Dr Oli Mival
Senior Research Fellow

- Leading Interaction Design on COMPANIONS project
  (€14 million EU Framework 6 funding, 16 academic and industrial partners)
- Future Living. Future Life.
- Project ICE
- Some questions...
WHAT IS THE COMPANIONS PROJECT?

Intelligent, Persistent, Multimodal Interfaces to the Internet

- unified natural language interfaces
- speech technologies have matured to a usable level
- ASR to NLU to NLG to TTS
- server side or local processing
- context aware multimodal interactions

lovely...but what does this mean for normal people?
Natural, intuitive, powerful interfaces to massive data sets....

eg. our digital photos
We used to use these...
but now we’ve got these...
and that gives us a problem...
this...
becomes this!
Information Overload!

What can we do?

Add information about information....
- Allows for powerful search, retrieval and collation

- Boring as hell to add manually, and practically impossible when dealing with 1000’s of images

- We apply Talk to Tag, allowing a Photo Companion to automatically acquire rich metadata (and embedded audio) about a selection or collection of photos

- This allows the Companion to build a rich tag database as well as complicated relationships between images and the contents of those images
Moving from ALL to MANAGEABLE

Movement possible by applying boolean application of tags (metadata) to ALL LAYER
Chateau Saint Martin des Champs

July 21st 2007

Oli & Mhairi’s Wedding

Sam Wood

John Feeney

Chateau Saint Martin des Champs

July 21st 2007
making this possible...

TALK-2-TAG

allowing automatic, semi-automatic and user generated metadata addition.
Automatic

- Image
  - Width: 3,230 pixels
  - Height: 2,152 pixels
  - Original Date: 21/07/2007 11:21:52
  - Digitized Date: 21/07/2007 11:21:52

- File
  - Name: IMCP0207.JPG
  - Size: 1.5 MB
  - Modified: 27/07/2007 21:50:10
  - Imported: 05/10/2007 16:02:43

- Camera
  - Maker: PENTAX Corporation
  - Model: PENTAX K10D
  - Software: QuickTime 7.1.6

- Exposure
  - Shutter: 1/250
  - Aperture: f/6.7
  - Max Aperture: --
  - Exposure Bias: 0.00
  - Exposure: Normal program
  - Exposure Index: --
  - Focal Length: 35mm
  - Distance: --
  - Sensing: One-chip color area
  - Light Source: --
  - Flash: Off
  - Metering: Pattern
  - Brightness: --
  - ISO Speed: 100
  - GPS Latitude: 43.169521
  - GPS Longitude: 3.169521

User Generated

- Text Strings
  - Old Friends
  - Worked together
  - Ran company together

- Associated Emotional State
  - “This reminds me of the good old days...”

Semi-Automatic

- Event
  - Oli & Mhairi’s wedding (general & specific)

- People
  - (2) John Feeney + Oli Mival

- Place
  - Chateau Saint Martin des Champs

- Rating
  - ****

- E.I.
  - High
Connections allow the user to move through their data via objects and classes and visualise how the objects are distributed across all the data. In real terms, how many times does a certain person appear in certain events and with certain other people.
THE MOBILE, THE ULTIMATE PDA

Our always connected, location aware, central resource for all information and digital artifacts.

eg.

our music, photos & video
our contacts
our schedule
our social networking
our online resources (email, etc)
That is Gary Burns next to Mark. On Gary's left is his brother, Brian.
BRIAN'S STAG DO
April 3rd 2009
Crieff, Scotland
Mark O’Neil, Gary Burns, Brian Burns, Graham Sands
Augmenting reality in non-real time...
Why are we so focused on the visual?

What about the other senses?
FUTURE LIVING, FUTURE LIFE

- Potential 5 year investment of £3.5 million
- Augmenting current spaces and creating new ones
- Investigating current interactions and developing novel ones

- First stage is Project ICE
- Second stage is an augmented Public space (eg Student Wall)
- Third stage is large scale living environment
WHAT IS IT?

Conceived as a multi-user, multi-orientation, multi-screen, multi-touch environment using multiple platforms for development and research into novel interaction experiences, networking and emergent computing.

The room has bespoke, commissioned industrial strength hardware to ensure for a robust future proof technological platform on which to build a portfolio of cutting edge, world-class research and development projects.
WHAT’S THE CONCEPT?

Removing the mediation of the traditional desktop computing paradigm frees our developers and designers to work towards the next generation of user interfaces.

The ICE is intended to be a blank slate where the technology doesn’t drive the applications, rather the needs, wants and activities of the people using the space do.

We feel collaborative environments must allow the free flow of ideas between people whilst maintaining a browsable history and formalisation of any process that takes place.

Constraining people to one-at-a-time interactions in a crippled space has no place in the 21st century.

Be it a door a wall or a tabletop, all aspects of an environment should help the people within it fulfill their activities and do so in pleasurable intuitive ways.

The ICE uses cutting edge hardware to provide the infrastructure and platform for this aim.
PROJECT ICE
PUBLIC VERSUS PRIVATE SPACES?

AR is an opportunity to privatise public spaces, eg student grades, private messages to club members
A COUPLE OF QUESTIONS ABOUT AR/MR?

- Where does the content come from?
- Advertising will worm its way in

- How can you trust the source?
- How can we filter the world cloud through interaction context?
- How can other modalities other than video be utilised?
- Is there a way to have a generic (non commercial) AR API?
- How do we initiate interaction experiences?