

FURNIT-SAVER

Smart Augmented and Virtual Reality Marketplace for Furniture Customisation

D6.2 Data Management Plan

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Table of Contents

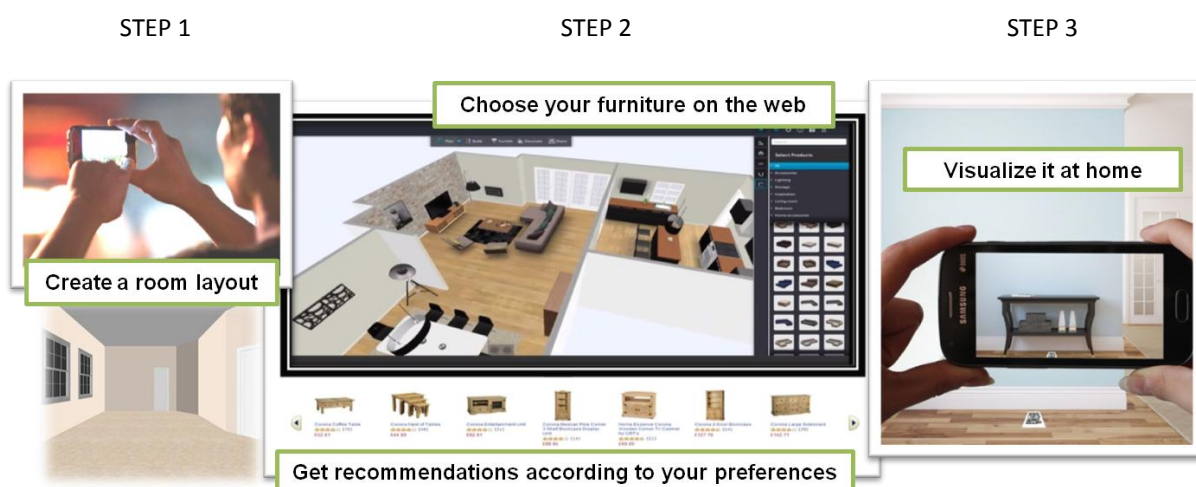
Document change record.....	2
1 FurnIT-SAVER project introduction	4
2 Scope of the document	5
3 Type of data the project generates/collects	5
4 Roles and use of the data	7
5 Exploitation and sharing of data	7
6 Archiving and preservation (including storage and backup)	8

1 FurnIT-SAVER project introduction

The traditional nature of the furniture industry and the limited incorporation of ICT tools have reduced the ability of SMEs in the sector to innovate and respond to the competition coming from larger companies. These specialised furniture shops and small furniture manufacturers have been unable to compete with the economies of scale advantages that larger furniture retailers can offer.

On the other hand, smaller furniture companies can offer higher levels of personalization and quality of customized goods that truly meet customers' preferences and needs which represents a potential competitive advantage over larger furniture providers. Nevertheless, as it is impossible to envisage how the furniture will look and fit into the customers home, customised furniture also bears an expensive risk if the final piece of furniture does not meet the customer's needs or does not complement other furniture. Furthermore, these customised services are predominantly provided on a face-to-face basis in local and fragmented markets which prevents small manufacturers to benefit from ecommerce growth and limit their international reach.

The FURNIT-SAVER project makes use of innovative ICT solutions based on a combination of Virtual and Augmented Reality (VR/AR) technologies, recommendation engines and ecommerce solutions, to produce a smart marketplace for furniture customisation. Customers will be able to select among an extensive furniture catalogue and properties and virtually try the selected pieces in their rooms with three very simple steps: (1) Creating an accurate 3D virtual representation of their place, (2) Trying furniture of different manufacturers in this virtual scenario and get recommendations according to their preferences of a wide range of properties and pieces, and (3) Visualizing the fit of the chosen products in their place using augmented reality.



2 Scope of the document

FurnIT-SAVER project is participating in the Horizon2020 Open Research Data Pilot. As such, this Data Management Plan is produced to provide an analysis of the main elements of the data management policy that will be used by the partners with regard to all the datasets that will be generated or collected by the project. This analysis includes an identification of the type of data the project will generate or collect (type and purpose) as well as an outline of how this data will be handled during the lifespan of the project and after it is completed. This will have to be done without compromising any Intellectual Property Rights (IPR) and commercial plans of the participants.

This document will be updated during the project in order to clearly identify the data that will be shared, the channels through which this data will be made available to thirds parties and the access regimes that are foreseen.

This document has been created following the *Guidelines on Data Management in Horizon 2020* issued by the DG Research and Innovation of the European Commission (version 2.0 from October 30th 2015) and with the support of online tools such as the DMP online web from the Digital Curation Centre in UK (<http://dmponline.dcc.ac.uk>).

3 Type of data the project generates/collects

The work detailed in the proposal can be anticipated to produce or collect three broad categories of data: subjective test data, computer software and digital models. The subjective test category includes analyzed data from market survey carried out for user requirements definition (WP1) and feedback forms and video recordings from beta testers during the validation phase (WP4). The computer software category consists of mobile and web applications and services including the different modules of the FurnIT-SAVER platform (WP2 and WP3). The digital models category includes the digital furniture pieces provided by the partners and other stakeholders in order to populate the platform with real available furniture products (WP3 and WP4).

The following table details the type of data generated or collected during the project, its type and estimated expected size:

Project phase (WP)	Specification of type of research data	Software choice	Indicative data size
User Requirements definition (WP1)	Online anonymous survey to potential users	Word/Excel/Acrobat	10MB
	Video files for functional simulation	Webex/Powtoon	20MB
System Development, Integration and Testing (WP3)	FurnIT-SAVER platform	Various programming languages	N/A

Project phase (WP)	Specification of type of research data	Software choice	Indicative data size
System Validation (WP4)	Anonymized user information and preferences	Web	10MB
	2D/3D furniture models	2D/3D modelling software	1GB
	Semi-structured interviews and Focus groups	Word/Video	2GB
Project management and dissemination (WP5,WP6)	Deliverables and other public documentation	Word/Acrobat	50MB
	High quality project video	Multimedia software	250-500MB

The research objectives of the project require qualitative data that are not available from other sources. Some data exist that can be used to situate the findings of the proposed research and which will supplement data collected as part of the proposed research. Nevertheless, in their current form, they would not permit to properly address the research questions. Therefore, additional activities are organised in relevant work packages to collect the required data. This activities includes the organisation of online surveys, semi-structured interviews with individuals and focus group.

- Online surveys: Close to 200 people participated in an online survey to collect feedback about the project concept and functional requirements. This information has been included as part of D1.1.
- Semi-structured interviews with individuals: The consortium anticipates undertaking 25-50 semi-structured interviews in Spain and Slovenia with individual users and furniture experts. Data will be collected and stored using digital audio/video recording (e.g. MP3) where the interviewers permit. In case they do not, interviews will be undertaken in pairs to enable detailed note-taking. Interviews notes will be typed up according to agreed formats and standards.
- Focus group discussions matched to profiles: The sample frame for the focus group participants will be derived from public data such as market studies and qualitative data from the project (i.e. online surveys). The final number of focus groups will depend on geographical and other variations in patterns; how quickly a robust pattern of findings emerges, and the scope for identifying and convening the appropriate groups. Whether recorded or not, the event will be transcribed or documented using agreed formats and standards for handling the issue of multiple voices, interruptions, labelling of participatory and visual activities, and so on.

4 Roles and use of the data

The following table shows who is responsible of collecting each type of data and who is using or analysing it.

Type of research data	Who is providing the data	Who is using/analysing the data
Online surveys	All partners in the project will be involved in the organisation of online surveys for user requirements definition	CENFIM to lead the user requirements definition. WIC and the pilot coordinators to shape their business cases and pilot scenarios. ACS and Eurecat as a feedback for the platform definition.
Video files for functional simulation	CENFIM and Eurecat will elaborate a set of materials to simulate the functioning of the platform.	This resources will be used by all partners to support surveys and interviews.
FurnIT-SAVER platform	ACS and Eurecat are in charge of the platform development (WP3)	The platform will be used by pilot coordinators to validate the project concept and business hypothesis.
Anonymized user information and preferences	ACS will elaborate a user quiz to be filled by users of the platform following industrial partners guidance.	This information will be mainly used by Eurecat for the implementation of the recommender.
2D/3D furniture models	GONZAGA, WWING, CENFIM, WIC will gather this data from the furniture manufacturers.	This data represent the main asset of the platform and will be used by ACS and Eurecat in the different modules of the platform.
Semi-structured interviews and Focus groups	The pilot coordinators will gather this information: WWING, CENFIM, GONZAGA, WIC.	This information will be analysed in order to compare the platform functions against the user requirements and validate business hypothesis.
Deliverables and other public documentation	All partners are involved in the production of such data	This data will be used as evidence of the work done and effort invested as well as for dissemination
High quality project video	CENFIM will lead the elaboration of a project video	This video will be used as a representation of the work done in validation and for dissemination.

5 Exploitation and sharing of data

The results of the research performed under this project will be disseminated primarily through public publication of deliverables and conference presentations. The documentation will be available to interested parties upon request, and will be transmitted electronically via e-mail. On the other hand, all the computer software generated represents the main exploitable results of the project and hence its source code will not made public as it would compromise the IPR and commercial plans of the participants. Furniture manufacturers are the sole owners of the furniture models provided and hence these will be stored with limited

access by other manufacturers participating in the pilot phase and third parties out of the consortium but only its representation in the web will be available for use in validation.

The consortium has identified one relevant document deeming higher degree of dissemination for its relevance to the sector and potential further research in ICT technologies applied to traditional business sectors, that is the *D5.4 FurnIT-SAVER White Paper*. The consortium will search for relevant open access repositories, relevant resources databases and in general available dissemination channels to widely make it available and increase its impact. All other produced data and information will be self-archive and preserved according to the details provided in the following section.

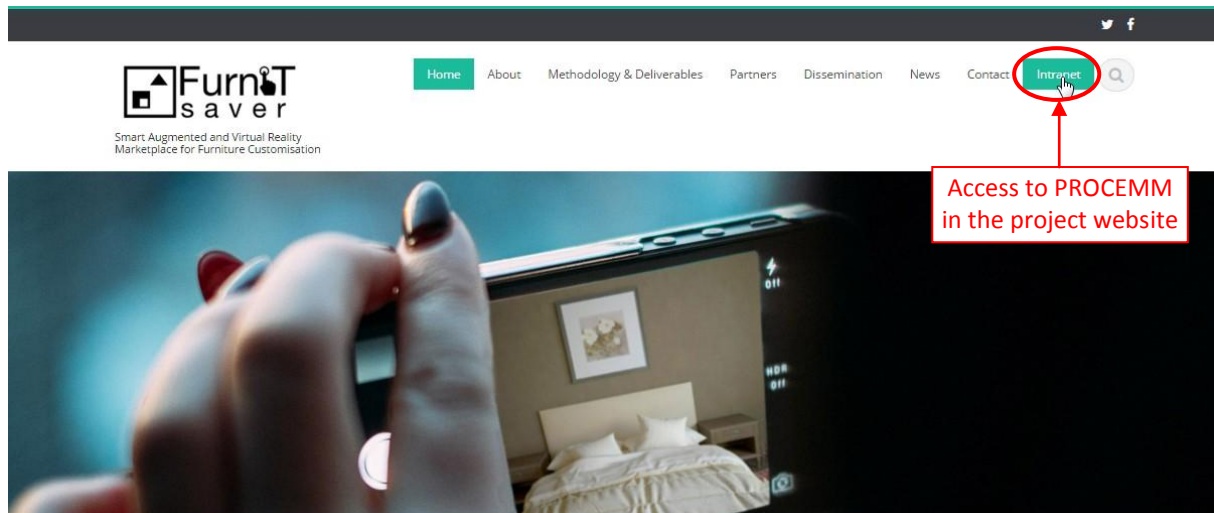
6 Archiving and preservation (including storage and backup)

To ensure the safety of the data, the involved participants will use available local file servers to periodically create backups of the relevant materials.

A Structured Query Language (SQL) databases will be created to locally store the back end digital information as part of the computer software and models category according to the defined database structure of Section 5 of *D2.1 System Architecture* document.

Additionally, all other relevant documentation created during the project such as deliverables or ancillary will be self-archive and preserved in the collaboration tool made available for the project coordinator to the project, called PROCEMM.

PROCEMM is an open source internet-enabled system with project management applications that acts as information repository. In FurnIT-SAVER project this tool is used for document management and project control. The tool is used as a website with restricted user access for confidentiality reasons. Therefore, the public documentation and other information declared public by the consortium will be stored and available upon request in this tool.



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Figure 1 FurnIT-SAVER project website. Access to project repository highlighted.

All of the research data and material will be in place for at least the 5 years prescribed by the European Commission audit services, as well as the foreseeable future following that according to the agreements reached by the consortium by the end of the project. The costs associated to PROCEMM maintenance and the external hosting of the project website will be assumed by the project coordinator either during and after the lifespan of the project.