



IMMERSIVE PRODUCTION AND DELIVERY OF INTERACTIVE 3D CONTENT

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Classification and Approval

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RE@CT Consortium Overview

Participant no. *	Participant organisation name	Short name	Country
1 (Coordinator)	British Broadcasting Corporation	BBC	UK
2	Fraunhofer HHI	HHI	Germany
3	INRIA	INRIA	France
4	University of Surrey	Surrey	UK
5	Artefacto	ART	France
6	OMG	OMG	UK

Abstract

The RE@CT project aims to revolutionise the production of realistic characters and significantly reduce costs by developing an automated process to extract and represent animated characters from actor performance capture in a multiple camera studio. The key innovation introduced by RE@CT is the development of methods for analysis and representation of 3D video to allow reuse for real-time interactive animation. This will enable efficient authoring of interactive characters with video quality appearance and motion.

RE@CT aims to demonstrate its results in two application scenarios : an augmented reality application will demonstrate usage for serious gaming in education and entertainment. A production alongside a TV programme will demonstrate new synergies for developing a traditional programme and an interactive application in parallel.

This document outlines the various dissemination activities undertaken by the project partners during the second period and plans for further dissemination in the final year of the project. Section 3 describes the various instruments identified by the project to disseminate its results. Section 4 lists the dissemination activities undertaken over the last year, while section 5 outlines currently known plans for dissemination into the next reporting period.

1 Introduction

The RE@CT project aimed to revolutionise the production of realistic characters and significantly reduce costs by developing an automated process to extract and represent animated characters from actor performance capture in a multiple camera studio. The key innovation introduced by RE@CT is the development of methods for analysis and representation of 3D video to allow reuse for real-time interactive animation. This will enable efficient authoring of interactive characters with video quality appearance and motion.

The project built on the latest advances in 3D and free-viewpoint video from the contributing project partners. For interactive applications, the technical challenges were to achieve another step change in visual quality and to transform captured 3D video data into a representation that can be used to synthesise new actions and is compatible with current gaming technology.

RE@CT aimed to demonstrate its results in two application scenarios: an augmented reality application to be used for serious gaming in education and entertainment and a production alongside a TV programme to demonstrate new synergies for developing a traditional programme and an interactive application in parallel.

The project completed on 30th November 2014, and significant progress was made, building on the initial demonstrator and the underlying technologies, which resulted in the project being able to disseminate its results at various public demonstrations, as well as through publications and other dissemination tools. This document outlines the various dissemination activities undertaken by the project partners during this period, and plans for further dissemination beyond the formal completion of the project. Dissemination is seen as essential to ensure that the RE@CT project's stakeholders, including the European Commission, and relevant research communities are kept informed of the results of the project, and their potential applications.

This is the final version of this document, and further dissemination of the project results will be carried out via the project's website and other means as outlined in section 5.

2 Related Documents

The following deliverables are related to and complement this report, and should be read in conjunction with it:

- D1.1.3 3rd Annual Activity Report
- D6.3 Final Demonstrator
- D7.3.3 3rd Annual Standardisation Report

3 Dissemination Tools and Mechanisms

RE@CT used a variety of mechanisms and tools to disseminate its results as widely as possible to the relevant audiences, including :

- The RE@CT project public website (<http://react-project.eu>)



Illustration 1 - The RE@CT project's public website news and results page

- Articles in targeted magazines and journals
- Public demonstrations and presentations at national and international conventions such as the Commonwealth Games, CVMP, CVPR, and the proceedings of such events.
- Consortium Partners' websites, internal publications and presentations: the various partners regularly update their senior management and other relevant people in their organisation at large of the project's results, progress and benefits. An example of this is at BBC R&D where project progress is documented in internal technical notes, and communicated to staff via internal lunchtime lectures, and internal demonstrations. Additionally, BBC R&D has regularly communicated the project's results with other departments of the BBC, professional production teams in particular.
- Release of datasets and apps to the public, via the project's and partners' individual websites. In particular, the first app showing the 3D RE@CT character captured for the first demonstrator was made freely downloadable from Artefacto's website and the University of Surrey released RE@CT datasets in conjunction with their paper on 4D Video Textures presented at Eurographics 2014.

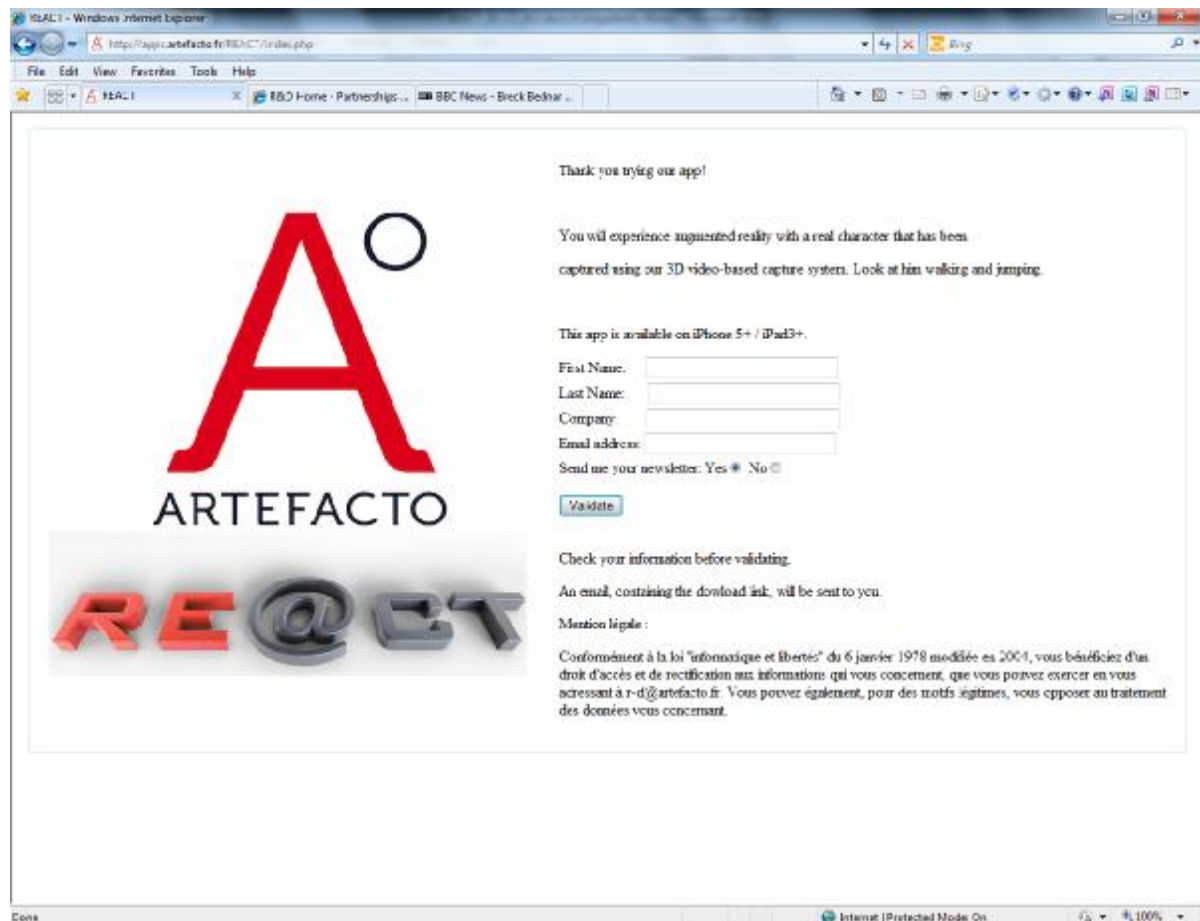


Illustration 2 : the interface for downloading the RE@CT 3D Character app from Artefacto's website

4 Dissemination Activities in the reporting period

4.1 Publications and public presentations

The table below lists the presentations and publications at conferences and in journals from the various project partners in this reporting period

Presentation/Paper	Authors	Event/publication	Date	Partner
3D Shape Cropping	J.S Franco et al	Vision, Modelling and Visualisation conference (VMV) - Lugano	Sep 2013	P03 INRIA
Multi-View Object Segmentation in Space and Time	A. Djelouah, J.S Franco, E.Boyer, F.Le Clerc, P.Perez,	ICCV2013- Sydney	Dec 2013	P03 INRIA
Demosaicing Bayer sampled images in the Fourier Transform Domain	J.Easterbrook	BBC R&D White Paper	Mar 2014	P01 BBC

Presentation/Paper	Authors	Event/publication	Date	Partner
4D Video Textures for Interactive Character Appearance	D. Casas et al	Eurographics 2014, Strasbourg	Apr 2014	P04 UoS
High-Resolution Depth for Binocular Image-Based Modelling	D. Blumenthal-Barby, P.Eisert	Computers & Graphics, vo.39, pp.89-100	Apr 2014	P02 HHI
High Resolution 3D Shape Texture from Multiple Videos	V.Tsiminiaki <i>et al</i>	CVPR2014, Columbus, OH	Jun 2014	P03 INRIA
Wide Baseline Multi-View Video Matting using a Hybrid Markov Random Field	T. Wang, J. Collomosse, A. Hilton	International Conference on Pattern Recognition (ICPR), Stockholm	Aug 2014	P04 UoS
Optimal Representation of Multiple View Video	M.Volino <i>et al</i>	British Machine Vision Conference (BMVC)	Sep 2014	P04 UoS
On Mean Pose and Variability of 3D Deformable Models	J.S Franco, B.Allain, E.Boyer	ECCV2014, Zurich	Sep 2014	P03 INRIA
Robust face recognition by an albedo based 3D morphable model	G. Hu, C. Chan <i>et al</i>	International Joint Conference on Biometrics (IJCB) 2014 - Clearwater, FL	Sep 2014	P04 UoS
4D Performance Capture and Animation	A.Hilton	Invited talk ECCV 2014 Workshop ChaLearn	Sep 2014	P04 UoS
4D Performance Animation	A.Hilton	Invited talk JSPS Japan-UK Symposium on Computer Graphics, Edinburgh	Oct 2014	P04 UoS
Realistic Retargeting of Facial Video	W.Paier, M.Kettern & P.Eisert	European Conference on Visual Media Production (CVMP) 2014	Nov 2014	P02 HHI
Hybrid Skeletal-Surface Motion Graphs for Character Animation from 4D Performance Capture	P. Huang, M. Tejera et al	ACM Transactions on Graphics	Nov 2014	P04 UoS
A layered model of body and garment deformation	A. Neophytou, A. Hilton	International Conference on 3D Vision	Dec 2014	P04 UoS

4.2 Public Demonstrations

- Commonwealth Games Showcase in Glasgow

The BBC demonstrated the Augmented Video Player, which uses RE@CT technologies, at its Commonwealth Games Showcase event at the Glasgow Science Centre in July 2014.

- CVMP2014

RE@CT presented its final demonstrator at CVMP2014 in London on 13th & 14th November. A video was shown to illustrate the final project test shoot and processing of the data to generate animated 3D models suitable for use in an interactive TV production. The project also presented at the EU special session.

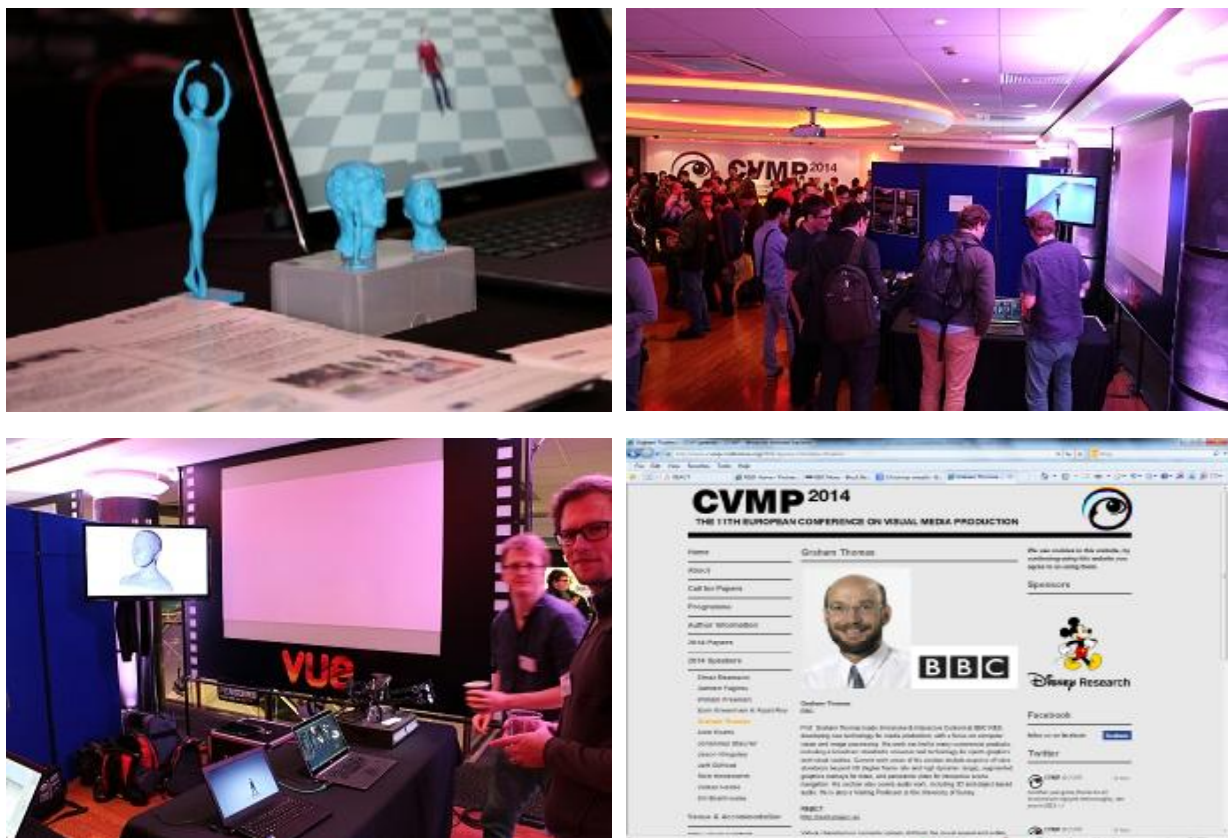


Illustration 3 – RE@CT at CVMP2014

4.3 Web activities

In addition to the presentations and demonstrations listed above, the project has also disseminated results via various Web activities.

Public deliverables were posted to the project website as they became available, together with papers published in various journals or conference proceedings as they got clearance. As results based on the project's test-shoots and demonstrator became available, they were uploaded to the website where appropriate.

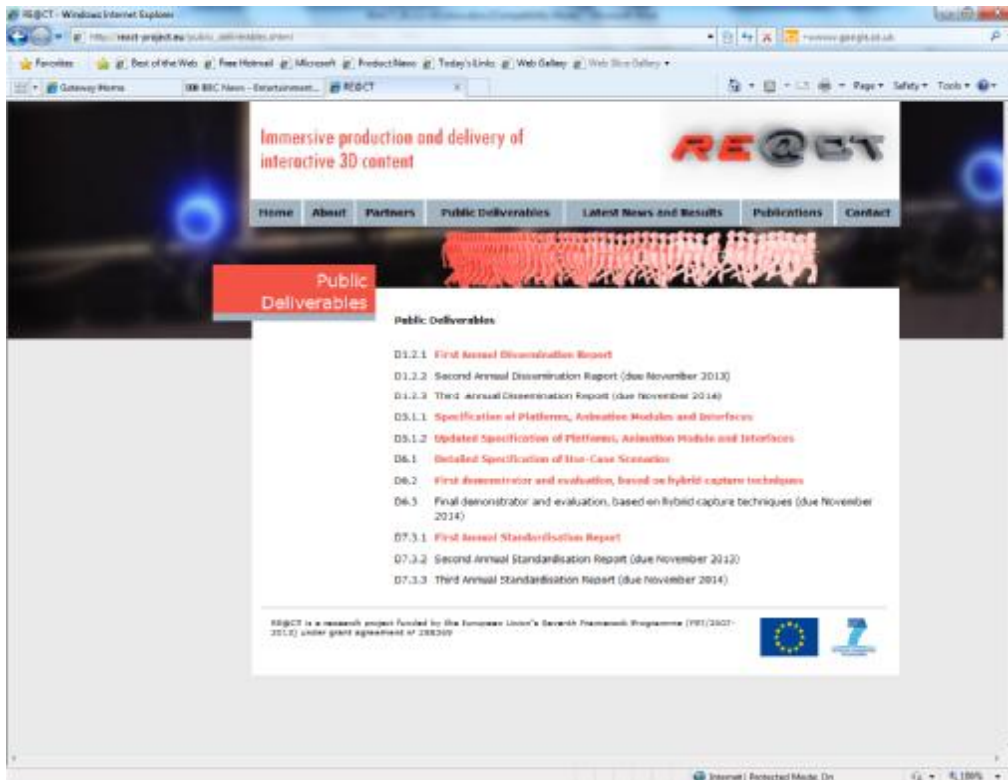


Illustration 4 – The RE@CT project publications on its public website.

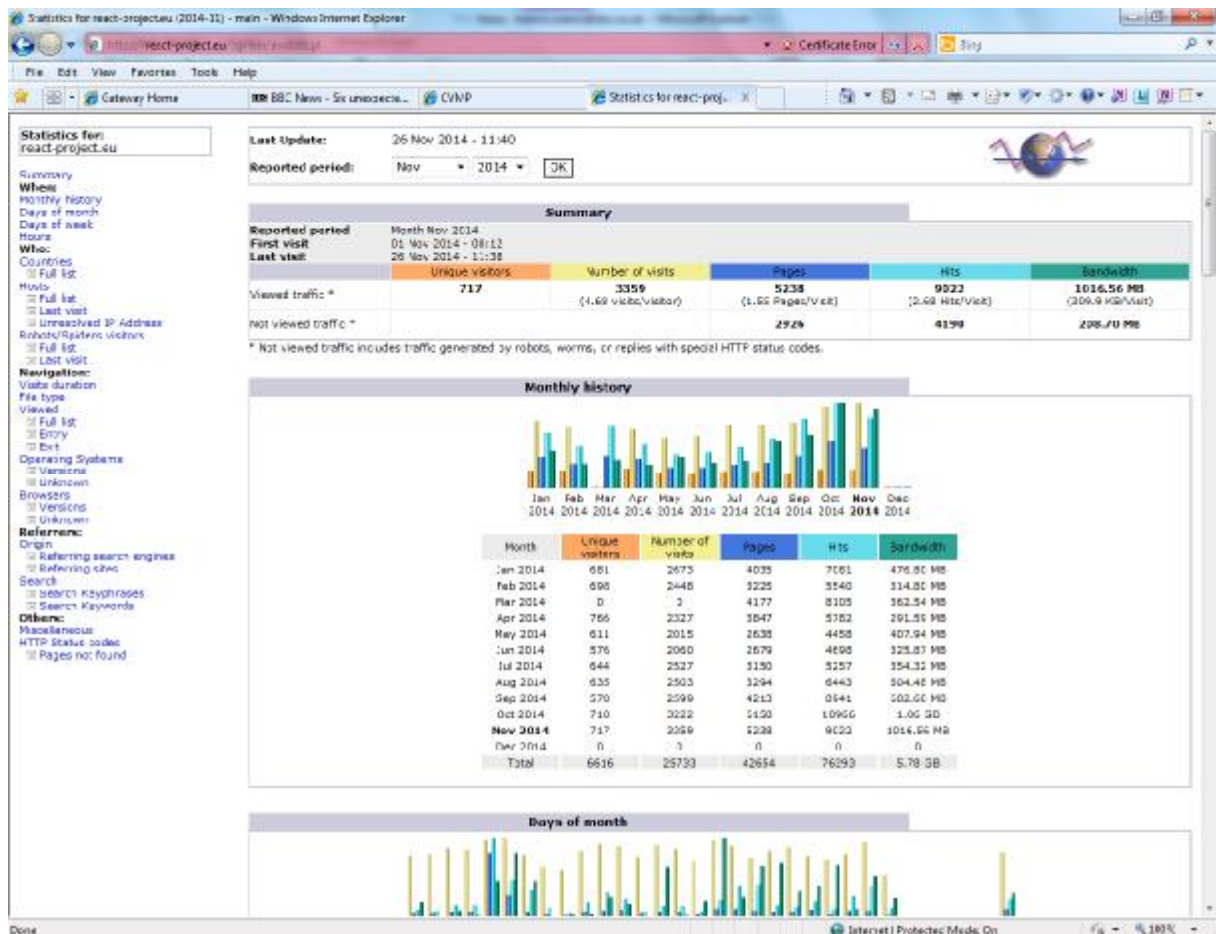


Illustration 5 – Statistics of visits to the RE@CT website as of November 2014.

In addition to its dedicated website, the project has also published its results via the websites of conferences and symposia listed in the table above, as part of these events programmes and proceedings.

5. Beyond formal completion of the Project

Following the formal conclusion of the project, dissemination and activities will continue via the project's public website <http://react-project.eu>, where public deliverables, papers and presentations at appropriate events will continue to be available to the public.

RE@CT partners will also continue to present the project results, and further results based on and derived from the project's outcomes after it has completed, to appropriate conventions and other similar events.

As reported in deliverable D7.3.3 (Standardisation Activities) dissemination will also continue via any active standardisation of the Project's results.