D8.2 INTERIM EXPERIMENTAL PRODUCTION REPORT

Grant Agreement nr	856879
Project acronym	PRESENT
Project start date (duration)	January 1st 2018 (36 months)
Document due:	31/08/2021
Actual delivery date	30/08/2021
Leader	CREW
Reply to	isjtar@crew.brussels
Document status	Submission version

Project funded by H2020 from the European Commission

Project ref. no.	856879
Project acronym	PRESENT
Project full title	**P**hotoreal **RE**altime **S**entient **ENT**ity
Document name	Interim Experimental Production Report
Security (distribution level)	Confidential
Contractual date of delivery	31/08/2021
Actual date of delivery	30/08/2021
Deliverable name	D8.2 Interim Experimental Production Report
Type	Report
Status & version	Submission version
Number of pages	24
WP / Task responsible	WP8 / CREW
Other contributors	-
Author(s)	Isjtar Vandebroeck (CREW)
EC Project Officer	Ms. Diana MJASCHKOVA-PASCUAL Diana.MJASCHKOVA-PASCUAL@ec.europa.eu
Abstract	Interim evaluation of the experimental productions as described in WP8. This report describes the developed concepts, methods and technologies for the productions. Most of the work has been preparatory to lay a foundation for integrating the results of other work packages. The report explains the relationship between the Use Cases and the Experimental Productions, their implementations and possible assessment. The project concludes that significant work has been done, but that the next stage of implementation of partner's components and tools will be crucial.
Keywords	Experimental Production, Agent, Use Case
Sent to peer reviewer	Yes
Peer review completed	Yes
Circulated to partners	No
Read by partners	No
Mgt. Board approval	No

Document History

Version and date	Reason for Change
1.0 10-07-2021	Document created by Isjtar Vandebroeck
1.1 13-08-2021	Version for internal review
1.2 30-08-2021	Revisions in response to review: final version submitted to Commission

Table of Contents

1   EXECUTIVE SUMMARY

Interim evaluation of the experimental productions as described in WP8. This report describes the developed concepts, methods and technologies for the productions. Most of the work has been groundwork to lay a foundation for integrating the results of other work packages. The report explains the relationship between the Use Cases and the Experimental Productions.

The report concerns two tasks:

WP8T2 Live Embodied & Collaborative Experimental Production (Sentient Dreaming) is a large scale immersive experience for immersants interacting with agents. Delivery is principally in VR, with auxiliary tablets. The production works on multiple senses and in the last stage aims to create a collaborative environment for agents and immersants. The installation uses a custom tracking system by CREW.

To create this experience, preparatory work has been done:
- A pipeline for creating the environments has been set-up.
- A modular avatar system has been constructed to allow the generation of diversified stylized characters.
- Interaction mechanisms have been established as first steps towards collaboration in immersion, either user-user or user-agent.
- Multiplayer software infrastructure has been implemented, allowing for multiple users (essential for collaboration). The StrapTrack tracking system has been updated and tested, with non-satisfactory results.

To integrate work of the partners, two Use Cases were set up.
- Complex Social Situation aims to simulate crowd movements for one-to-many interactions and non-verbal communication with groups of avatars.

- The Greek Chorus is a puppeteering tool for actors to control multiple characters simultaneously.

The Soulhacker project is an offshoot of this experimental production and has been used to assess the preparatory work done by CREW, that does not rely on partners, i.e. software infrastructure, environment, interaction mechanisms.

WP8T3 Multisensory Interactive Experience (Adam) (formerly WP8T3 Online Tactile Experimental Production) is a screen based application. The production has been redefined to be a practical application in the treatment of autism. The emotion sensing capabilities of WP4. are used to make a mirror application, which allows patients to exercise expression and emotion recognition in an interactive application. This can later be extended with features of reinforcement learning.

The Deliverable concludes that WP8T1 Live Embodied & Collaborative Experimental Production (Sentient Dreaming) is on track and ready for integration of components and prototypes. WP8T3 Multisensory Interactive Experience (Adam) has been redefined.

CREW has not yet received the components and tools to progress further, but expects this to resolve in the months to come.

2   BACKGROUND

The experimental productions integrate PRESENT technology in an unusual context. Live arts have proven to be a productive testbed for new concepts and technologies. Foremost the intensity of a live connection with a user on a cognitive and emotional level is of prime importance. Actors, directors and artists need the right tools and skills to use as intuitively and

immediate as possible. They do not need the high levels of fidelity and reliability that industrial productions or market demand would require. In these productions CREW uses bleeding edge technology, works around incomplete components or flaws. Artefacts are not bothersome or can even be accentuated.

In this way research and new concepts can be tested and communicated at an early stage to the general public, which is of interest. The productions themselves are financed by the cultural world and its institutions. The scope of productions can go beyond the arts in the narrow sense of the term. In this Deliverable, for example, there are applications which crossover with the psychiatric field.

The approach is not just about providing content. CREW has been involved in all steps of the development process to drive development within PRESENT towards use cases which are idiosyncratic and expand the coverage of the project. It follows that the experimental productions evolve conceptually with the implementations of the other work packages, relative to their characteristics.

This Deliverable will set out the concepts developed for the experimental productions, the work already established and the foreseen integration of components.

As this Work Package is dependent on the results of other Work Packages feeding in, primarily WP3 and WP4, the currently realized work is preliminary and preparatory. Prototypes will start to be integrated in M24. This document is related to D2.1.

The description of work contains some very advanced topics which on top of that require exceptional integration. Not all aspects of this are fully covered by the partners, some would require additional work packages. CREW has tried to break this down into achievable goals, reflected in the Use Cases, all the while respecting the principal outlines of these tasks.

This has resulted in redefinition, as is the case for WP8T3 and a more restrained outlook, in WP8T2, particularly with regards to non-verbal communication and haptics.

3   INTRODUCTION

3.1   Main objectives and goals

The basis of the project has been established in WP2, with the architecture, scenarios and Use Cases and architecture.
From there to the end of the project the goals are to:
- define concepts
- establish groundwork for integrating partner technology
- implement components into Use Cases
- assess throughout
- create Experimental Productions
- bring to a public
- evaluate

Results should be:
WP8T2 is the creation of an embodied live experience for multiple users in VR.
WP8T3 is the creation of a screenbased application with high fidelity rendering of expressed emotions.