D9.6 Final Dissemination Report

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1.2 19.07.2022	Document sent for review
1.3 15.08.2022	Final version including suggestions from peer review
1.4 31.08.2022	Submission Version

Table of Contents

Executive Summary

The document describes all the dissemination activities carried out to promote communication and dissemination of the RIA H2020 project PRESENT for the duration of the project. We also include future dissemination activities.

The document is a complete record of our dissemination activities. A full list of our dissemination activities is given, including conferences, events, paper submissions workshops and lectures. An overview of the website, social media and their achievements at getting interaction is included.

Background

The consortium consists of 5 industrial partners; Framestore, Cubicmotion, Brainstorm, InfoCert and CREW, 2 universities; Universitat Pompeu Fabra and Augsburg University, as well as one research centre, Inria.

The view and strategy towards dissemination varies depending on the type of institution. For example, industrial partners are able to organize quickly small to medium size user group evaluation and dissemination events, while universities are able to organize both public and specialized lectures. We believe that this variety in the consortium gives a very rich and diverse approach towards dissemination.

Relation to other deliverables

This document is the *Final Dissemination Report*. It builds upon the information given in deliverables *D9.1 Project Website*, *D9.2 Initial Exploitation and Dissemination Plan* and *D9.3 Exploitation and Dissemination Plan*.

D9.6 expands the aforementioned deliverables by providing the following new information:

- Update on the social media indicators (website, Twitter, Facebook, LinkedIn and YouTube).
- Complete list of academic papers (adding the journal/conference and year of publication) written by the partners.
- Complete list of conferences, workshops and seminars where the partners have participated.
- Discussion on future dissemination activities for the technologies developed within PRESENT after the project is closed.

Dissemination and Demonstration

The technology created in the PRESENT project appeals to a wide range of creative visual media professionals such as film and TV production and post-production studios, gaming studios, advertising and broadcast markets, interactive media makers, and VR/AR content producers. To build interest from this wide-ranging group, a focus on demonstration and dissemination is vital to the success of the project.

Using tools such as social media, personal contacts, web publishing, traditional media and public events such as conferences, fairs, workshops and showcases. Forming our creative user group to help shape the direction of the project and ensure its success.

Branding

We have designed a custom logo (see Figure 1) and a set of templates for documentation and slide presentations. We use this logo to enrich our website's design and also for our social media profiles.
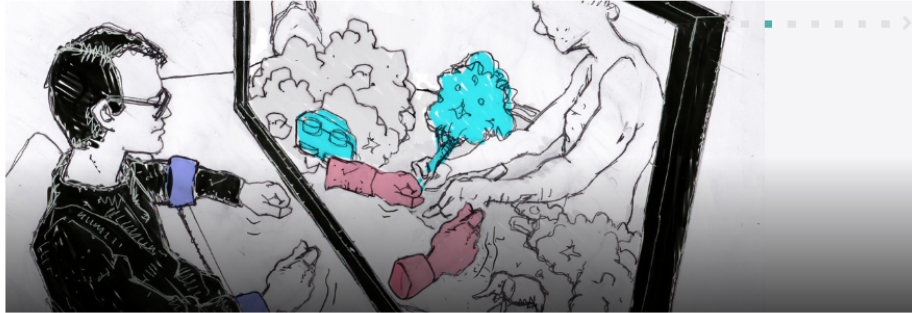
Figure 1. The PRESENT logo

The Website

The website of the project was set up in October 2019 at present-project.eu. In the homepage, we give a general overview of the project, together with images representing the work being done by the partners and contact information. Moreover, during this year we decided to add the news section to the homepage, which we find much more convenient for the users. The website has now four (instead of five) additional tabs:

- **Objectives:** A high-level description of the aims of the project is provided here.
- **The Consortium:** The logos of the partners within the consortium are displayed in this tab.
- **Docs:** We want to make available all the documentation that the project produces. In this tab, we provide reference and short descriptions of deliverables and scientific papers. The deliverables and papers each have their own subtab which makes the webpage much more organized than in the previous iteration.
- **Video Productions:** Due to the nature of the project, we will produce high quality videos which will be displayed here. The videos are uploaded in our YouTube channel.
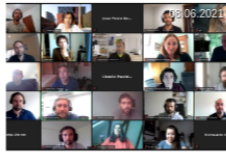
Figure 2. New homepage of the website of PRESENT

You can see examples of the tabs Docs and Video Productions in Figure 3 and 5 respectively. We have also added a picture of the News section which now can be accessed through the homepage, you can see an example in Figure 4. From the creation of the site in October 2019 until the end of the project, the website had a total of 1442 sessions, with 1442 unique users and 6694 pageviews. In Figure 3 we show which channels were used by the users to find our website.
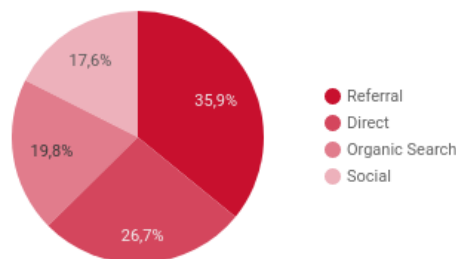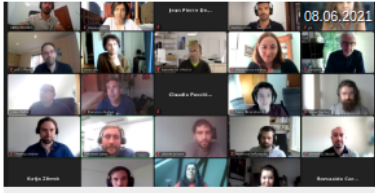

Figure 3. Channel used to access the website of PRESENT (Google Analytics)

Figure 4. In this section of the website we aim to make public the deliverables produced by PRESENT and all the relevant scientific papers written by the partners.

News
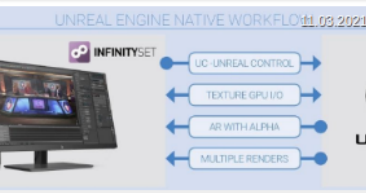
Figure 5. In News, we keep updates of any information relevant to the project in the form of short articles.

Video Productions

Workshop at Inria

In order to get acquainted with the infrastructure, the research and most of all the team behind it, CREW had a 4 day workshop at Inria in Rennes.

A scheme for collaboration was set up for the first use cases of PRESENT

Flee scenario

The agent is in a room, shows awareness and flees to the nearest location invisible to the user.

Surround scenario

The agents are in a room, become aware of the user and surround the user.

Figure 6. Within Video Productions, we make available all the audiovisual content produced by PRESENT.

We will very shortly release a permanent version of the website. This version will be kept static, and it summarizes all the work done during PRESENT in a concise and clear manner. For example, it includes all the trailers of the project, from which anyone can get a clear picture of PRESENT and the contribution of each partner in just a few minutes.

Social media

In order to capitalize on the social media ecosystem, the project has set up Twitter and Facebook accounts, a LinkedIn group and a YouTube channel. We proceed to give a brief explanation of the numbers that we have obtained and the activities that we post.

Twitter

The project has set up a Twitter account @H2020Present which is periodically updated with news about events, public demonstrations, publications and papers, and especially soft media content like pictures and videos, with the aim of obtaining as many followers as possible and engaging a wider audience. By the end of the project, August 31st, 2022, the account has gained a total of 89 followers. As an example of the activity of the account, in Figure 7 we show the statistics from the 1st of June to the 12th of August 2021.
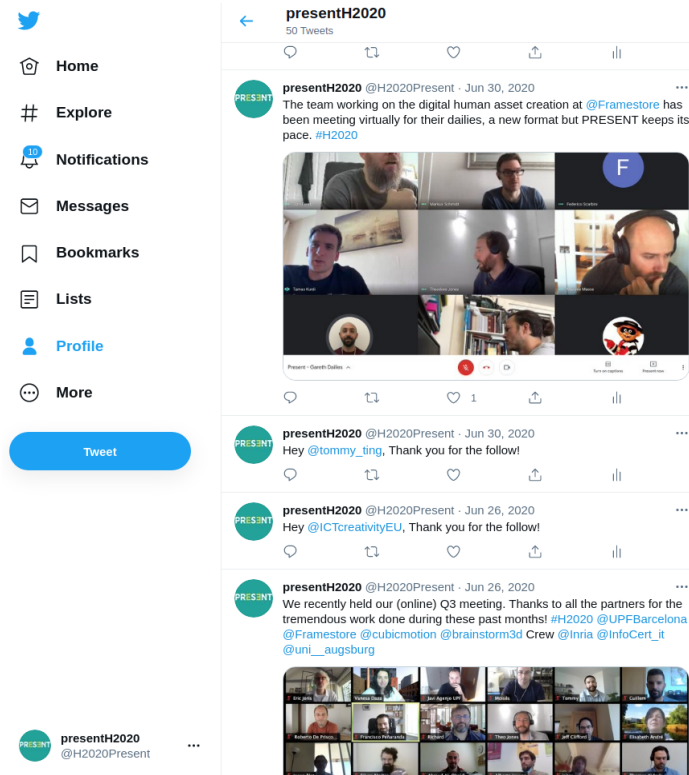
Figure 7. Twitter feed of @H2020Present
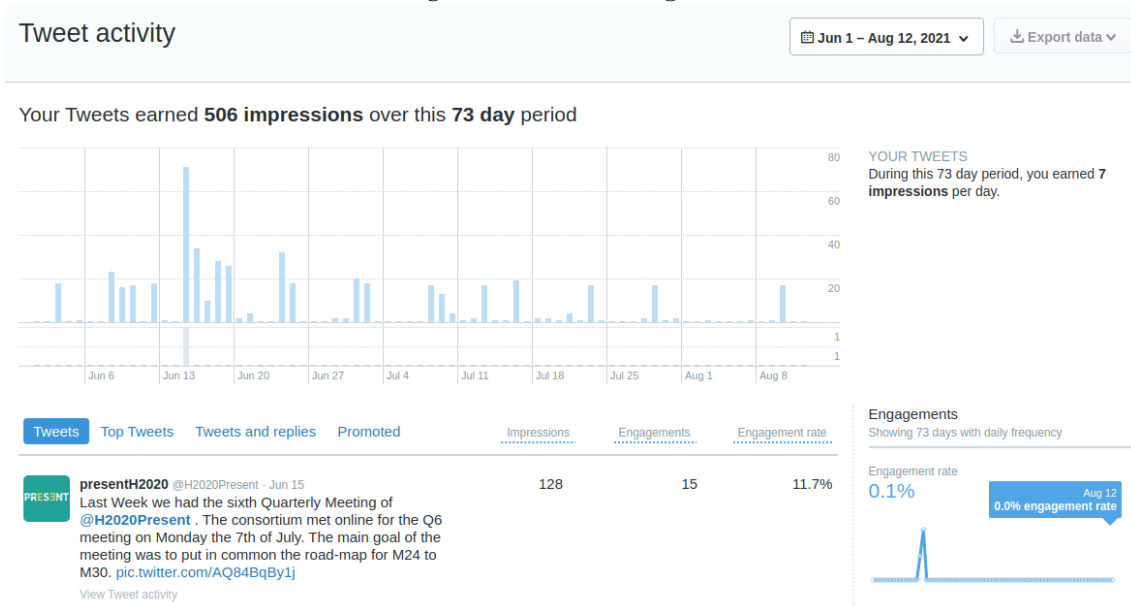
Figure 8. Twitter statistics from the 1st of June to the 12 of August of 2021

LinkedIn

We have also created a LinkedIn group where we will have fruitful discussions with other experts in fields related to PRESENT as the project progresses. By the end of the project, August 31st, 2022, we have a total number of 57 followers.

Follower demographics ⊘

Location ▾

Salerno Area, Italy · 11 (19%)

Rennes Area, France · 9 (16%)

Barcelona Area, Spain · 6 (11%)

London, United Kingdom · 6 (11%)

Manchester, United Kingdom · 4 (7%)

Valencia Area, Spain · 2 (4%)

Avellino Area, Italy · 2 (4%)

Milan Area, Italy · 2 (4%)

Caserta Area, Italy · 1 (2%)

Ilford, United Kingdom · 1 (2%)
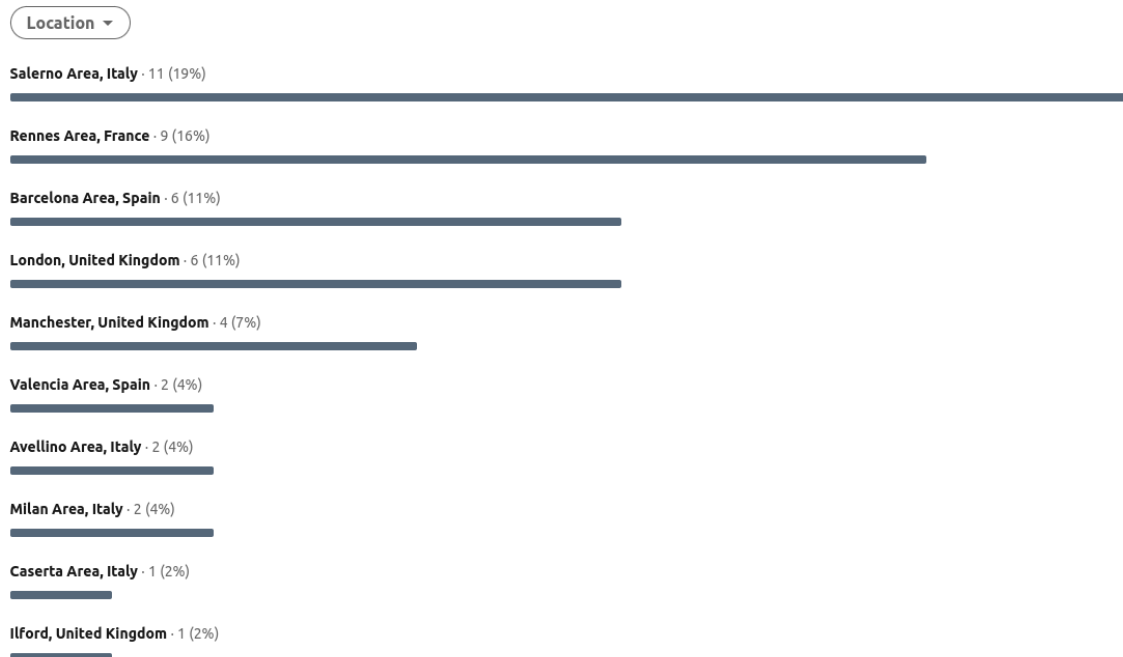
Figure 9. Number of followers and follower demographics of our LinkedIn group from August 31st 2021 until August 31st 2022.

Facebook

Currently, the main dissemination resources of PRESENT are Twitter and our webpage. Nevertheless, we expect to greatly increase our activity in other social media platforms such as Facebook soon. By the end of the project, August 31st, 2022, our account has received a total of followers 68.
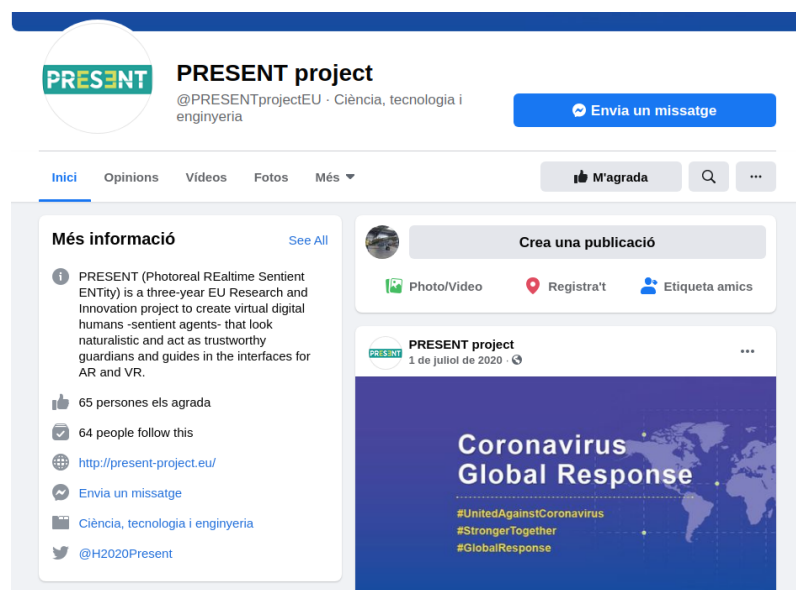
Figure 10. Example of PRESENT's Facebook frontpage July 2020.

YouTube

The project also has a YouTube channel where all the (not confidential) videos related to PRESENT are uploaded. Since its creation in March 2020, the channel has obtained a total of 309 visualizations. By the visual nature of the project, we expect this channel to be a great tool for dissemination as the partners create interesting visualizations.

Figure 11. Example of YouTube statistics from 12th of March 2020 until the 12th of August 2021

Conferences, Workshops, Seminars and Events

Conferences, workshops and seminars are an integral way to disseminate our activities in the project, the wider the audience we can reach, the greater impact we will achieve. The project partners have travelled the globe to disseminate the results of the PRESENT project. Unfortunately, Covid-19 meant that conferences moved to be virtual, however the consortium quickly adjusted and continued to disseminate, despite the pandemic. Table 1 lists the conferences, workshops and seminars relevant to PRESENT where the partners of the consortium were involved either as speakers or attendees.

We are excluding the final showcase presentation done by Framestore, Epic Games and Augsburg at FMX, to which we have dedicated the next section. Also, CREW was invited by hub.brussels to accompany the Belgian state visit to Greece, which took place on the 3rd of May. HRM King Philip of Belgium participated in the Delirious Departures VR installation and performance.

Partner	Role	Conference/Workshop/Seminar/Event
Augsburg University	Keynote	International Conference on Multimodal Interaction (ICMI 2019)
Augsburg University	Keynote	(CoCoLAd) Workshop at Global Forum on AI for Humanity 2019
Augsburg University	Keynote	CLaME Emotion Workshop 2019
Augsburg University	Keynote	Dagstuhl Seminar on Conversational Search 2019
Augsburg University	Keynote	International Conference on the Theory and Practice of Natural Computing (TPNC 2019)
Augsburg University	Keynote	DIGICON 2019
Cubic Motion	Internal Dessemination	Internal talk - Sept 2022
Crew	Speaker	Workshop titled 'Do not be seated', in Fabbrica Europa in Florence.
Crew	Speaker	Siggraph 2022
Crew	Speaker	S.M.A.K 2022
FS	Speaker	Digipro 2021: "FIRA - Portable Realtime Rig Deformation"
FS	Internal Dissemination	FTV Presentation (Framestore's Internal Television Channel) and follow up survey
FS	Speaker	Podcast "VFX Futures – Before and After's" https://beforesandafters.com/?s=FIRA
Inria	Speaker	Symposium on Interactive 3D Graphics and Games (i3D 2020)
Inria	Showcase	Workshop in 3rd IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR 2020)
Inria	Showcase	Laval Virtual 2022: International Exhibition and Conference on VR/AR/Metaverse and Immersive Techniques
UPF	Speaker	CRYPTO 2021

UPF	Speaker	Public Key Cryptography (PKC 2020)
UPF	Organizer	Theory and Practice of Blockchains Workshop (TPBC 2020)
UPF	Attendee	IEEE Symposium on Security and Privacy (S&P 2020)
UPF	Attendee	Eurocrypt 2020, 2021 and 2022.
InfoCert	Attendee	CA Day 2019
InfoCert	Attendee	Enisa conference 2019
InfoCert	Attendee	Electronic Signatures and Infrastructures 2019
InfoCert	Attendee	ISO TC 307 2019
InfoCert	Attendee	Our Data, Our Future: Radical Tech for a Democratic Digital Society (Torino) 2019
InfoCert	Attendee	Hyperledger Fabric: crittografia per blockchain permissioned (University of Trento) 2019
InfoCert	Attendee	Electronic Signatures and Infrastructures 2020
InfoCert	Attendee	Kuppinger-Cole conference: Identity Fabrics & Future of Identity Management 2020
InfoCert	Attendee	EU Blockchain Observatory workshop 2020
InfoCert	Attendee	CEN JTC19 2020
InfoCert	Attendee	ETSI ISG 'Permissioned Distributed Ledger' 2020
InfoCert	Attendee	Joining Forces for Blockchain Standardisation 2020
InfoCert	Attendee	Theory and Practice of Blockchains 2020
InfoCert	Attendee	ETSI Standardisation in Advanced Cryptography 2020
InfoCert	Attendee	Italian Conference on Cybersecurity (ITASEC 2020)

**Table 1. Conference, workshops, seminars and events
where partners within PRESENT were involved during the project.**

Final Showcase Presentation

The final showcase presentation was an in-person presentation held at FMX ([tools of tomorrow track](#)) on Thursday, May 05, 2022.

The talk was given by Steve Caulkin (Epic Games Animation UK), Florian Lingenfelser (Augsburg University) and Manne Ohrstrom (Framestore). They gave an overview of PRESENT, explaining all the different technologies, capabilities and applications that the project has work on and contributed to during the last three years.

We disseminated this talks using our social media channels together with the collaboration of the partners, as you can see in the images below.
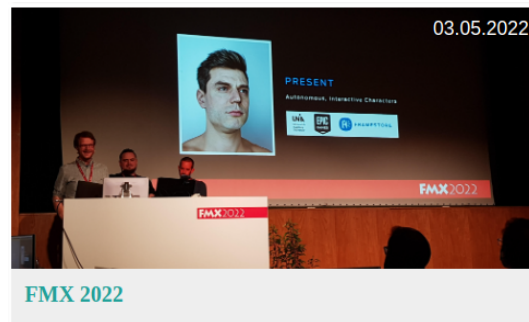
FMX 2022

- Impressions: 2726
- Engagements: 58
- Profile visits: 5

- Impressions: 2024
- Engagements: 28
- Profile visits: 9

The participants of the event were given a survey to evaluate the project and also were encouraged to follow our social media accounts and visit our website.

CREW events

Due to the nature of the activities of CREW, they have been able to do a wide range of dissemination activities including performances, public lectures and workshops. In table 2 we list all the events that CREW has done for the duration of the project.

Event	Type	Audiance
Siggraph, Vancouver	performance	200
Cultuurconnect, De Bijloke Ghent	lecture	34
Playing the Media Playing the senses	online lecture-performance	40
Soulhacker & Delirious Departures	performance	40
Designfest festival Ghent	Lecture	22
Playing the Media Playing the senses	online lecture-performance	240
Europalia & KMSKB Royal Museum of Fine Arts Brussels	Performance	224
Fabbrica Europa Festival & Virtual Scene Firenze	workshop-lectures	45
Venice VR Festival/Eye Amsterdam	Lecture with Chiel Kattenbelt	52
Royal State Visit Greece	performance	56
Playing the Media Playing the senses	online lecture	98
RITCS Future Narratives	lecture & workshop Dr Otte	53
Playing the Media, Playing the Senses	Lecture online	68
AP University of Applied Sciences & Arts Antwerp	Lecture online	23
Coup de ville Festival	Lecture with Dr Otte	23
Cosmic Flower @ Coup de ville festival	Performances	27
SF Festival IPEM/Asil Lab	cancelled (Covid)	
STEAM KU Leuven	Keynote	56
Impactfestival Hasselt	Lecture	34
VR Days Amsterdam	Keynote	450
Singapore IETM & National Arts Council Singapore	lectures and workshop	46
Impact Festival Hasselt / Straptrack	Installation/Performance	56
Impactfestival Hasselt	Lecture	20

Impact festival Euregio	Press conf @ CREW	40

Table 2. Other Dissemination activities for PRESENT done by CREW together with their type and audience numbers.

Academic Papers

In Table 3, we provide a list of the 31 academic publications related to PRESENT that the consortium has produced during the duration of the project.

Partner	Paper	Journal/Conference
Augsburg University	A Prototypical Network Approach for Evaluating Generated Emotional Speech	Proc. Interspeech 2021
Augsburg University	An Evolutionary-based Generative Approach for Audio Data Augmentation	International Workshop on Multimedia Signal Processing 2020
Augsburg University	Adaptive Artificial Personalities	*In press: Handbook of Socially Interactive Agents*
Augsburg University	Analysis by Synthesis: Using an Expressive TTS Model as Feature Extractor for Paralinguistic Speech Classification	*Proc. Interspeech 2021*
Augsburg University	Continuous Emotions: Exploring Label Interpolation in Conditional Generative Adversarial Networks for Face Generation	*Proceedings of the 2nd International Conference on Deep Learning Theory and Applications - DeLTA*
Augsburg University	Embedded Emotions -- A Data Driven Approach to Learn Transferable Feature Representations from Raw Speech Input for Emotion Recognition	Arxiv, 2020
Augsburg University	Exploring emotional prototypes in a high dimensional TTS latent space	Proc. Interspeech 2021
Augsburg University	Implementing Parallel and Independent Movements for a Social Robot's Affective Expressions	International conference on Affective computing and Intelligent interaction workshops and Demos (ACIIW 2021).
Augsburg University	Intercategorical Label Interpolation for Emotional Face Generation with Conditional Generative Adversarial Networks	International Conference on Deep Learning Theory and Applications, 2021
Augsburg University	Multimodal Joke Generation and Paralinguistic Personalization for a Socially-Aware Robot	International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS 2020)

Augsburg University	Multimodal Joke Presentation for Social Robots based on Natural-Language Generation and Nonverbal Behaviors	Second Workshop on Natural Language Generation for Human–Robot Interaction at HRI 2020
Augsburg University	On the Potential of Voice Conversion for Virtual Agents	International conference on Affective computing and Intelligent interaction workshops and Demos (ACIIW 2021).
Augsburg University	Socially-Aware Personality Adaption	International conference on Affective computing and Intelligent interaction workshops and Demos (ACIIW 2021).
Augsburg University	Pianobot: An Adaptive Robotic Piano Tutor	Workshop on Exploring Creative Content in Social Robotics at HRI 2020
Augsburg University	VoiceMe: Personalized voice generation in TTS	Proc. Interspeech 2022
Inria	Crowd Navigation in VR: exploring haptic rendering of collisions	IEEE Transactions on Visualization and Computer Graphics. 2022. 28 (7). IEEE.
Inria	Generalized Microscropic Crowd Simulation using Costs in Velocity Space	ACM Symposium on Interactive 3D Graphics and Games (ACM I3D 2020), San Francisco, CA, USA, May 2020
Inria	Interaction Fields: Sketching Collective Behaviours	Motion, Interaction, and Games, Oct 2020 (ACM MIG 2020), N. Charleston, United States.
Inria	Interaction Fields: Intuitive Sketch-based Steering Behaviors for Crowd Simulation	Computer Graphics Forum. vol 41 (2). Proceedings of the 2022 Eurographics Conference, April 2022, Reims, France
Inria	Reactive Virtual Agents: A Viewpoint-Driven Approach for Bodily Nonverbal Communication	Proceedings of the 21st ACM International Conference on Intelligent Virtual Agents
Inria	The Effect of Gender and Attractiveness of Motion on Proximity in Virtual Reality	ACM Transactions on Applied Perception (TAP) October 2020

Inria	Proximity in VR: The Importance of Character Attractiveness and Participant Gender	IEEE Conference on Virtual Reality and 3D User Interfaces 2022
Inria	Topology-aware Camera Control for Real-time Applications	Motion, Interaction, and Games, Oct 2020, N. Charleston, United States.
Inria	The Stare-in-the-Crowd Effect in Virtual Reality	IEEE Conference on Virtual Reality and 3D User Interfaces 2022. Short papers track
UPF	An Algebraic Framework for Universal and Updatable SNARKs	Crypto 2021
UPF	New Privacy Practices for Blockchain Software	IEEE
UPF	FORT: Right-proving and Attribute-blinding Self-sovereign Authentication	Mathematics. 2022
UPF	Updateable Inner Product Argument with Logarithmic Verifier and Applications	PKC 2020
Framestore	FIRA - Portable Realtime Rig Deformation	DigiPro '21: The Digital Production Symposium July 2021 https://doi.org/10.1145/3469095.3469277
InfoCert & UPF	A trust module for the interaction with virtual characters	*International Conference on Systems and Informatics (ICSAI)* 2021
Inria & UPF	A Perceptually-Validated Metric for Crowd Trajectory Quality Evaluation	Proceedings of the ACM on Computer Graphics and Interactive Techniques Volume 4, Issue 3 September 2021

Table 3. Academic papers published in relation to PRESENT during the project.

Luckily, during the last quarters of the project, most of the restrictions in Europe were lifted and the majority of the events planned for that period of time were able to take place in person. This includes the final showcase presentation at FMX 2022, which we believe was a huge success.

Project Trailers

We believe that the best way to present the technology that we have created during these past three years is to produce high quality trailers showcasing the different aspects of it. Therefore, we have produced the following trailers:

- An introductory trailer where our high-resolution virtual agent gives an overview of PRESENT.
- Each partner has produced a trailer explaining their contribution to the project.

You can find all the trailers in the YouTube channel and the website of the project.

Impact of Covid-19 on dissemination

Despite the huge impact that the Covid-19 pandemic had in terms of workflow and collaboration between the partners, the consortium manage to work around every difficulty and pushed the project forward. This is also true for dissemination, the partners did online lectures, events and workshops related to PRESENT. Also, we published everything worth mentioning on the website of the project and in social media.

Future Dissemination

The partners will continue to the technology created within the PRESENT after the project closes. A few examples of these activities are: next CREW's performances of the show "Delirious Departures", UPF's display of the low-res virtual agent in the hall of its main building in Barcelona and Brainstorm's virtually enhanced TV shows such as news broadcasts and football events.

Brainstorm

Brainstorm will continue to disseminate PRESENT at major international trade shows where the company contracts its own booth. These shows are mainly NAB - Las Vegas and IBC in Amsterdam.

Following the business model agreed with the main stakeholders who attended the PRESENT demo at Brainstorm's premises, special emphasis will be put on offering the service in a first phase with the possibility of purchasing the product when broadcasters consider the integration of hyper-realistic avatars in TV programs as a recurring feature.

Of course, Brainstorm will offer the PRESENT service on its website, company brochures and will transmit all the information to our distributors and resellers . Then the promotion of PRESENT will be also carried out by the network of more than 35 resellers that Brainstorm has around the world.

CREW

Soulhacker and Adam are nearly ready for integration in real world clinical use. Soulhacker will be taken further with clinical tests (with the same patients) for tests in

large areas in autumn and will be extended towards new possibilities in artistic workshops in October (with R.I.T.C.S. filmschool Brussels) with Dr.Otte: our medical partners see a real future for introducing role- playing possibilities in large area VR sessions, a mixture so to say of Delirious Departures and Soulhacker. The Adam application will be taken into experimental use by Psysense BE (centre for treating autism) in autumn. The PRESENT results will be taken up in MAX-R, a new Horizon 2020 project of which CREW is partner. The large area use will be technologically improved in combination with (online) multiplayer modalities.

Delirious Departures did not see its end station either: its findings (the interactive agents, the social agents, the 3D scans, the embodiment) will lead to a fully interactive and large area production in a multiplayer version that we foresee fall 2022-spring 2023.

UPF

The Virtual Clerk (beta version) finally installed at the entrance of the building which hosts DTIC is a key tool for dissemination. As indicated elsewhere, the evaluation has uncovered the points to improve to get a more satisfactory user interaction, and we plan to update it in the near future, and this will involve activities to involve as many users as possible. On the other hand, different tools by UPF-GTI related to virtual characters are reaching maturity and we plan to disseminate them through GitHub.

Inria

Inria plans to adopt PRESENT technologies as starting ground for future works. Tools that have been developed in the context of PRESENT are already used by researchers at Inria and in other institutions, for example "Interaction Fields" has been made available to the partners of another European project called CLIPE. The final objective is to implement and maintain an opensource version of our tools, available to the public. Also, the "Interaction Fields" demo that was prepared and presented at the Laval Virtual 2022 exhibition is now integrated to the set of demos of the Inria team. It is frequently presented to visitors of the laboratory. It was also designed to be easily transportable and showcased in remote places. For example, it will be demonstrated at the "Village des Sciences" next October 2022. We also use the demo for training and teaching purposes, for Computer Animation and Virtual Reality courses, for instance.

Regarding the academical dissemination, additional publications are planned: a comprehensive work on Expressive Filter is currently under review for the conference MIG 2022, and a new publication on Interaction Fields in VR is under development and will be submitted to IEEE VR 2022 later this year.

Inria also values the live demonstration of developed technologies as a means to increase the visibility of public research and initiate collaborations. Regarding short terms events, Inria is planning to showcase PRESENT's demos in the upcoming "Fête de la science" - a French national manifestation organized by the minister of education, research, and innovation to promote science dissemination - in Rennes between the 7th and the 17th of October.

Village des sciences de Rennes | Fête de la science (fetedelascience.fr)

Framestore

Framestore are developing a short film with Unreal Engine as the central digital content platform and render engine. This film has digital humans at it's core, and these characters will be built entirely using the digital human pipeline, including the machine learning rigging technologies and the realtime digital human look development pipeline, developed during Present.

https://www.hollywoodreporter.com/movies/movie-news/gravity-vfx-supervisor-to-make-directorial-debut-while-introducing-new-filmmaking-tech-4120969/

This short film is targeted for release early 2023 and is intended to demonstrate the possibilities of combining realtime technologies with traditional visual effects techniques to film makers at a level and scale not formerly possible.

Alongside this innovative short film Framestore is rolling out the Present machine learning rigging technology and look development translation pipeline on multiple traditional visual effects projects. The first of these is a major production for Disney Studios that will be released later in 2022. The feedback from the use of these tools on this production has been very positive with animators, supervisors and clients all reporting fewer iterations, increased visual quality at an earlier stage of production and as a consequence an improved final product.

Cubic Motion

Cubic Motion is continuing research in this area that is a direct follow on from our work on Present. This includes research into increasingly realistic emotional transfer and triggering appropriate emotional responses to stimuli. As a part of this we are also broadening the range of diversity to look at people across race, gender, age and personality profiles. Once this work has matured we will assess viability for inclusion in our own digital human software offering as part of Unreal Engine 5.

Internally we are also planning to disseminate our results during a series of presentations in Oct 2022 to the wider Epic Games group to find other opportunities for the work to be leveraged.

Conclusion

In this document, we have detailed all the dissemination activities done during the duration of PRESENT. Despite the Covid-19 pandemic, the consortium has produced a total of 31 papers for journals and conferences, with showcases at many top conferences.

Moreover, the members of the consortium have attended more than 30 international conferences and events. We also have been able to reach a wide and heterogeneous

audience by participating in many different types of events such us public and online lectures, workshops, and performances.