)
3.3	Not done	
3.4/3.5	Not done	For SurfaceService unavailability
4.0	Done	OGSA-DAI Tutorial
4.1	Done	Create a new OGSA wrapper class Tested on cuboids table
4.2/4.3	Not done	
Final	Done (partial)	Three pillars found with "GLOBUS", "GILDA" and "FAB GAGLIARDI" text

"Search for Knowledge"

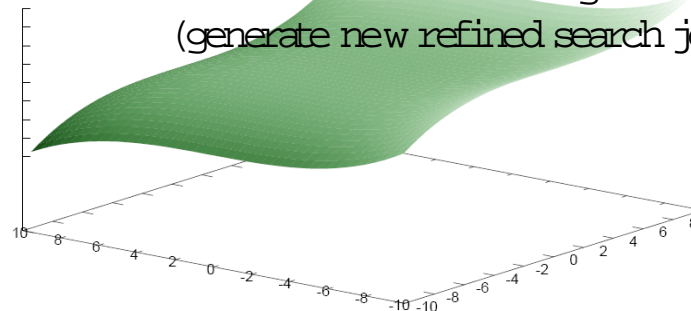


Exercise:

- Started to search for pillars
- Encountered problems with Scanner.java
 - Found pillars:
 - 8922.635 -9908,625 ("GILDA")
 - 2879.XXX 5977.YYY ("GLOBUS")
 - 6169.07 2183.127 ("FAB GAGLIARDI")

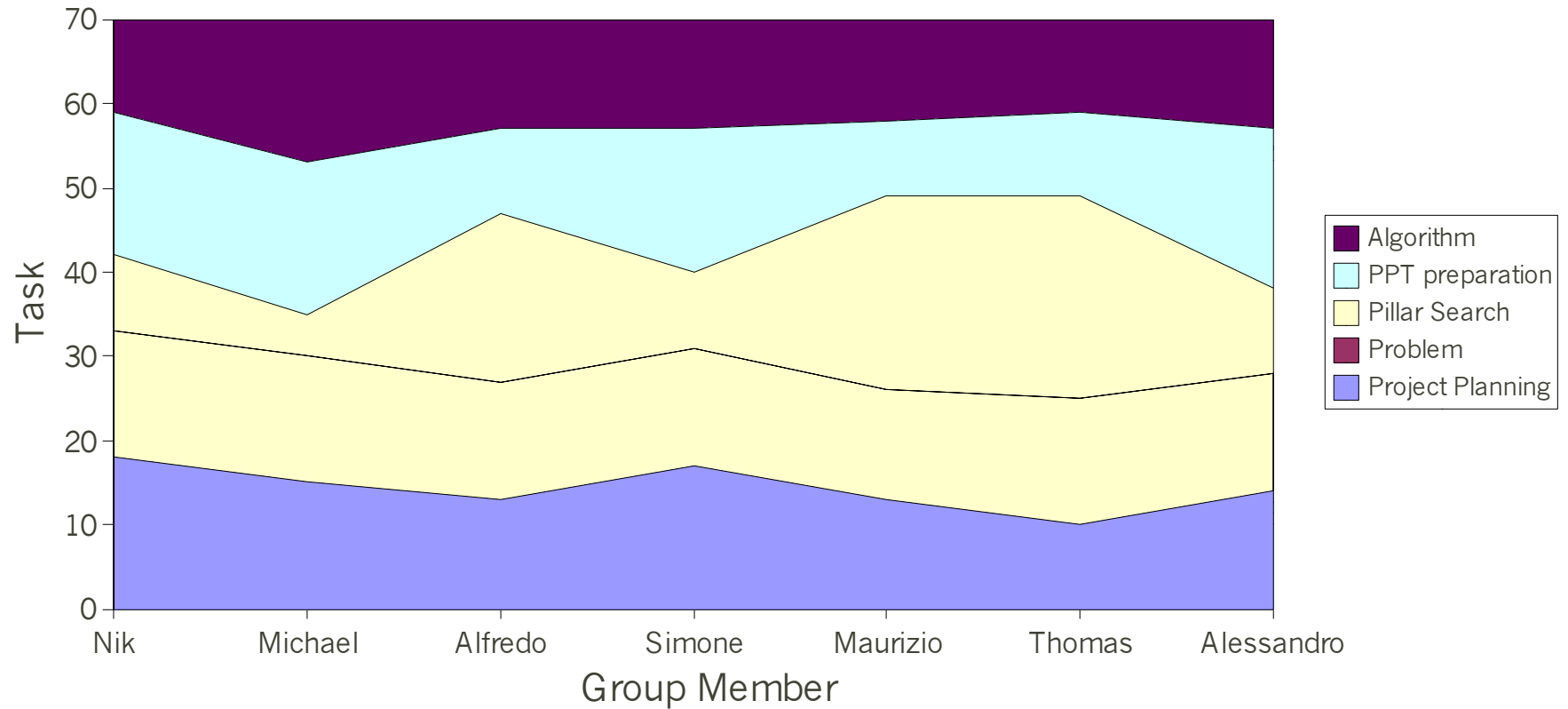
Evaluation:

- Nice exercise, but (too) complex
- Algorithm for pillar search should be given earlier
(focus should be on GRID computing, not on algorithm design/application programming)
- Allow (semi-)automatic search using condor
 - Workflow management using DAGMan
(generate new refined search jobs dependend on previous results)



Member Contribution

Group 2 Member Contribution



Feedback

:-)

- Diverse audience
- Meeting people
- Social excursions
- Appropriate location
- Technical facilities
- Teaching resources
- Immediate responses
- Adaptable, flexible curriculum

:-)

- Diverse audience
- Programming focused
- Ambitious programme: too much information to accumulate and apply them in practical sessions
- Printing facilities
- Trainers had to present a wide range of issues in a limited time
- 9am to 6pm class time only
- Wanted more conceptual understanding, open discussion sessions, workshops, team challenges
- A step by step guide of how to do things (workshops) & demonstrations of real-world grid projects
- Originally scheduled speakers changed
- On-site Programme Chair