Knowledge Networking & New Research Directions

Arabic GSSD

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Overview

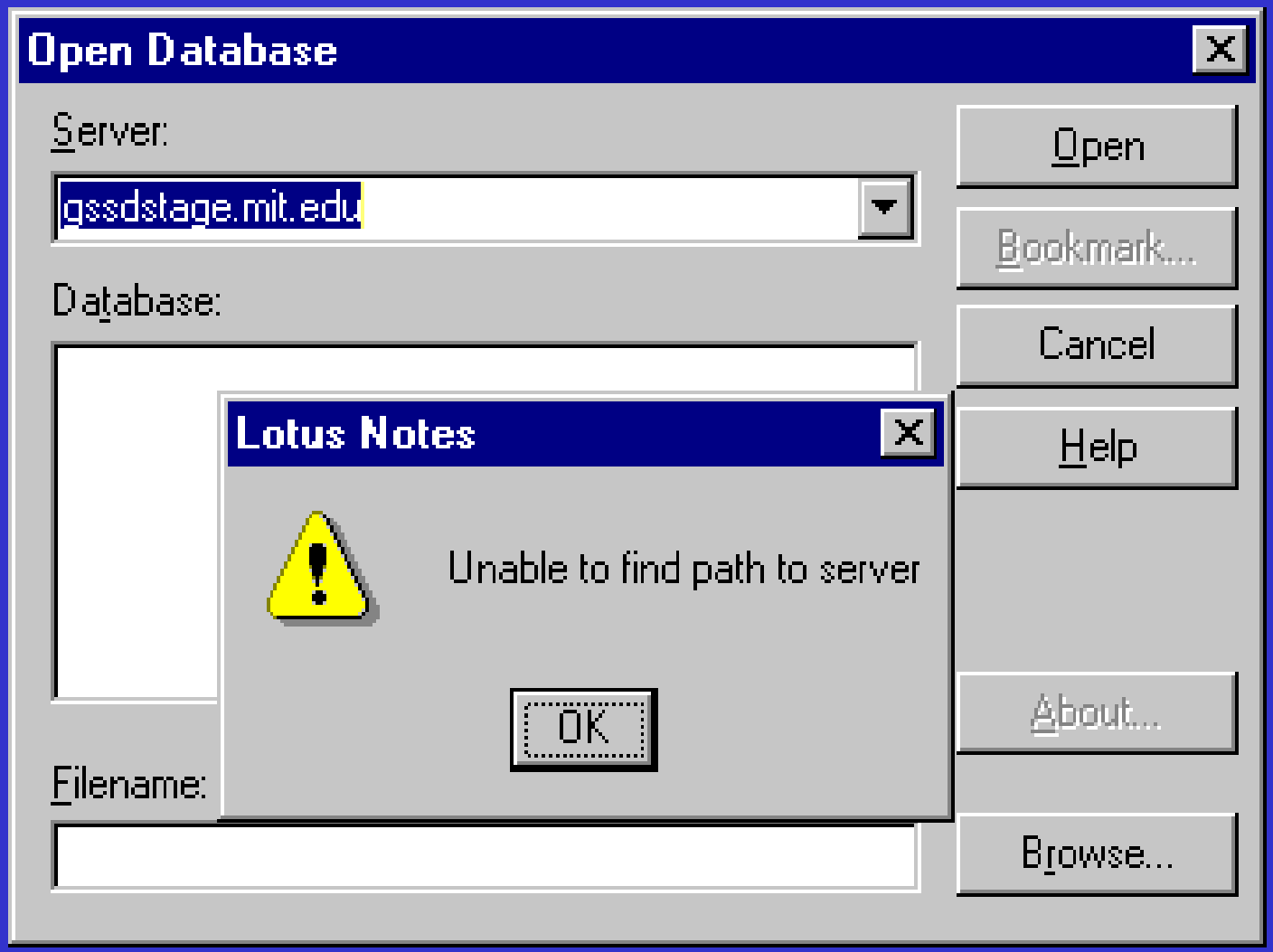
- Challenges of Global Knowledge Networking Arabic GSSD
- Environmental Problems in Lebanon
- New Research Directions

Key Challenge:

To connect directly from Lebanon to gssdstag housing the knowledge base

- Connection is required for access for initial translation of existing knowledge.
- Effective connection enables uses of the automated menu item translations which reduces translation workload by as much as threefold.
- AUB systems operate behind a firewall, which is a serious barrier to access.
- Translation is done through exchange of files via Internet using Wordpad or Arabic Microsoft.

Error Message



Message from AUB Internet Manager

- We installed the lotus notes on one of our PCs and tried to connect to the database at gssdstage.mit.edu. Lotus Notes is trying to connect directly to gssdstage.mit.edu at port 1352 and not port 80.

- Since our PCs are behind a firewall, this connection will not be possible. We also tried to run the application through socks but it didn't work.

- Can you please notify your contact persons at MIT and ask them if they have a solution for this kind of problem.

Other Challenges

- Lotus Text Editor:
  - Length of a String
  - Reading RTL
- Communication problems between AUB &MIT.
- Language barriers - those receiving the translated files & managing GSSD are not familiar with Arabic. The next figures show this problem

النظام العالمى للتنمية المستديمة

ألشبكة المعرفية الأم (الشبكة المعرفية العامة) لعمل القرار ووضع الأستراتجيات

MIT

النظام العالمي للتنمية المستديمة

ما هو الجديد

ابحث في ال GSSD

استعمال ال GSSD

تقارير ال GSSD

اتصل بال GSSD

زيادة موقع

اتحاد

ألشبكة المعرفية الأم (الشبكة المعرفية العامة) لعمل القرار ووضع الأستراتجيات

Next Steps

- Solve the connection problem
- Improve the Lotus Editor
- Improve the communication through setting clear objectives
- The goal is to control all Arabic translation and data inputs in one location (Lebanon).

Environment-Lebanon Problems

Manufacturing employs 4% of the country small population & of raw materials & the prolonged years of war account for the virtual absence of heavy primary industry.

However:

- Air pollution, poor air quality in urban areas & elevated pollutant concentrations caused by vehicular emissions, localized concentrations of sulfur dioxide, nitrogen oxides & particulate surround industry and power stations.

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- Solid waste arising from industry is 326,000 tons per year. This waste is being disposed of through municipalities, as a well as via informal on-site incineration or dumping.
- Liquid wastes represent a major concern, as there is virtually no treatment of liquid wastes from industry. Liquid wastes are mostly discharged into surface waters, coastal waters and valleys.
- This practice is widely used by almost all industries regardless of their location, type of production, or extent of activities.

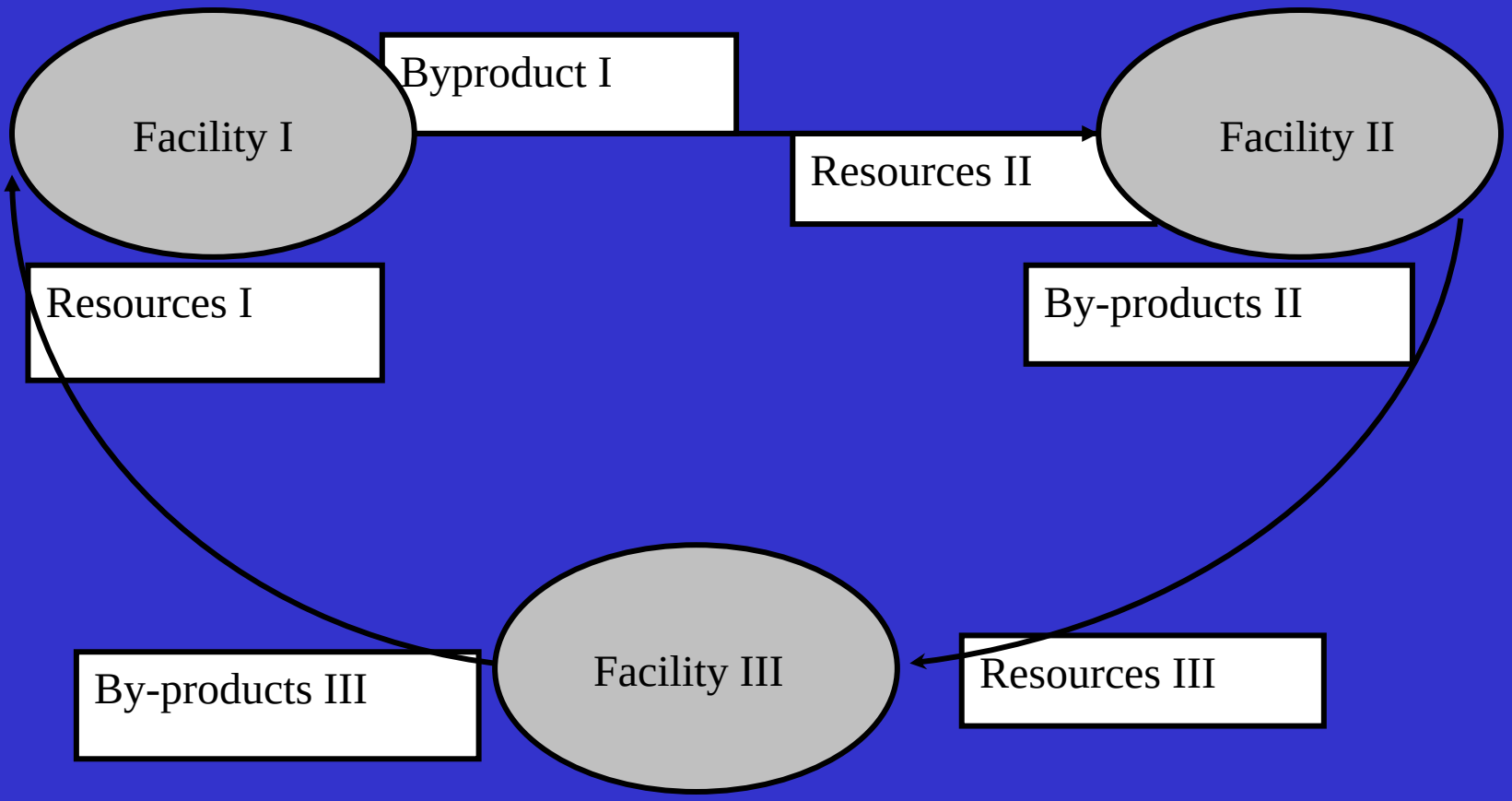
Continued/2

- Various industrial activities created heavy stress on land resources such as soil, forests, landscape and shorelines
- These concentration of industrial activities in the coastal zones, uncontrolled disposal of industrial wastes, quarrying of aggregates and clay, sand mining in mountainous zones and along the shorelines.
- Results include land and soil contamination with chemicals, erosions & landslides near quarries and mines, sandless beaches, loss of beach amenity & destruction of agricultural lands.

Research Projects

- National Level:
  - The First National Inventory of Greenhouse Gas Emissions (1998).
  - National Industrial Waste Management Plan, Republic of Lebanon, Beirut (1996).
- AUB: Small scale research done by university Professors. Earlier work was done through cooperation between AUB & MIT.
- Design of a New Initiative - IEL

A Proposal for Building an Industrial Ecosystem for Lebanon



Industrial Ecosystem

- Goal is to create partnership opportunities for reusing waste materials, water, and energy
- Designed to help business people who are looking for ways to cut costs and reduce the use and disposal of natural resources by their businesses.
- Help people who are working to create more sustainable communities by identifying ways to turn wastes into useful products
- Reduce the generation of greenhouse gases in air, pollution in water, & the trash in landfills.

Overview of IE

- IE System composed of a database and a GIS system.
- The database will include all the data collected from the surveys and it is connected to the GIS.
- The GIS will include street maps that will locate each facility.
- All the relevant information in identifying partnerships will be visually shown in the system. Information will include inputs and outputs of each facility.

Proposed Methodology

- Establish initial project team from universities, industry, public agencies, and other societies and professional organizations.
- Identify the different manufacturing facilities that will participate in the project.
- Design the survey for use in collected data from different manufacturing facilities.
- Collect the survey & do follow-up interviews to clear any confusion.
- Build the IE & enter the data which to identify potential partnerships for the reuse of the different byproducts

Significance of the Work

- IE can also be used by decision-makers from all sectors to promote effective sustainable development policies regarding industrial ecology and pollution prevention programs.
- IE can be expanded to include manufacturing facilities from other regional countries.
- The system can be used for education & training
- IE can be connected to other knowledge systems (such as GSSD) as a prototype for use in other regions.