

V4DESIGN | JULY 2019

Visual and textual content re-purposing FOR(4) architecture, Design and virtual reality games

VISIT WEBSITE



At V4Design we are happy to announce that we have reached an important milestone: the finalization of the first prototype of the project. So what have we achieved so far? Let's wrap up the first 18 months of the project!

V4Design goal is to: (1) re-use textual and visual content by enabling its efficient collection from content providers and crawling from public web resources; (2) re-purpose of content by developing novel approaches for 3D reconstruction and modelling, buildings and objects localization, aesthetics and style extraction, generation of 3D objects enhanced with semantics and explanatory text descriptions and finally (3) deploy innovative architecture, design and VR game authoring applications.

During the first year, empirical studies of the relevant material were performed and the operational infrastructure has been set up for all modules. The user requirements have been defined, based on which the V4Design technical specifications have been set and the platform architecture has been designed. This architecture was realised by an operational prototype which integrates the skeleton versions of the research modules, and served as the basis towards the first prototype.

In the last 6 months the first versions of all components for a) 3D- Reconstruction and Visual Analysis, b) Content Extraction from Textual and Visual Data, c) Semantic Content Representation, Integration and Reasoning, and d) Multilingual Content Summarization have been delivered and integrated into the first prototype of the V4Design platform. At the same time, the V4Design data repository has been enriched with digital content from the Web but also with content provided by the consortium content providers. Valuable feedback and suggestions have been elicited from the users about the collected data, usability and functionality of the authoring tools, as well as preliminary feedback on the platform results that guided the research and development activities.

Dissemination and collaboration activities have further progressed, expanding the user groups and participation in relevant events including the [Thessaloniki Design Week](#).

FIRST 3D RECONSTRUCTIONS ARE BEING GENERATED

The 3D reconstruction component is implemented using a combination of open-source and state-of-the-art photogrammetric reconstruction packages. In a first stage stable image features and correspondences are searched in the input imagery, from which the camera calibration and a sparse reconstruction is computed.



A crucial component in the V4Design pipeline is the 3D reconstruction tool. This tool, developed by KU Leuven with input from Information Technologies Institute (CERTH-ITI), takes input imagery and videos from content providers and creates textured 3D models out of it. A first version of the 3D reconstruction component was recently integrated in the first prototype of the V4Design platform..

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Operational prototype

The operational prototype describes how assets are created and made available to the users, to be used typically for the design and production workflows of architectural design and video game development. [Read more](#)

Our plenary meeting

Thessaloniki was the meeting place for the 3rd meeting of the V4Design Consortium. The meeting took place on 12-13 of June 2019. During the meeting discussions focused on the finalisation of the 1st prototype of the project and the technical modules as well as on the organisation of the 1st evaluation workshop planned to take place in Barcelona in July.

Publications

Five new papers have been accepted for publication in scientific conferences from members of the V4Design consortium. A list of all relevant publications is available [here](#)

V4DESIGN
STAY TUNED

