Frequency 1550

Location
Netherlands

Aim
The aim of the project was to develop a mobile game using multimedia and GPS technologies that allows learners to investigate and learn about Amsterdam's rich history.

Description
Frequency 1550 transports learners to medieval Amsterdam in the year 1550. It uses mobile phone technology and provides opportunities for exploration and role play.

The Waag Society developed the Frequency 1550 ‘mobile learning game’ pilot together with IVKO, part of the Montessori comprehensive school in Amsterdam.

The game is aimed at learners aged 12-14. Frequency 1550 was a research pilot examining whether it is possible to provide a technology-supported, educational location-based experience. The pilot took place in 2005 and was supported by KPN Mobile’s UMTS network.

The role play starts at a design workshop using computers and phones in which the technology experiences ‘interference’ from medieval Amsterdam.

A recording of the medieval city's bailiff makes contact with 21st century Amsterdam. Through some technical difficulties and religious misunderstandings he mistakes the intruders to be pilgrims coming to 1550 Amsterdam to visit the special relic: the Holy Host associated with The Miracle of Amsterdam. Because it was recently lost, he suggests a deal: he can provide easy access to citizenship if the learners can help him retrieve the holy relic. The students take up their roles as competing pilgrims and step into the game's story.

The city itself is a starting point for learning-GPS and games working together. It is a motivating environment that uses real life, role play, and multimedia.

Scale
The research reflected on the experience of 10 groups of 30 young people. 10 further groups received traditional lessons, so in total 600 young people were involved.

The pilot took place over 10 days.

Cost
• €200,000 was spent on development of software and research.
• Amsterdam Council undertook a pilot project in 2005, and sent out tender to use broadband/mobile/educational providers to explore Amsterdam. The Waag Society tendered for the work, and added its own investment.
• School response has been very good, so more funding came for next phase from Kennisnet, and some private cultural funding, to stabilize platform and examine learning outcomes.

Price
NA

Staffing
The project team of six people includes educational developers, back-and front-end developers, and the content team. Researchers from Universities in Amsterdam and Utrecht University and teachers were also involved.
Case Study

Leading Practice
The project demonstrated mobile phone technology, location-based, and games-based learning.

Impact
As a pilot project the immediate impact is limited, however, the project will have had an impact on the development of new pedagogies that take advantage of new technology.

Lessons Learned
The greatest challenge was to get the platform stable and to minimize latency and delay in response times. “The enthusiasm in the project was only as strong as the technological stability of the hardware.”

It was noted that further research is needed with respect to the comparative value and benefits of making games for learning compared to using existing games for learning.

Technology
- Network
  Content is deployed over a cellular network that is built around a java server side programming environment working on Tomcat or Apache servers (KeyWork) and which supports any client development on mobile/web—Ruby, Flash, C++, Java, dHTML
- Hardware
  Mobile phones
- Software/Applications
  The Open Source development tool KeyWork is available under a GNU license and has been made available to organizations not wishing to create for commercial gain
- Media
  The software environment has been five years in development and has grown out of a need for a real-time system to present multimedia in performing arts

Similar and Related Projects
Uncle Roy All Around You (Blast Theory): www.blasttheory.co.uk/bt/work_uncleroy.html

Love City (University of Nottingham Mixed Reality Lab): www.makinglovecity.blogspot.com/

Can you see me now? (Blast Theory): www.blasttheory.co.uk/bt/work_cysmn.html

Heartlands (We are Mudlark): www.wearemudlark.com/projects/

Mudlarking in Deptford (Futurelab): www.futurelab.org.uk/projects/mudlarking-in-deptfordam

Amsterdam Realtime–1998–made devices with GPS/GSM/GPRS–The Amsterdam would appear gradually, alongside a map of Amsterdam that was being created live

Proboscis, Urban Tapestries project: http://urbantapestries.net/

The Island Project (Waag)—Fort Amsterdam—Cross collaboration using location based architecture

At the start of a 400-year-old bond between New York City and Amsterdam, Henry Hudson sailed from Amsterdam to NYC and established the city. The Games Atelier software will be used to run gaming activities that celebrate this connection, with a Web quest and virtual world component.

Read the Education Best Practices Whitepaper and other case studies at:

Sources
Van Zeijts, H and de Heer, K, 2009, Interviews with Henk van Zeijts and Keimpe de Heer at the Waag Society

Material supplied in hard copy by the Waag Society.
Case Study

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