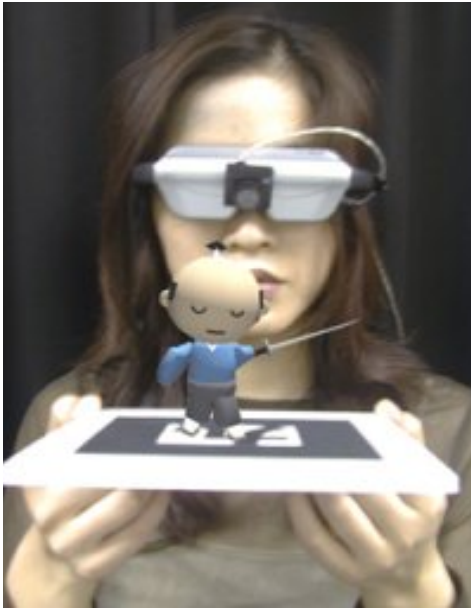


Master Recherche INTERACTION

Mixed Reality and Tangible interfaces



Optional module : 25h

Objective: Present concepts, techniques, algorithms for

- Mixed Reality and augmented reality
- Tangible interfaces and situated interaction



A course in two parts

12H Augmented Reality



- ✓ Capturing reality (3D image analysis, real-time tracking and object registration)
- ✓ Creating virtual Content for AR
- ✓ Augmenting reality

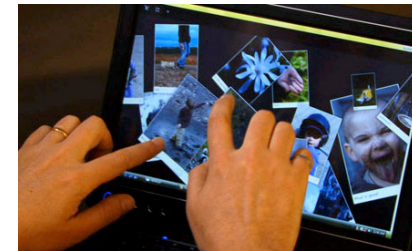
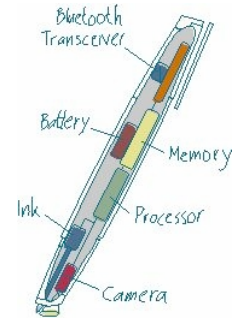
12H Mixed Reality and tangible interfaces



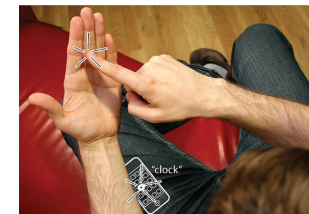
- ✓ Physical Interaction: objects and space
- ✓ Technologies & limitations
- ✓ Design challenges

Tangible Interfaces

- ✓ Discuss tangible interaction (surfaces, objects, space)
- ✓ Available tangible technologies
- ✓ Challenges in designing tangible interaction
- ✓ Small Intro to Ubicomp (computing everywhere)



- ✓ Focus on touch interaction
- ✓ Focus on smartphones



- ✓ 4 sessions of 3h, one session minimum of which TD/TP on concrete examples

Augmented Reality

- ✓ Real/Virtual Continuum
- ✓ 3D environment analysis
- ✓ User capture
- ✓ Virtual content creation
- ✓ Augmentation



- ✓ Realistic 3D mixing of real and virtual content in real-time
- ✓ Links between Virtual Reality and Mixed Reality
- ✓ A special case of Mixed reality: tele-presence



- ✓ 4 x 3h sessions with at least one « hands-on » course on a concrete example.

Exam

- Table exam
- Big project with TI and AR components: fun !

