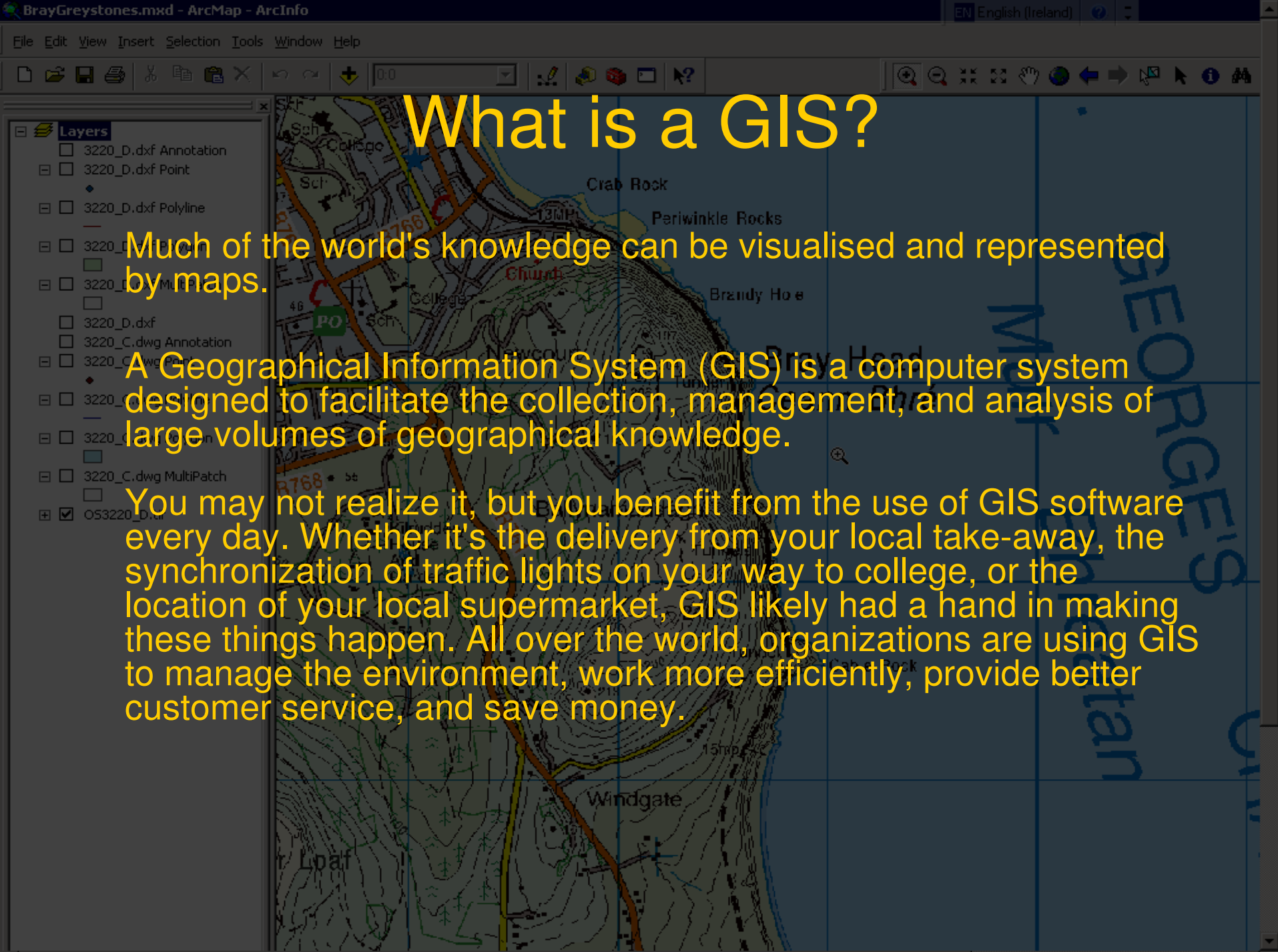


Geographic Information Systems

Mark Foley

mark.foley@comp.dit.ie
www.comp.dit.ie/mafoley



What is a GIS?

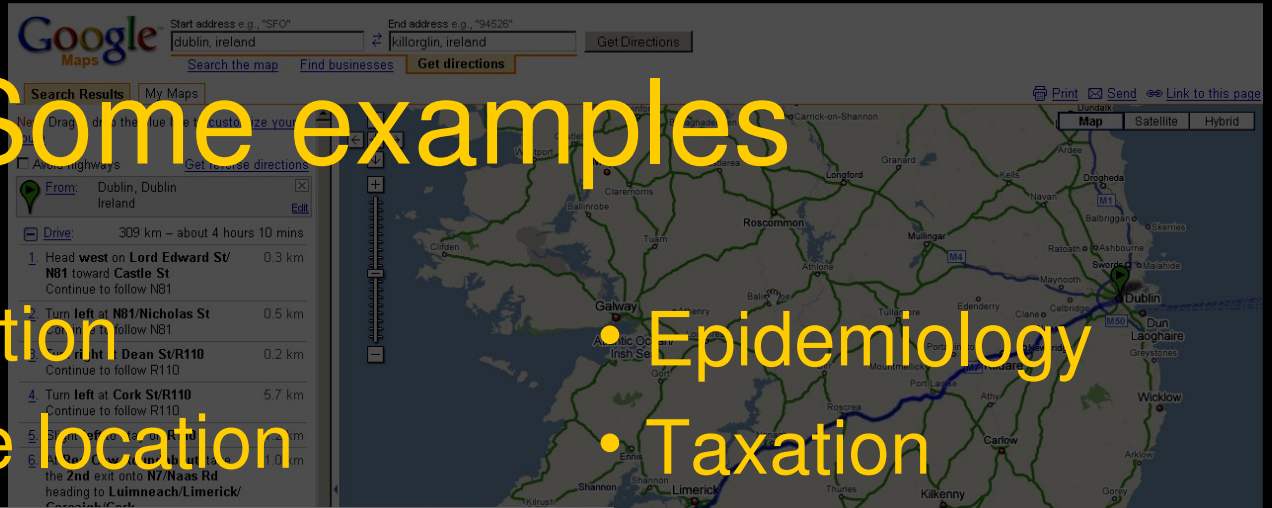
Much of the world's knowledge can be visualised and represented by maps.

A Geographical Information System (GIS) is a computer system designed to facilitate the collection, management, and analysis of large volumes of geographical knowledge.

You may not realize it, but you benefit from the use of GIS software every day. Whether it's the delivery from your local take-away, the synchronization of traffic lights on your way to college, or the location of your local supermarket, GIS likely had a hand in making these things happen. All over the world, organizations are using GIS to manage the environment, work more efficiently, provide better customer service, and save money.

Some examples

- Navigation
 - Service location
 - Environmental management
 - Vehicle routing
 - Emergency services
 - Law enforcement
 - Epidemiology
 - Taxation
 - Local Government
 - Land registry
 - E-Government
 - Tourism
- And many more*



The course

Theory plus practical hands-on use of GIS via ArcINFO software

- Putting the world into the computer
- Georeferencing
- The nature of geographic data and uncertainty
- Geographic data modeling
- GIS data collection
- GIS Software
- Creating and maintaining geographic databases
- Query, measurement and transformation
- Descriptive summary, design and inference
- Spatial modeling with GIS
- Cartography and map production
- Geographic information management

GIS & CompSci/IT

- Knowledge Management
- Advanced data representation
- Graphics/Visualisation (2-3D)
- Data mining
- Web development
- Web services

You might like GIS if you like ...

- Maps, geography and cartography
- Visualisation in 2&3D
- Advanced aspects of database technology
- Programming & scripting (average programming skills would do)
- Interesting uses of data and systems

something a little bit different...

A detailed historical map of the Wood Quay area in Dublin, Ireland. The map shows a dense urban layout with numerous streets, buildings, and landmarks. Key features include St. Patrick's Cathedral, St. Peter's Church, and the River Liffey. The map is oriented with North at the top. The text "Further Information ..." is overlaid in a large, bold, yellow font in the center of the map.

Further Information ...

<http://www.comp.dit.ie/mafoley/GIS>