D6.4 Mobile app for Social Media-Enabled Consumers & Makers Feedback 2

European Dynamics - ED

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Abstract	This deliverable describes the functionalities and the technical characteristics of the mobile application that will be used in the IPRODUCE project to investigate the appeal of consumer products and the viability of the options made available to the end users. This interaction is supported by the functionality of the OpIS Marketplace and is made available to all users of the OpIS platform.

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Executive Summary

The document describes the scope, the functionalities and the technical composition of the mobile application used for the investigation of customers' opinions and the product appeal. The term 'mobile app' describes: (a) a survey creation tool with a frontend integrated to the IPRODUCE Marketplace, (b) the backend component for the survey administration and the mobile application, which is the interface towards the participant users. The mobile application targets an audience of registered users to the OpIS platform and is used, in cooperation with some Marketplace functionalities, to investigate the customer needs and understand the appeal of new ideas. The analysis of the main functionalities and the rationale behind the selection of the target audience is described in the first Section of this document.

This document extends the previously submitted document D6.3 with minor modifications.

The mobile application is available to users for Android and iOS devices via the respective app-stores (GooglePlay and AppStore).

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List of Acronyms

Acronym	Explanation
AR/ VR	Augmented/ Virtual Reality
cMDF	Collaborative Manufacturing Demonstration Facility
DoA	Description of Action
OpIS	Open Innovation Space
UI	User interface

1. Introduction

1.1. Purpose of the document

This document describes the main requirements, use cases and wireframes of the Mobile app component of the OpIS platform, which is built as part of the activities of the IPRODUCE project. The IPRODUCE project provides a set of software tools to facilitate the networking, communication and design process of the people involved in the 'maker movement'. This movement encourages people to engage in the 'creation process', that is the 'making-of' of consumer goods, furniture, etc. It uses makerspaces and fablabs as physical spaces which provide (guided) access to technical tools (3d printers, laser cutters, CNC machines, etc.) for the individuals (makers). The IPRODUCE project creates a platform (OpIS) composed of the Marketplace, an AR/VR tool, a Generative Design tool and other tools as a suite of software to support the activities of designers and makers.

The mobile app is the component of the Open Innovation Digital Space that enables users of the OpIS platform, with the role of the 'maker', to investigate the preferences of other users with respect to customizable products. The mobile-app is used to support the near real-time interaction among users, by providing an easy-to-use tool to create surveys that are deployable to a pool of registered users. The reasoning guiding the partners to this functionality of the mobile app is discussed in more detail in the following subsection 'Product Scope' along with the analysis of functionalities of relevant tools in the market.

The mobile app interacts with the backend system, which is hosted in the same infrastructure as the one used for the Marketplace (both Marketplace and Mobile app are developed by the IPRODUCE project-partner European Dynamics). Part of the frontend functionality is also realized in the Marketplace (the creation of the survey by the user). The data collected by the mobile app are forwarded to the Agile Analytics tool (part of the OpIS platform developed by a 3d party) for further processing and visualization.

1.2. Product Scope

The products developed and handled by the OpIS software platform primarily target *individual users* as opposed to larger groups of customers, which is the case for large commercial brands. In this respect, the OpIS-products are customized to the end-user needs to a large degree and may often be offered as products with a number of customization options. This idiosyncrasy in the interaction between makers and consumers (or prosumers if they take part in the making process) leaves space for the makers themselves to investigate and understand the appeal or need of certain parameters in their products (investigate the 'user need'). The mobile app provides a channel to enable this investigation, interaction between users and is also the channel for the collection of usable data.

The scope of the mobile is described in the description of Task 6.2 in the Description of Action as:

"*There is an increasing amount of evidence indicating that using social media in product innovation can lead to leads to better product ideas, better requirements' identification, faster time to market, lower costs, etc. Task 6.2 aims to enhance the generative design processes by collecting and analysing social media feedback of maker and consumer communities* ***with regards to our use cases and our solution space****. To this end this task develops a mobile app for obtaining* ***Voice of Customer feedback*** *through which IPRODUCE can actively solicit input about new ideas, stress test existing ideas, etc., and passively obtain insights for recurring problems, needs and preferences, etc.* "

Gaskin et al. describe the Voice of Customer as "*The Voice of the Customer (VOC) is a process for capturing customers' requirements. There are four aspects of the VOC – customer needs, a hierarchical structure, priorities, and customer perceptions of performance… the "lens" model suggests that customers see the world through the lens of their perceptions (their needs)… Within the context of the lens model, the VOC identifies the dimensions of customer value (customer needs) and how customers form preferences with respect to those needs (importance of those customer needs).*"[1]

Within the framework of the IPRODUCE project, i.e. "*with regards to our solution space*", the respective audience is expected to be primarily reachable through the pool of registered users to the OpIS platform. These users are considered to be the most engaged individuals, cMDFs, understood also as Communities of users, as commercial entities to the activities initiated and driven by the cMDFs or the users that are generally active in the IPRODUCE framework. This pool of users is expected to include not only the makers, but rather the wider network (existing customers, collaborators, etc.) of the cMDFs that form the seed of the OpIS approach. In this respect the 'Voice of the Customer' is created by the registered users of the OpIS platform, where the interaction takes place between the maker of a product and their intended audience, that is the communities under cMDFs or immediate collaborators of the maker, who are grouped in 'Marketplace teams'[2]. The power and role of social media is not disregarded though: surveys created for the investigation of ideas inside the OpIS Marketplace are (optionally) published to social media (twitter) as well (see functionalities in the following).

The DoA identifies the following activities as part of the scope of the Mobile app: "*The task partners work in two ways: **(i)** by **polling our initial solutions** on the project's as well as on other relevant initiatives' (maker spaces, Fablabs, consumer groups, etc.) social media accounts to directly get the opinions of consumers and makers (e.g. using Facebook reactions); **(ii)** by **applying social listening techniques** to receive feedback from consumers and makers (from both our social media accounts and from other social media accounts) that is relevant to the underlying innovation challenges and their potential solutions **(e.g. by monitoring hashtags, groups, discussions, etc.)**.*"

These two functionalities, that is polling and monitoring the users' discussions ('social listening'), are realized by the functionalities of the Mobile app and the Marketplace, inside the pool of engaged users of the OpIS platform. There the activity is expected to be more lively, focused and traceable. The **'traceability of the activity'** is understood in two ways:

- *'identification of the places where users are more active'* (mentioned in the text of the description of T6.2 in the DoA, in the next): the activity of users in social media accounts (such as Tweeter) often relates to offerings that are commercially available and reachable from the entirety of the audience participating in these social media. This often entails that the subject under discussion has already gained momentum and has established its presence in the market (so that an appropriate number of users mentions it in their own messages to be identified as 'trending'). It is expected that product offerings through the OpIS platform will need to gain some 'traction' in the local communities first and then to a growing scale of audience (hopefully scaled-up through the network of fablabs and makerspaces). In order to leverage this effort (gaining traction), the polling and the social listening activity is focused at the early stages of the project to the audience already reachable, that is the registered users of the OpIS platform. In this sense it is expected to reach focused individuals with a common understanding and aspirations. To support the growth of the movement in the 'wider world', the technical infrastructure of the Marketplace enables users to publish their creations in their own social media accounts, this way creating the momentum needed for the scale-up, while at the same time not 'missing-out'

[1] Gaskin et al., "Voice of the Customer", *Wiley Online Library, Part 5. Product Innovation and Management*, Dec.2010, https://doi.org/10.1002/9781444316568.wiem05020

[2] 'Teams' inside the iProduce Marketplace are created dynamically (at the request of individual users) with the objective to create small groups of users/ makers that work together on specific projects. See D4.6 for more details about the functionalities available to a team inside the Marketplace.

of the opportunity to investigate their products and understand the user needs (possibly due to the inability to engage users in this discussion)

- *GDPR compliant*: the monitoring of user activity assumes that the user has previously consented to making their data (choices) available for processing. This includes not only the individual user themselves, but also other users that have any kind of interaction with them, like for example 'follow', 'like' or belong to the extended network of the primary user. This restriction cannot be satisfied unless the user-pool is a 'closed system', that is a system in which all its members have granted their consent explicitly to the system administrator. This cannot be satisfied for widely known social media (such as Tweeter or Facebook), but can be realized for the registered users of the OpIS platform.

The DoA continues as *"The social listening technique will enable IPRODUCE users to **gather real-time**, genuine feedback, use **influencer metrics (identify key people to collaborate with)**, monitor the domain along with what **works and what doesn't**, and **identify the challenges of an entire industry sector/domain and not just specifically for our products**. Key steps for this task will also include the **identification of the online places (social media platforms) where the target audiences are more active**, the actual **data gathering** from the polling and monitoring activities, and the **data analysis**."*

The above mentioned requirements are all satisfied collaboratively with the other tools of the OpIS platform:

- *Gather real time feedback*: mobile app (in collaboration with the marketplace) via the publishing of user-surveys
- *Identify key people to collaborate with*: search functionality inside the marketplace, 'matchmaking' functionality with the Agile Network creation tool of OpIS, 'Team formation' functionality inside the marketplace
- *What works and what doesn't*: Mobile App (in collaboration with the marketplace) via the publishing of user-surveys, the Marketplace tracks the choices of users and links them to their own profiles and creation; this data is analysed by the Agile Analytics tool of the OpIS platform
- *Identify the challenges of an entire industry sector/domain and not just specifically for our products*: the users inside the Marketplace are able to communicate via messages; Communities of users (potentially cMDFs) have their own presence (pages) inside the Marketplace and can promote different 'industry directions' through their online presence
- *Data gathering & Data Analysis*: The Agile Analytics tool analyses the data generated in the OpIS platform

The description in the DoA continues *"The mobile app will function on Android and IOS platforms and will leverage existing functionalities of social media platforms as well as existing open source social media measurement tools such Hootsuite, TweetReach, Buzzsumo. The app will be offered to the MMC communities so that they can use it for their collaborative manufacturing endeavours.*"

The Mobile App has been developed with modern technologies (ionic) and supports the operation in all modern platforms and technologies, that is Android and IOS. The mobile app is offered to the cMDFs via both GooglePlay and iOS's AppStore. The functionality of social media measurement tools such as "*Hootsuite, TweetReach, Buzzsumo*"[3] is realized, for the registered users of the OpIS, from the collaboration of the Mobile App, the Marketplace and the Agile Analytics tools. The following is a description of the main Hootsuite functionalities as displayed in their webpage (last visited May 2021):

- "*Find out what your customers really think: Keep an eye on the latest social conversations, trends, and brand mentions. Quickly respond to comments from an inbox that combines all your conversations from supported social networks in a single thread. [Business Development Manager]*" The user of the Marketplace can access all the conversations/ messages addressed

[3] note that the functionality of VoC analytics, that the DoA attributes to Hootsuite and other platforms, is now offered through twitter's API v2 (*https://developer.twitter.com/en/docs/twitter-api*), which was under development throughout 2020-2022

to them from a single page under their dashboard (conversations appear as 'threads' / sequence of messages)

- *"See what's working. Do more of it: Invest in content that grows your business. Our social analytics dashboard shows your top performing content and gives personalized insights on why it's working. [Marketing Manager]"* What other users say about products inside the Marketplace is displayed in the 'comments' section of the Marketplace and the activity is recorded and forwarded to the Agile Analytics tool for processing. The same is true for the messages exchanged inside the Marketplace, that may relate to particular products
- *"Collaborate together as a team: Respond to customers faster and boost positive sentiment on your social channels. Assign, re-assign, and resolve social posts with team members to discuss the best way to respond. [Administrative Assistant]"* The Marketplace enables users to create 'Teams'; through the 'Teams' page, the team-members can interact (exchange messages) and coordinate with respect to the product creation. A snapshot of this functionality in the Marketplace is given in Figure 1.

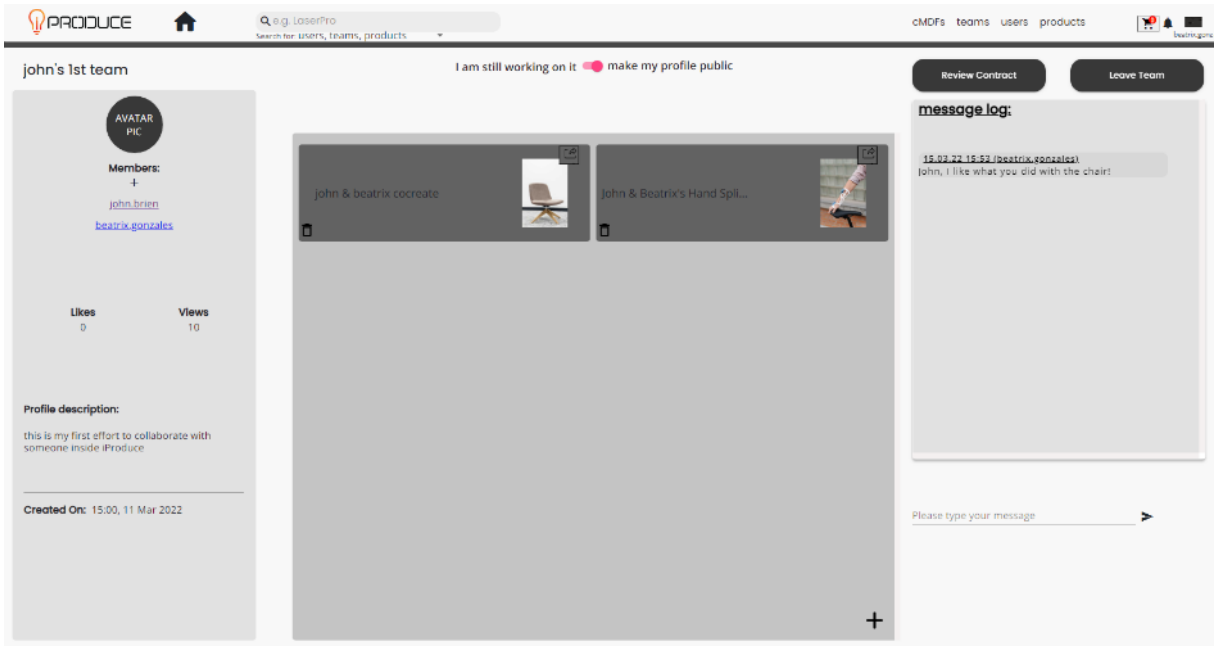


Figure 1 User interaction and product co-creation through the teams page in the Marketplace

Summarizing the above, the scope of the Mobile App is to:

- Enable users to interact with other users and collect 'real-time' information
- Poll other users' opinions with respect to the appeal of their products or the choices offered therein
- Create new surveys based on a predefined set of templates
- Collect the data and provide it to other tools of the OpIS platform (Marketplace, Agile Analytics)

2. Overall Description

2.1. User needs

The main functionalities of the Mobile App and the requirements described in this document are based on the understanding that users intend to (see also section Product Scope for comparison to the DoA):

- Easily create survey to poll users' opinions about a specific product (as a maker)
- Interact with other users in near 'real time' with the potential to use the mobile app as an interaction tool in cMDF events (for example by a cMDF admin, event moderator)
- Easy to use and integrated to the rest of the tools of the OpIS platform (as a maker and prosumer)

2.1.1. Types of Question available for the user

The question types of the mobile app have been defined based on the available propositions from similar online tools. The templates available through the IPRODUCE mobile app are intended to enable users to easily and quickly create targeted surveys to get 'customer opinion', mainly with the purpose to:

- validate options for product customization
- measure the appeal of their propositions (as a whole or with respect to individual attributes) for new product development

The format of questions is intended to produce quantitative results for:

  - quick decision making at the level of the maker
  - investigation of the trends and functioning of the maker-community by researchers

Description of Question types

The question types available through online, commercial platforms have been investigated in order to identify the types that are relevant to the scope of the IPRODUCE Mobile-app. The platforms investigated are: SmartSurvey[4], TypeForm[5], SurveyMonkey[6].

- Open Question: responders are asked to provide answer in their own words
- Closed Question: responders are asked to choose from a number of predefined options
  - Multiple choice: a question with a set of predefined answers for the responder to select from
  - Dichotomous (yes/ no) question
- Ranking: rank a set of options in order of preference
- Rating: responders are asked to provide a score (number of level of satisfaction) for each of the options made available to them
- Linker scale: responders are asked to 'choose the option that best supports their opinion'; measure the extent to which responders agree or disagree with an option
- Demographic: intend to study the population
- Matrix: provides a 'grouping' of different questions under one 'type'. A number of questions in rows, same subset of answers in columns

[4] *https://www.smartsurvey.co.uk/survey-questions/types*
[5] *https://www.typeform.com/surveys/question-types/*
[6] *https://www.surveymonkey.com/mp/survey-question-types/*

Question	Selected for development	Rationale
Open Question	no	Not mobile-friendly: difficulty for responders to insert text via the mobile device; the purpose of the survey is to validate formulated propositions and check whether the product is 'trending' as opposed to attract more general descriptions (main focus is on creating quantitative data)
Multiple choice	yes	Mobile friendly, makers can investigate the appeal of product features or customization options
Demographic	no	Not relevant for the intended purpose; the recipients come from a pool of registered and largely 'known' users (in terms of their statistical characteristics, motivations, background)
Ranking	no	Less user-friendly type of question; requires more time to complete; can be considered for implementation in future version
Rating	yes	Investigate customers' preferences; helps to understand the audience and re-evaluate the customer needs
Linkert	yes	Investigate customers' preferences; helps to understand the audience and re-evaluate the user needs
Matrix	no	Not mobile friendly; screen space poses strong limitations on the number of questions that can be listed (mobile app must be compliant with a variety of screen-sizes)

2.2. Product Perspective

The Mobile App is part of a larger system, called the 'digital Open Innovation Space' (OpIS) platform (D4.1 provides an early description of the relevant components). Other components of the OpIS platform are responsible to perform the following functions:

- Agile Analytics: processes data to produce trends and insights on the users' preferences, behaviors, etc.
- Matchmaking: Creates a network of users by matching users' profiles and performs 'smart' search
- AR/ VR: creates a virtual 'collaboration space' between two users (customer-maker); allows visualization of a consumer product (for example a piece of furniture) in a VR and an AR space and allows for annotation of the CAD model
- Generative Design: optimizes the parameters of the CAD model with respect to an optimization criterion, for example: a lightweight piece of furniture
- Marketplace: platform that enables the registration of users and products and the interaction of users via messages and the formation of teams for collaboration
- IPR & Transaction Management: creates a Ricardian contract between the client and the maker to handle IPR management strategies

Notes:

- each of these components will have access to a central database (OpIS db) (with the exception of the mobile-app)
- almost all of these components will realize their own user-interface (with the exception of the matchmaking tool and the part of the mobile application that allows users to create the surveys)
- not all of the components are hosted on the same server

- the Mobile App interacts directly with the Marketplace and both (the backend of the App) are hosted on the same infrastructure (developed by European Dynamics)

Figure 2 shows a high level view of the component of the OpIS platform, which is the larger system that surrounds the Mobile App.

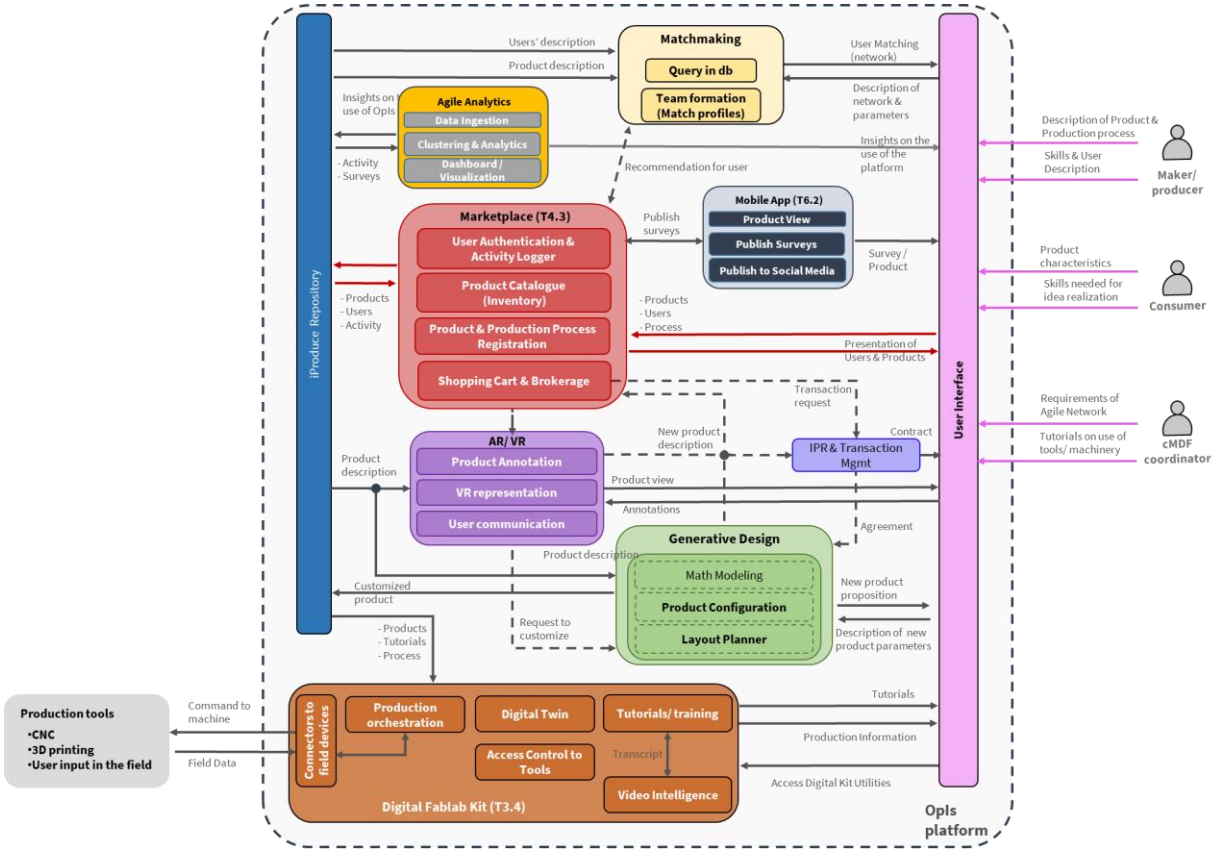


Figure 2 The environment of the Marketplace module

2.3. Product Functions

The main functions of the Mobile App are shown in Figure 3 with their link to the corresponding 3d party component in the OpIS platform. A description of these functions is given below.

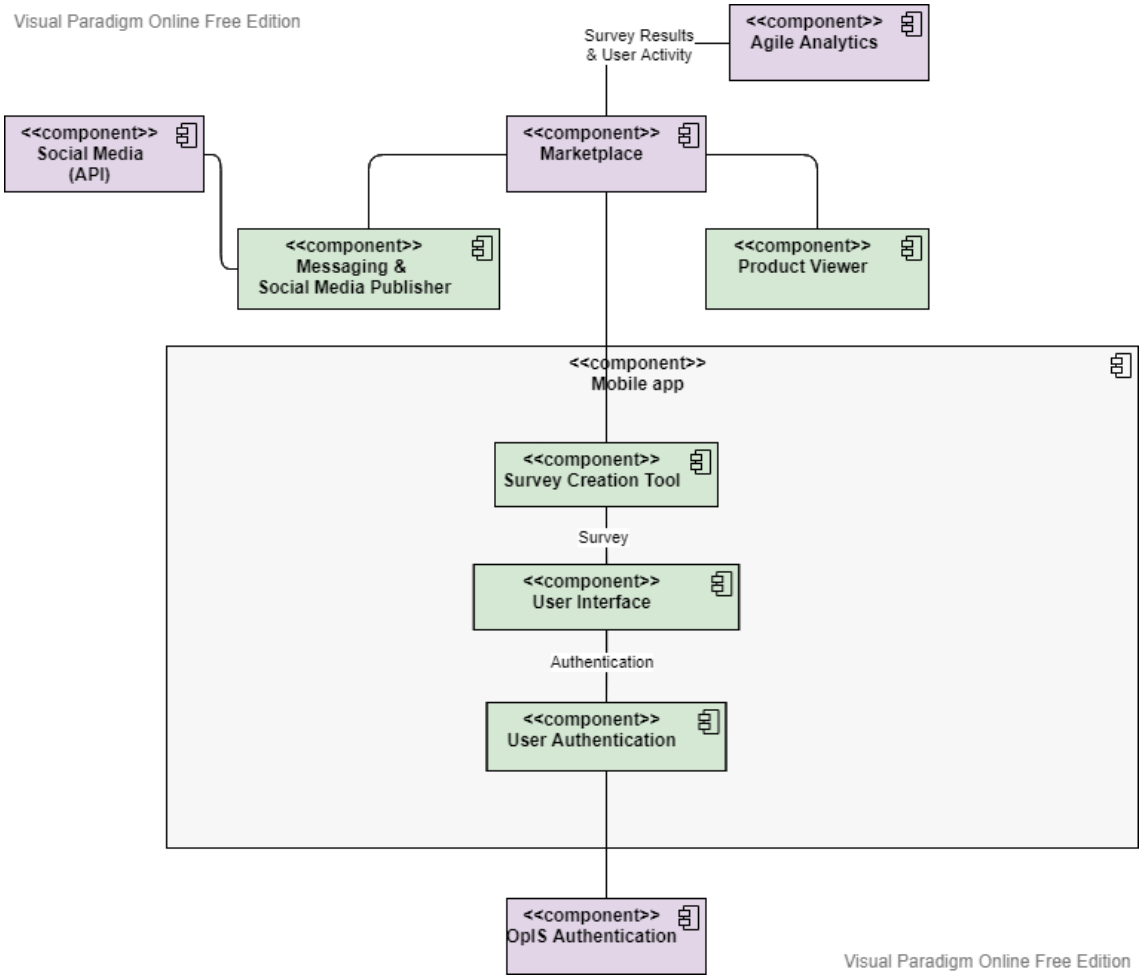


Figure 3 Main functionalities of the Mobile App and relevant components of the OpIS platform

- Survey creation tool (accessible via a web-interface from the Marketplace): enables the makers of products, these products are listed in the Marketplace, to create customized surveys
- User interface: the mobile application that collects the survey responses
- User authentication mechanism: interacts with the authentication mechanism of the OpIS platform

2.4. User groups

The mobile app is intended to be used by registered users of the OpIS platform. The maker of a product will access the survey creation page during the registration (or re-edit) of a new product in the Marketplace (see also D4.6 Open Innovation Marketplace for Consumer Goods). The target audience (survey responders) comes from a pool (sub-group) of registered users.

Role	Role Description	Privileges
Registered user	a user of the platform that is differentiated from the visitor essentially by the fact that they are registered and can access with full	Can be the recipient of a survey if the maker of the survey includes them in the list of target responders (selected during the survey creation process)

	(user) functionality, like for example to interact with other registered users	
Administrator	Platform administrator	Have full privileges in the marketplace and the backend of the mobile app

2.5. Operating Environment

The backend of the mobile app is hosted in the same environment as the Marketplace. It is operates from a server of ED.

2.6. Assumptions and Dependencies

The user/ maker of a product will access the survey creation pages through the Marketplace during the product registration or re-edit of an existing product.

The responses from individual users/ responders of the survey are collected by the backend of the mobile-app and forwarded to the OpIS database. The results are intended to be consumed by a 3d party tool (Agile Analytics).

3. External Interfaces

3.1. User Interfaces

The next Section describes the interfaces in conjunction with the Product Features. The interface for the survey creation tool appears as part of D4.6 Open Innovation Marketplace for Consumer Goods, since it is integrated to the Product Registration page. The following section describes the functionalities for both the front and backend of both the survey creation part and the mobile application (the interface through which users participate to the survey).

3.2. Communication interfaces

The mobile app communicates with the backend of the Marketplace for the publication of new surveys. This communication is made via RESTful calls to the APIs[7] exposed by the Marketplace backend.

(see also D4.6 Open Innovation Marketplace for Consumer Goods)

[7] *https://www.redhat.com/en/topics/api/what-is-a-rest-api*

4. System Features

4.1. Use Case description & Functional requirements

4.1.1. Create a survey

BASIC FLOW

- the user selects the `create a new survey` button on the my `surveyspage` on the Marketplace

1. the system displays the templates on the left side, the empty placeholder for '2. edit question' and '3. preview' and a list with the “available” (defined below) communities and teams on the right (area '4. send to users')
2. the user adds a template page
3. the system adds the template in '2. edit question' and makes the fields editable
4. the system adds the template in '3. preview' and places it as last in the stack of survey-pages
5. the user edits the template
6. IF the user has left empty fields and attempts to leave (clicks outside the area of '2. edit question')
7. the system shall issue a warning: "complete the template so that your data is not lost"
8. IF the user has filled in all fields and clicks outside the area of '2. edit question'
9. the system shall add the template to the list of cards
10. IF the user edits the sorting numbers on the right of the cards in the area '3. preview'
    10.1. the system shall sort the survey-cards according to the numbering in the area '3. preview'
11. IF the user selects a card from area '3'
    11.1. the system displays this card in area '2' and makes all fields editable
12. IF the user clicks the ‘4. Create/Update’ button
    12.1. The system stores this survey under the list of surveys
13. IF the user selects one survey from the list of available surveys for this product
    13.1. The system fills in the ‘2. Edit questions’ and ‘3. Review’ sections
    13.2. The system adds the list of teams and cMDFs, in which this user is a member of
    13.3. the user selects communities or teams from the area '4. send to users'
    13.4. the system adds the user-ids from the selected communities/ teams to a list of recipients
    13.5. the user clicks 'send'
    13.6. the system sends the survey to all recipients
    13.7. the system displays a message to the user: “survey successfully sent.”
    13.8. the system saves the survey to the user's account with the associated product-id (all slides and text, images from each slide, recipient communities & teams)
    13.9. the system logs the ‘survey published’ event

14. IF the user selects a previously saved survey from the list (bottom left)
    1. the system populates all fields in the areas '3, 4' with the information retrieved
15. IF the user exits/ aborts the process (does not end-up to click the 'send' button)
    1. the system displays warning: 'if you do not publish the survey, the information will be lost'
    2. the system clears the survey (deletes all edits)

- “available” teams and communities are:
  - all the teams to which the user is a member of
  - all the cMDFs to which the user is a member of

The previous description is summarized in the following (Figure 4) flowchart

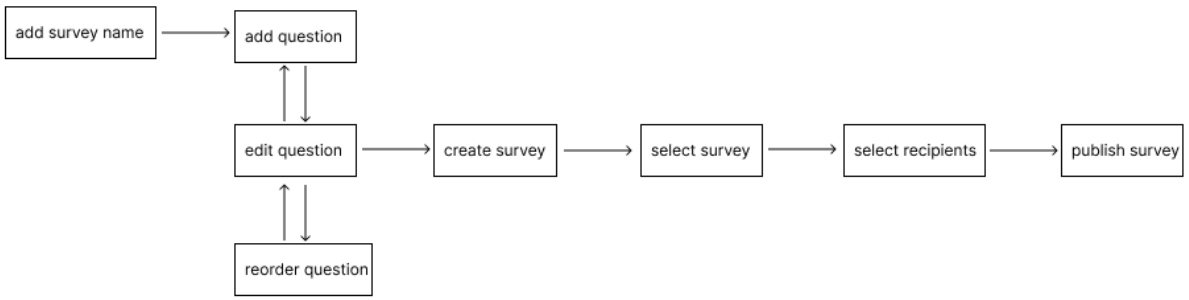


Figure 4 Create-Publish survey flow

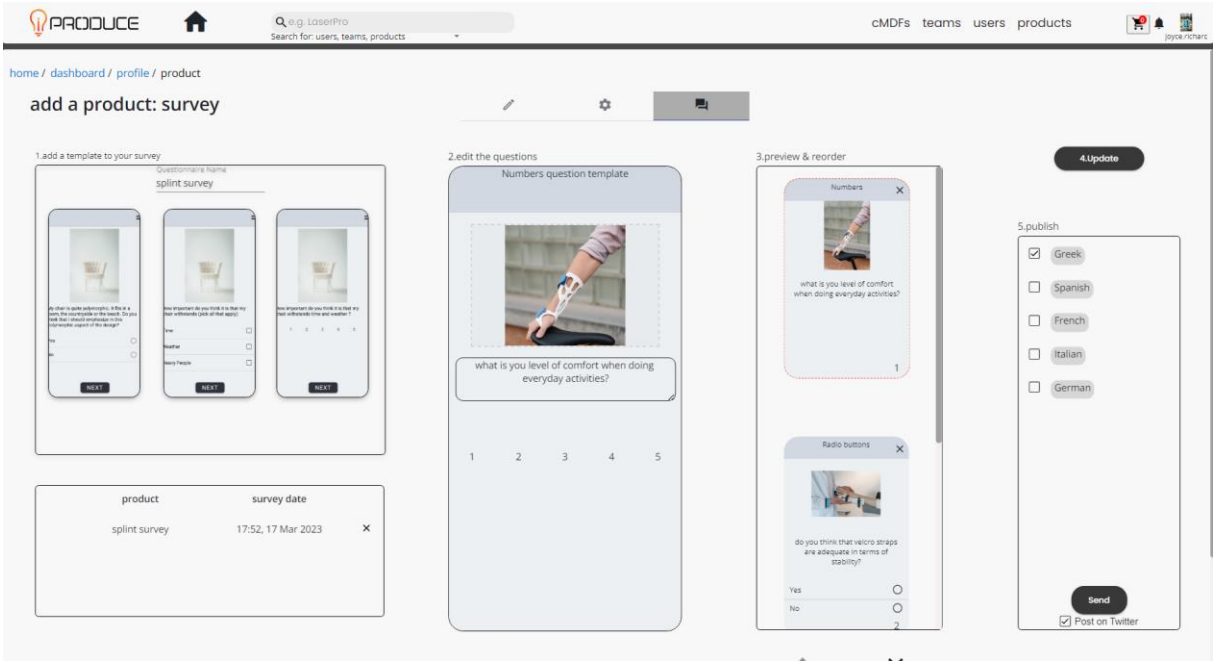


Figure 5 Create Survey (in Marketplace/editProduct page)

4.1.1.1. Functional Requirements

A1. New product registration: Create a Survey. The *system* **shall** be able to:

1. Display a list of templates that correspond to questions displayed by the mobile app
2. Reorder the sequence of template-questions from user-input
3. Change the content of the template-question by receiving user-input
4. Keep track of empty fields in the templates
5. Append images to the survey questions
6. Store the information that correspond to a specific survey:
    a) Number and sequence of questions
    b) Text and images that correspond to each question
    c) List of users who receive the survey
7. Access the teams associated with this user, other users who 'follow' this user, other users who have made a 'transaction' in the past with this user and the communities available through the Marketplace
8. Associate a survey with a specific product and user
9. Retrieve the information for a survey that has been previously stored

10. Fill in the template survey with the information retrieved from past surveys
11. Send the survey to the mobile app towards specific registered users
12. Collect the answers submitted by each user and store:
    a) User
    b) Survey-id
    c) Answers to the questions
13. Log the event of creation and publishing of a survey

4.1.2. Participate to the survey

Brief description: The mobile app maintains a list of the surveys sent to this user from other users (makers of products). The user selects one survey from the list and starts to reply to the questions created by the interviewer and submits the survey once (does not have the option to come back and change the answers at a later point).

The mobile application shall display a notification towards the user: "#UserName wants to ask you a few questions regarding #ProductName. Do you want to take part?"

IF the user replies Yes: the mobile app displays the survey

IF No: the mobile app dismisses the survey for this user and logs a reply of empty entries for this user.

IF the user opens the survey on their mobile phone, does not complete it (end –up to the final 'thank you' screen) and exits the application, the survey shall be considered as 'new' and will be served again to this user without saving any data. This will be the case if the backend has not received a reject or submitted signal from the mobile app.

4.1.2.1. Functional Requirements

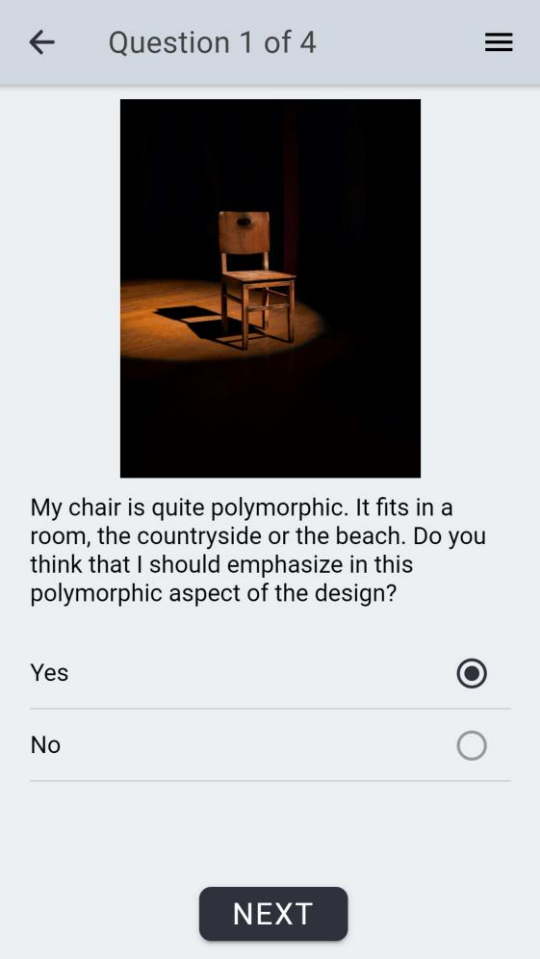
A2. Participate to the survey: The *system* **shall** be able to:

1. Create for each user a list of pending surveys; a survey is considered 'pending' if a survey-creator has added a user and the user has not rejected or completed a survey
2. Push surveys to individual users, one survey at a time
3. Collect the answers from individual users, store the results and create a log of the user replying or rejecting the survey
4. Authenticate the users
5. Create notifications for the mobile app users (on their mobile device)

4.1.2.2. Template Questions

The template questions available in the mobile app are described here below.

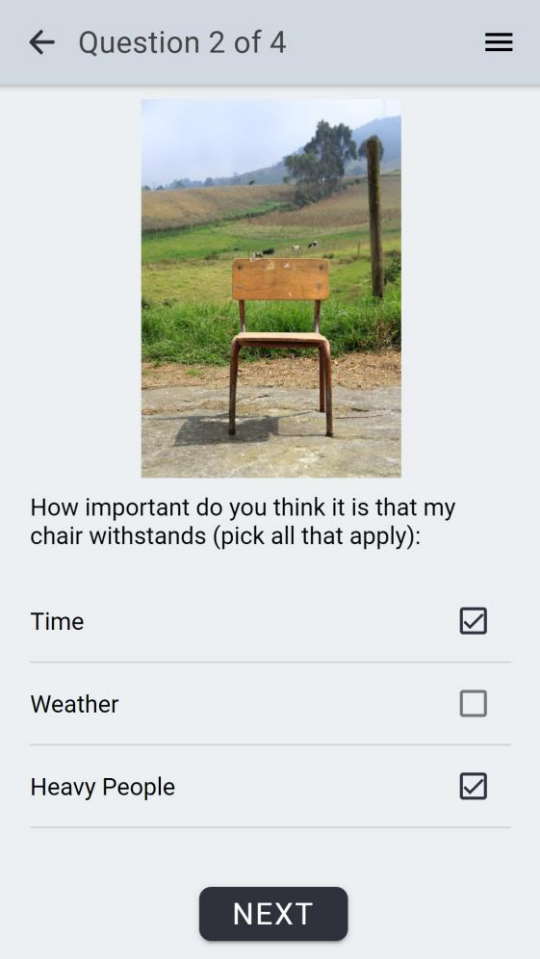
Dichotomous question



The template enables the user to add:

- Header text and short intro to the question
- Image to present the subject of the question
- Two or more mutually exclusive options (could be yes/ no – only one option is active at any time)

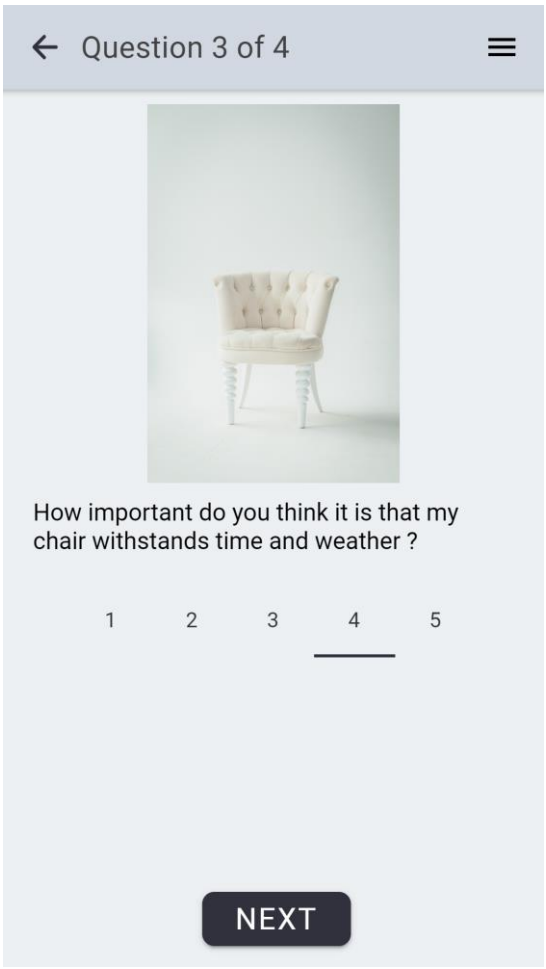
Multiple choice question



The template enables the user to add:

- Header text and short intro to the question
- Image to present the subject of the question
- List of answers with a selection button (multiple answers can be active at the same time)
- Submit button

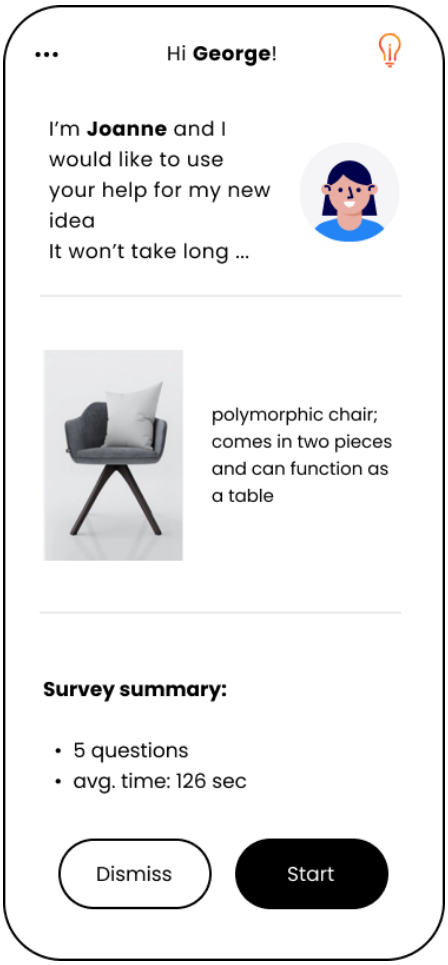
Linkert scale question



The template enables the user to add:

- Header text and short intro to the question
- Image to present the subject of the question
- Grading options (scale 1-5)
- Submit button

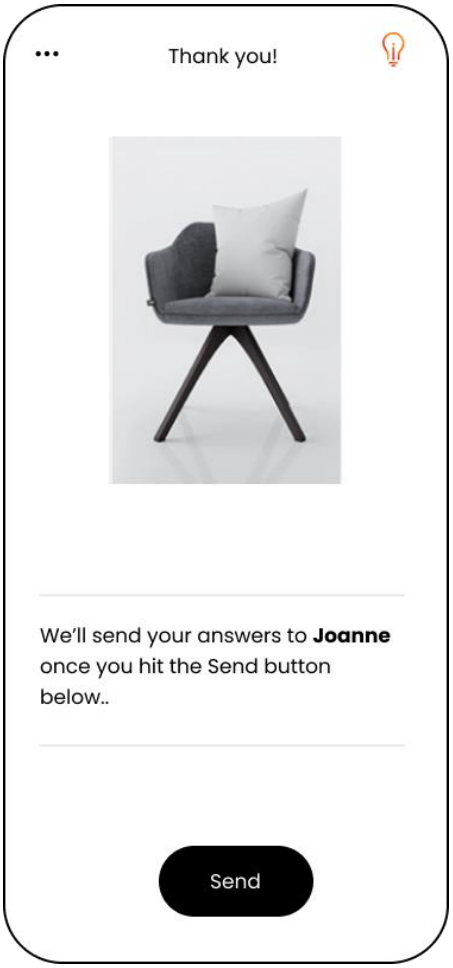
Welcome screen



This is the landing page for the user (after login); the information displayed are:

- User conducting the survey (Joanne)
- Product image & product's elevator pitch (mandatory information for the registration of the product in the Marketplace)
- Survey summary: number of survey questions and estimation of time needed to take the survey (an estimation will be made in the future of the time needed to answer each of the questions above)

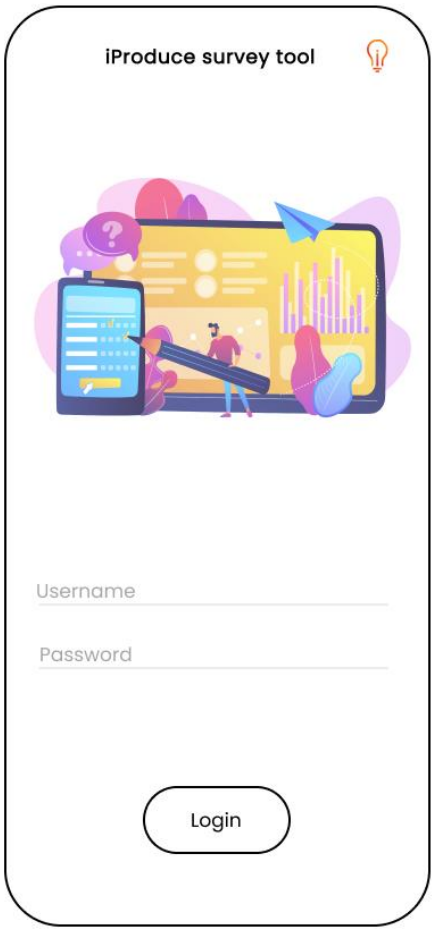
Thank-you screen



This screen is displayed at the end of the survey: The information displayed is:

- product image as uploaded by the maker during the product registration phase in the Marketplace
- the user-name of the user conducting the survey
- a final confirmation button: the user taking the survey will no longer have access or go back to review their answer. The application sends the answers to the backend

Login screen



Login page for the user (it is the first screen displayed to the user when opening the mobile app). The user must login to the app using their credential from their OpIS account

4.2. Non-functional requirements

- The mobile app is available for Android and IOS devices (the development of the frontend has been carried out on the ionic framework)
- Security and privacy considerations as described in D4.6 Open Innovation Marketplace for Consumer Goods Manufacturing

5. Conclusions

This report has presented the scope of the Mobile app (including the backend and frontend components), the user requirements and the technical composition of the application and the backend system. The functionality of the Mobile app and the system response to user stimuli has been described in conjunction with the system UI-screenshots. The technical requirements that lead the development of the Mobile app and its connection to the Marketplace have also been described and linked to the user requirements and the Use Cases to enable their traceability. All of the functionalities described in the above have been implemented and the mobile app is available via Google-Play and i-Store under the name 'iproduce'. The corresponding interface for the creation and publishing of a survey is accessible through the Marketplace (access via *https://iproduce-marketplace.eurodyn.com/*) for each product.

PRODUCE

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