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A case study of the development of a 3D virtual object handler and digital interactives for museums by Canalside Studios (University of Huddersfield).

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Canalside

In 2005 the University of Huddersfield launched a small in-house computer games studio, Canalside Studios. Funded by the University the studio was set up to provide work placement opportunities for students from the BSc Computer Games Design and BSc Computer Programming. The studio team is made up of an eclectic mixture of students and recent graduates that are interested in multi-disciplinary and cross-fertilization of subject-matter.

The studio first published in 2007 entitled “Yo Ho Kablammo”, developed for Xbox Live Arcade under contract to Microsoft, building on this success “Miss Sailor’s Treasure”, developed for the SEGA STV game console under contract to Sega, was published in 2008.

The knowledge exchange and experience of developing and owning a game with the support of the SLR has been highly beneficial to the studio with students able to undertake aspects of the games development cycle, including managing the technical completion of production and all the financial and legal issues associated with commercialization of software for the games platform and in doing so learning about project management, teamwork, and the pressures of delivering a content creation project.

The studio has since been involved in a range of projects including: - prototyping an interactive children’s game for the Royal Armouries, developed for the Xbox Live Arcade and software for the Museum of the Red Sea, Kuwait; to support the historical research project building on the work of previous generations of students.

Designing software for Xbox generation
The studio has worked with several partners to develop the next generation of software for the Xbox including: - design and programming for the interactive children’s game for the Royal Armouries, developed for the Xbox Live Arcade and software for the Museum of the Red Sea, Kuwait; and an augmented reality application for the Microsoft Kinect, which was developed for the Education Media Foundation, UK.

In the case of the Royal Armouries in Leeds some objects from the collection are available to handle through the educational programmes however the user either frustrated due to an overly complex mechanics or too immersed so that the experience of handling digitally is not representative.

The concepts around the virtual reproduction technologies adopted a variety of approaches to creating the 3D objects and the selection of a nose which is more representative, both technically and with an eye towards the experience of handling digitally is currently in development.

The museum’s existing digital displays have been in place since opening of the Leeds site in 1996 and need updating to meet audience expectations. The main challenge is to provide the user with an effective interface to facilitate two-way knowledge exchange between students, academic staff and the games industry partners. This exchange facilitated the development of the Royal Armouries Collab library to support the planning of the educational programmes and to enhance the learning experience for the user.

The Royal Armouries Collaboration

The studio team initially produced a series of prototype games and digital interactives based on a brief set by the Royal Armouries. The majority of the requirements were defined by the curators for the Leeds site with the local area planning to animate the suits of armour, to give the user the opportunity to experience the different parts of Armouring.

The prototype was extended to include a 3D prototype screen showing various weapons and armours, a 3D nuclear game, a 3D combat game, comparing different classes of armours, the “Heavily Armoured” game, and 3D object handler. These were presented to the staff at the International Congress of the International Committee of the Museum of the Red Sea and History (ICOMAM) in January 2009 and were enhanced and modified available to museum visitors.

The museum’s educational programmes work closely with the Royal Armouries to ensure all requirements of the Brief event to develop an interactive to complement the existing gallery display that would engage a visitor for five to seven minutes.

The first prototype included a a 3D “Toy Trump” style game comparing various weapons and armours, a 3D nuclear game, a 3D combat game, comparing different classes of armours, the “Heavily Armoured” game, and 3D object handler. These were presented to the staff at the International Congress of the International Committee of the Museum of the Red Sea and History (ICOMAM) in January 2009 and were enhanced and modified available to museum visitors.

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