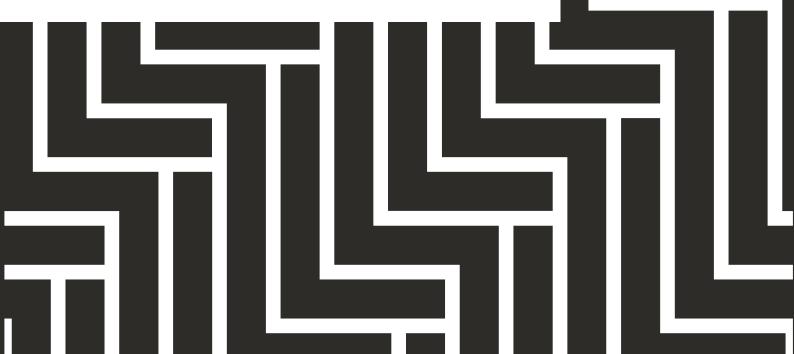
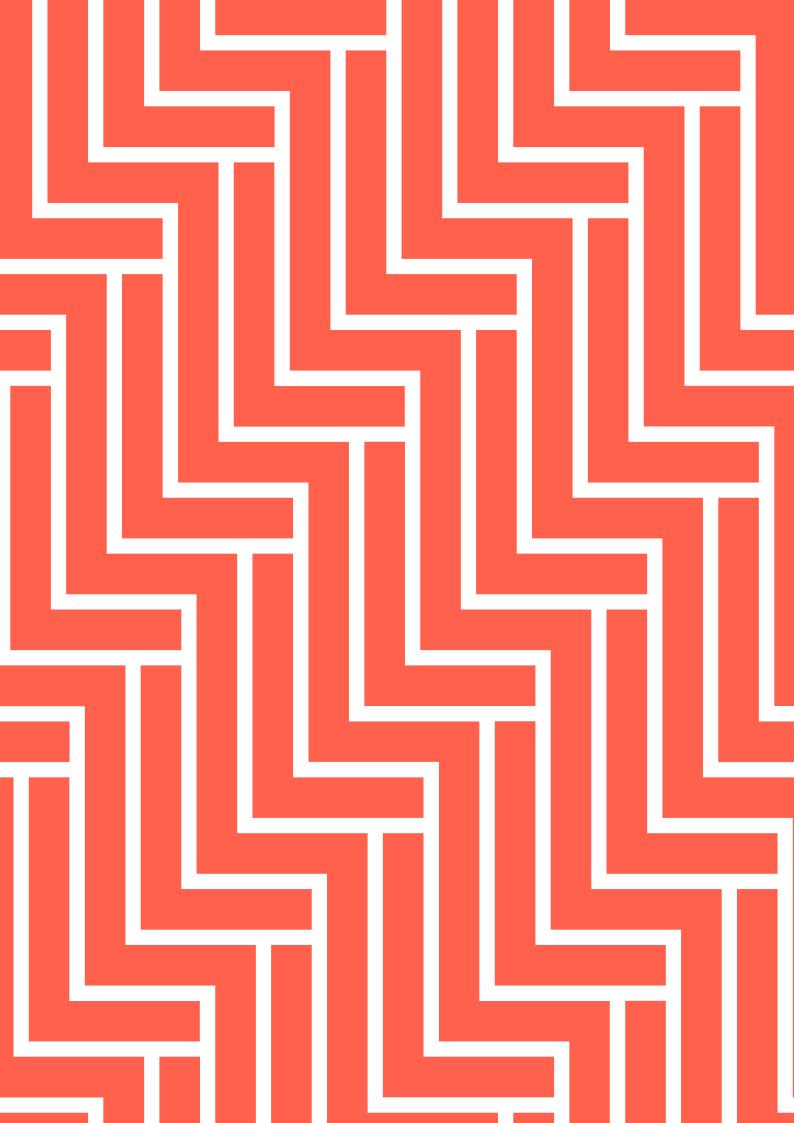


# **PLACED** THE CATALOGUE

Making events visible within the library Generating public participation Offering bridges between collections and events





## PLACED THE CATALOGUE

Making events visible within the library Generating public participation Offering bridges between collections and events

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PLACED

## PREFACE

## **On Libraries, Events and Collections**

Libraries have traditionally played the role of knowledge hubs in cities. This role is questioned today as access to information has vastly improved through our mobile devices and the Internet. In the meantime though, libraries are increasingly attended throughout the world. This can be explained by the growing number of events organised within them, strengthening their role as a space for mediating knowledge. These events can range from public readings, to introductory computer workshops, as well as participatory events where users can exchange knowledge (about languages, social issues, hobbies, etc.).

The development of these events leads librarians to ask the following questions:

- How to facilitate public awareness of these events, in particular by those who do not frequent the library for its cultural or scientific programmes?
- How to create bridges between events and collections, within the physical space of the library, but also through its website and other tools such as its calendar or catalogue?
- How to keep track of the discussions and productions made during these events, whether they are audio and video recordings, photos, texts, etc. made by librarians, partners or the public?

These questions are directed at the mediation currently implemented in libraries and create opportunities to think and invent services and tools that would facilitate this mediation. These are the questions we have explored in the PLACED project.

## **The PLACED Project**

PLACED is a European research project, which responds to the European Union call "ERA-NET Cofund Smart Urban Futures" (ENSUF) on the development of new public services.

From 2016 to 2020, through PLACED, we sought to support the transformation of libraries from knowledge centres focused on collections, to spaces of knowledge sharing through the organisation of participatory activities and cultural events. Through the development of new digital services, aimed at facilitating the discovery of events, the participatory documentation of these events, and their integration into the collections, the PLACED project took up questions of mediation, participation and visualisation.

We explored the design of digital services for libraries, by focusing in particular on the relationships between events organised in libraries and collections, and on how digital platforms could allow a better integration of the two. Contrary to a vision of dematerialised digital services, we have sought to anchor these digital services in the physical space of libraries, to facilitate discovery and better integrate events and collections. The services we have sought to design are based on the active participation of users, and the cocreation of knowledge that will be integrated into the collections.

## An Iterative and Participatory Approach

These services could not have been designed without a real partnership and a solid participatory approach bringing together research institutions and libraries to understand and develop accessible and usable digital services. This approach has materialised through numerous design workshops bringing together librarians, designers, computer scientists and researchers in the information and library science fields, all partners of the PLACED project.

The project is supported by eight partners: three libraries: DOKK1 in Aarhus (Denmark), the Lundby library in Gothenburg (Sweden), and the municipal library of Lyon (France) and four academic partners: the Aarhus University, Chalmers University of Technology in Gothenburg, the Centre National de la Recherche Scientifique (CNRS) in Lyon, and the National School of Information Sciences and Libraries (Enssib) in Lyon. In addition the Research Institutes Sweden (RISE), in Gothenburg, plays an advisory role on the project for the final valuation of the results.

Design workshops between partners, featuring university students or professionals from different countries during congresses or national meetings, made it possible to design digital services in the form of malleable prototypes that can be quickly modified to meet the needs and requests of project participants. This approach has allowed us to identify many ideas for services that can be implemented in libraries and while also allowing iteration of the different prototypes throughout the project by adapting to the specific requirements of each partner library.

The PLACED project resulted in the production of two prototypes. PARTICIPATE, which allows everyone to document events that take place in a library. Upstream, librarians can associate documents with the event, from collections or elsewhere (Web, magazines, mainstream media). During events, users and librarians can take photos, videos, post comments, and associate this content with the event to document its progress and discussions. And EXPLORE, which enables librarians to showcase events and content from PARTICIPATE, either in the form of interactive posters or on the tablet application, thus making it possible to link events with relevant library resources.



## A Time for Events, A Time for Research

This project is exploratory and aims to produce knowledge before producing tools. However, for us, knowledge can only be produced through the implementation of technical devices (prototypes), with users, all anchored in places and existing practices.

Through the project, we conducted a phase of theoretical research and field observation, followed by a phase of creation and production of concepts, prototypes. and field tests. But what remains when the research is done? We did not want to conclude this project without ensuring the possibility of its reappropriation by professionals. While the PLACED project gave rise to several articles and academic communications, as well as articles in the French professional press, it seemed desirable to us to also produce a catalogue to show the value of the project and to report out the productions of the various design workshops for you to use.

This is the catalogue you are holding in your hands!

The objective of this catalogue is threefold:

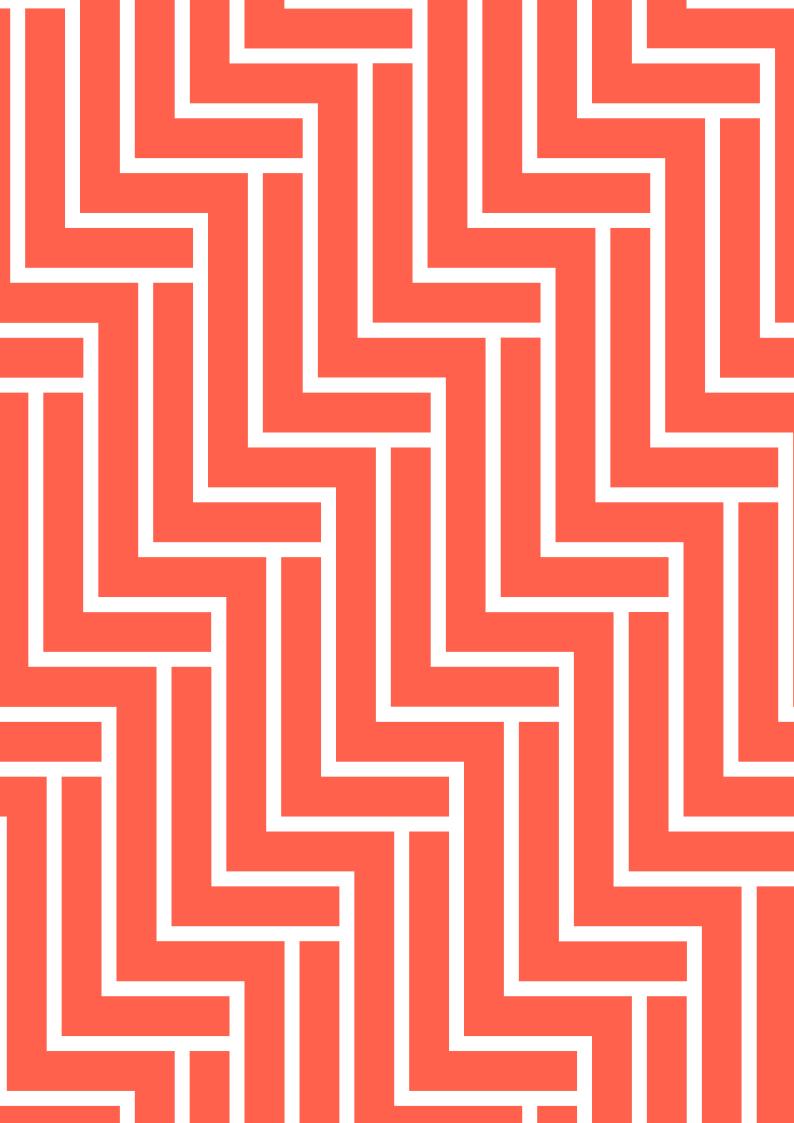
First, to present the ideas from workshops, making events visible in the library, and encouraging public participation, creating links between collections and events. The first part of this catalogue, which takes the form of a catalogue of ideas to consult, test, and discuss, deals with this. It's up to you to explore these ideas and find inspiration for your libraries.

Second, to present the two prototypes that have been developed by the partners to better understand and identify the objectives and how they operate. These two prototypes are still used by the partner libraries. Part 2 of this catalogue presents the methodology used to design these prototypes, the first feedback from the experiments and outlines perspectives.

Finally, to give you the possibility of reusing our prototypes that were designed in the form of open-source web services. Thus, for those who would like to try them out, the last part of this catalogue gives you all the information concerning the implementation of these services in libraries from a legal and financial point of view.

With this catalogue we put an end to the PLACED project, but certainly not to our research on libraries and digital services. Other projects will follow, but that will be a different story...

The PLACED team



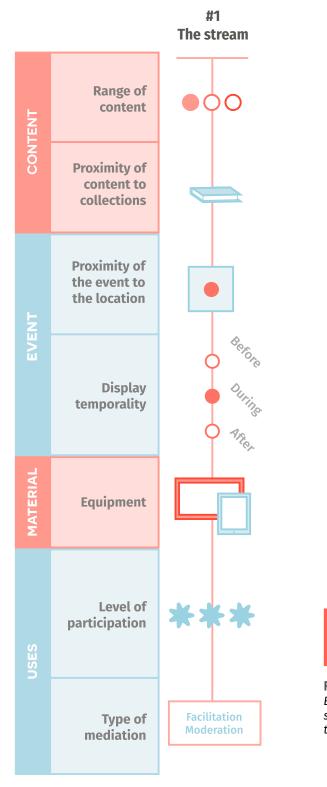
## CATALOGUE OF IDEAS

The PLACED project was built with partner libraries and researchers, but also with the more occasional participation of librarians or library students during workshops: the workshop of the French-speaking international summer school in libraries and information sciences (Montreal, Canada, 2017), the Cfibd-Enssib workshop during the meetings of young IFLA professionals (Lyon, France, 2018), the PLACED project workshop (Aarhus, Denmark, 2018), the Rencontres Nationales des Bibliothécaires Musicaux workshop (Lyon, France, 2019).

These workshops were an opportunity to come up with ideas for services or devices to make events visible in the library, to encourage public participation, and to make links between collections and events. We made from it a catalog to consult, test, and discuss, in which you can explore each idea, each device.

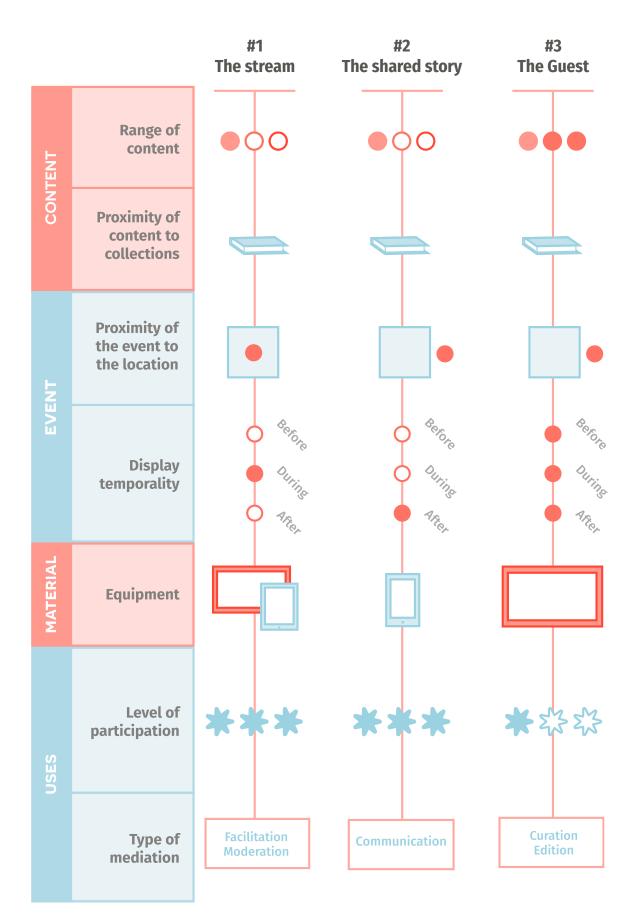
We have also designed a summary and exploration table of these service ideas that will allow you to identify the more or less participatory devices, the more or less digital or printed devices, the more or less localized devices, etc. The summary table presented on the following pages should be read as follows:

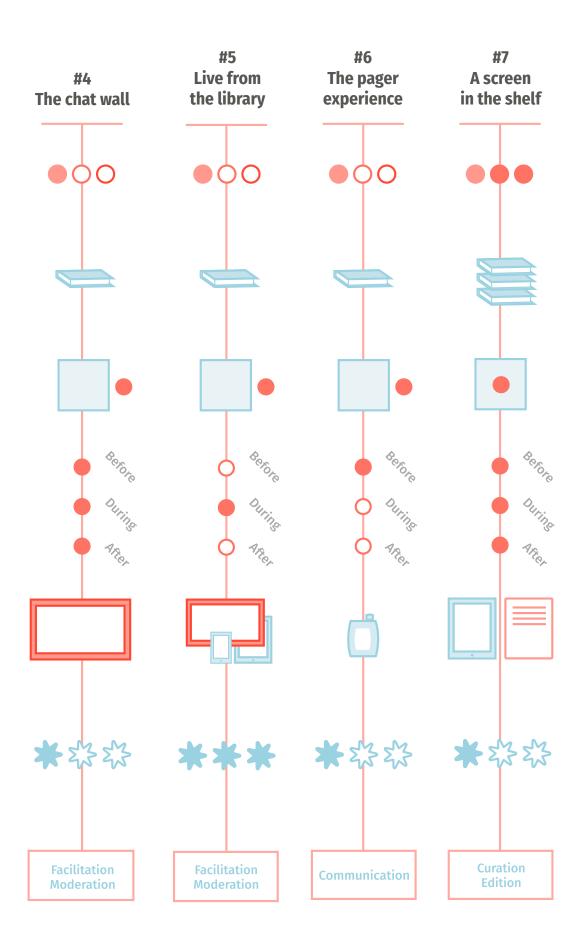
Category	Challenges	Levels	Example with the #1 The stream concept
Breadth of content	Does the service / device provide access to a wide variety of resources (formats, media, content) ?	Low to high variety	Low: The knowledge and skills offered to the public by the Stream device are not very varied in terms of format and content.
Proximity of content to collections	Does the content offered by the device directly relate to the library's collections ?	From very collection centric to weakly centric.	Weakly centric: the Stream device has little relation to the collections relating to the current event.
Proximity of the event to the location	Is the device installed on the site of the event ?	Near the event or far from the event	Near the event: the Stream device operates at the event location itself.
Display temporality	Does the device offer service before, during or after the event ?	Before, during and / or after	During: the Stream device is used during the event itself.
Equipment	What equipment should be installed for public use ?	Large screen, tablet, smartphone, and / or printed device	Large screen and tablet: the device requires a large screen and one or more tablets to be made available to the public
Level of participation	Does the content of the device rely on public participation ?	From weak to strong	Strongly: The Stream device offers content that is all the more interesting as users feed it.
Type of mediation	What mediation work is made possible by this device ?	Curation-edition: librarians identify and organize knowledge and ensure its visibility Facilitation-moderation: librarians ensure and moderate the production of knowledge by residents Communication: librarians facilitate the dissemination of knowledge in the library or outside.	Facilitation-moderation: the Stream system makes possible the work of animation and moderation by librarians.



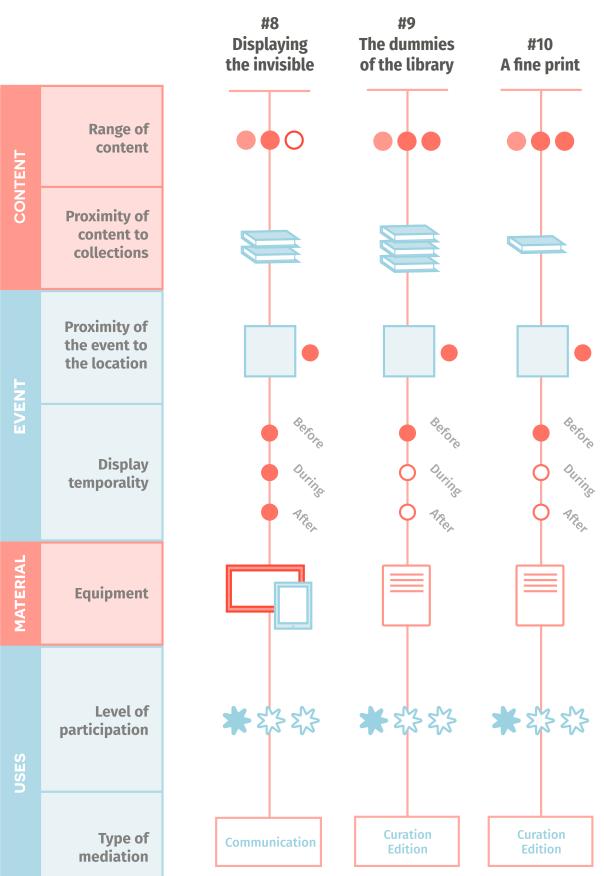
**FIGURE 1** Example of description for service #1. The full synoptic table can be found overleaf.

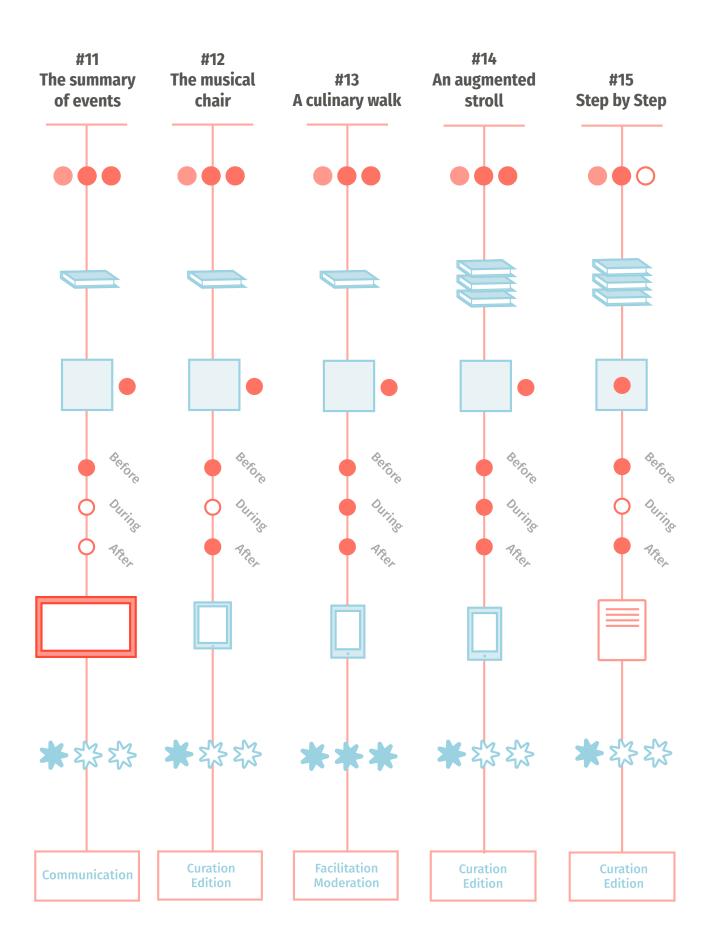
## SUMMARY TABLE

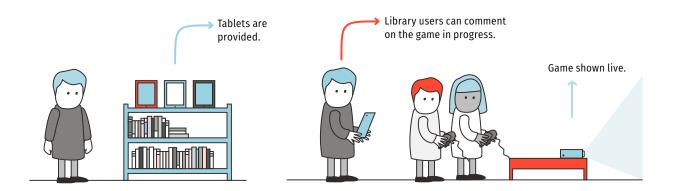




## SUMMARY TABLE







# #1 **THE STREAM**

## Informations.

Usage Equipment

Location | Library spaces Collective **Public screen** /tablets Timeframe **During the event** 

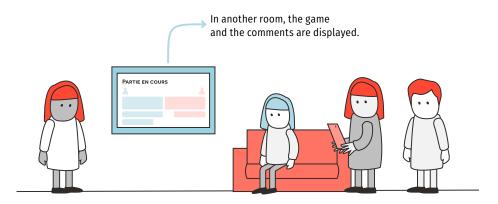
### **Development context :**

"Young professionals" workshop organized by IFLA-Cfibd-Enssib, Villeurbanne, Lyon, January 2018

#### **Designers**:

Library students and PLACED researchers





In an event about video games, tablets are made available to users, who can then comment on the game sessions of a public tournament and take photos and videos of it. The tournament is broadcasted live on a large screen elsewhere in the library or in other libraries of the network. The game and user comments appear simultaneously on the screen. This concept could also be used for other events in the library.

The aim is to widen the circles of participation for events: the circle of direct participants (in this case, those who play), indirect participants (in this case, those who comment), and of spectators (in this case, those who watch the big screen). This widening of the participation is created by broadcasting in different areas, in particular those which cannot accommodate the event but can promote it, but also those acting as hosts, allowing them to promote the upcoming event.

# #2 **THE SHARED STORY**

## Informations.

Location | Reading areas Usage Individual Equipment Tablet Timeframe **After the event** 

### **Development context :**

"Young professionals" workshop organized by IFLA-Cfibd-Enssib, Villeurbanne, France, January 2018

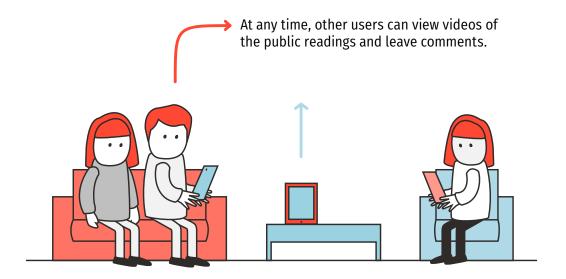
### **Designers**:

Library students and PLACED

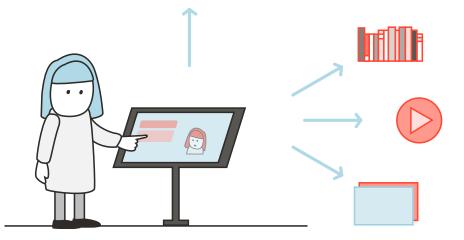


As part of writing workshops, or similar events, texts created by the participants are read by their creators. By means of a tablet, these readings are used to make a video or audio file (for which the consent of the participants is required.) The tablet is then placed in an area used for relaxation, leisure or media so that other users can listen to these readings and leave comments.

The aim of this process has multiple desired outcomes: raising awareness, generating the desire to participate, bringing the productions out of the workshop and promoting recognition of the participants by other users. The workshop information and its productions can be diplayed in different spaces of the library, as well as in other librarise of the network, or even in other locations in the city, campus, etc.



A touch table offers users access to content related to a speaker and the associated event.



# **#3** THE GUEST

## Informations.

#### Location | Location of the

Usage

Equipment Timeframe upcoming event Individual or collective Touch table Before, during and after the event

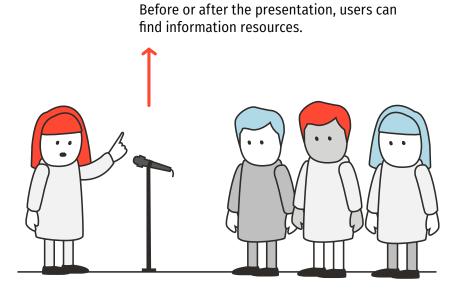
### **Development context :**

"Young professionals" workshop organized by IFLA-Cfibd-Enssib, Villeurbanne, France, January 2018

### **Designers**:

Library students and PLACED researchers



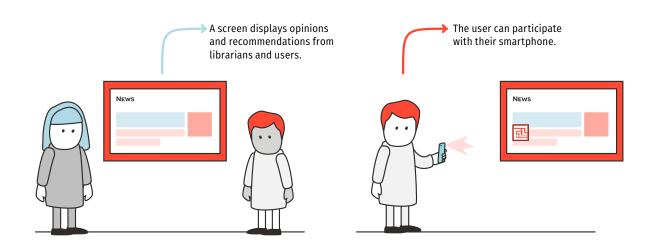


In relation to an invited speaker event, a touch screen is available at the entrance of the conference room a few days before the event, and for a few days after. The screen displays multiple documents about the guest: bibliography, audio/video recordings, websites, photos, etc.

The aim of this device is twofold:

(1) For users, offering access to resources complementary to the organised event and raising awareness and understanding of the value of the coming guest.

(2) For the library, highlighting its ability to identify the right experts and to mobilise them for the community. The back-office work, which is usually invisible, is highlighted here, thereby relaying the librarians' own expertise to feed into the public debate.



# **#4** THE CHAT WALL

### Informations.

#### Location Areas for

Usage

Equipment

Timeframe

with high traffic Collective and individual Screen, tablet, display panel Before, during and after events

socialisation and

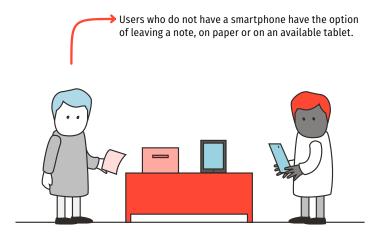
### **Development context :**

PLACED team design workshop, Lyon, March to June 2019.

### **Designers** :

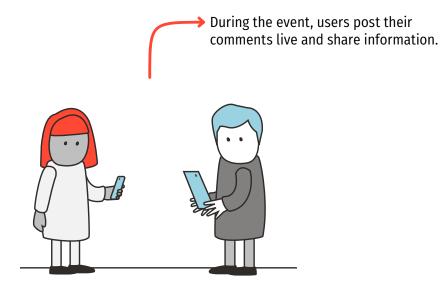
Members of the PLACED project group in Lyon: librarians from the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction)

• Idea catalog



In the reception of the library, a screen displays publications from librarians and users related to the cultural programme. Users can post their own comments on the screen by visiting a website (via a QR code, via a very simple link, eg: bm-lyon.fr/blabla, or from the library's WiFi authentication page). Users without smartphones can leave a message on paper or via a provided tablet.

The aim of this system is to make comments about the cultural programme visible in the library. These comments can be anecdotal or simple expressions of opinion, but they can also provide useful additions to other users: reading tips, hyperlinks, etc. This device makes room for users as individuals, whose opinions of the library programme matters. Recognition and legitimacy are the two driving forces behind this system.





LIVE FROM THE LIBRARY

## Informations.

Entrance, hall or reception
Individual and collective
Large touch screen, smartphones,
tablets During the event

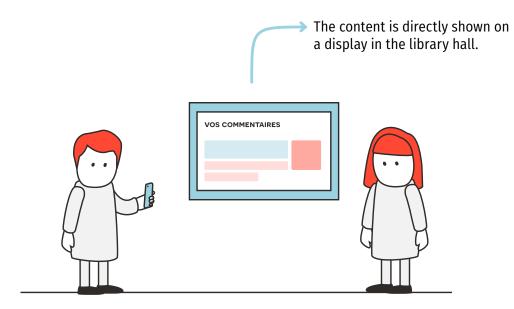
### **Development context :**

PLACED team design workshop, Lyon, March to June 2019.

### **Designers**:

Members of the PLACED project group in Lyon: librarians from the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction)

PLACED • Idea catalog



Users are invited to post comments on their favourite social networks (or on a dedicated library service) about what is happening during an event. By encouraging the use of a predefined hashtag, posts are collated in real time on a screen in the lobby. The display consists of comments and photos on the current event. These comments are posted by users from their own phones, or from a tablet made available near the event.

The aim of this system is to make comments about the program visible within the library. It is also about making the activities that take place there visible outside the library. These comments can be anecdotal, the simple expression of opinion and can also provide useful additions to other users: reading tips, internet links, etc. This device makes room for users as individuals, whose opinion of the library matters. Recognition and legitimacy are the two driving forces behind this system.

# #6 THE PAGER EXPERIENCE

## Informations.

Usage Equipment Timeframe

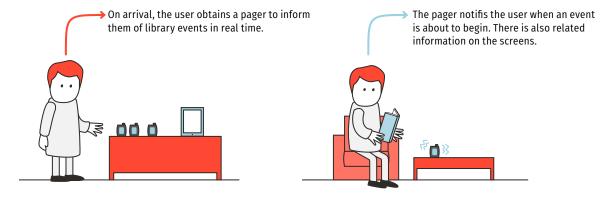
Location | The whole library Individual Screen, pager **Before the event** 

#### **Development context :**

Annual meeting of the PLACED-Aarhus project, Aarhus Denmark, April 2018

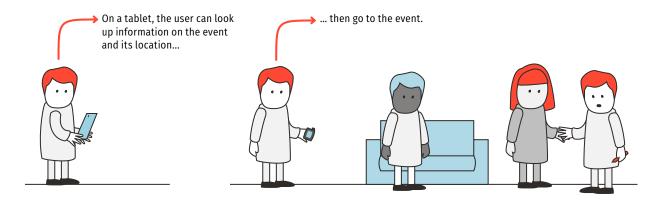
#### **Designers**:

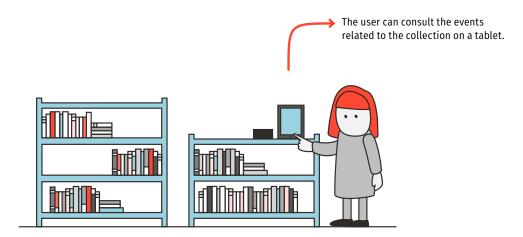
Members of the PLACED project group: librarians, researchers in LIS (Library and Information Sciences) and HCI (Human-**Computer Interaction**)



At the entrance of the library, pagers are made available to users. The user, who picks it up, walks around the library with this object, which alerts them when an event is about to start. The user can then consult display screens that give them information on the exact location of the event, and possibly on the content.

This device allows users to be informed, in real time, of what is happening in the library when they are there. The aim is to make events visible and to facilitate participation, considering that participation is not necessarily planned and can be a matter of visibility and opportunity. With this system, the library remains in contact with users without overburdening the space with repetitive visual communication that is ultimately not very visible.





## #7 **A SCREEN IN THE SHELF**

## Informations.

Usage Equipment

Timeframe

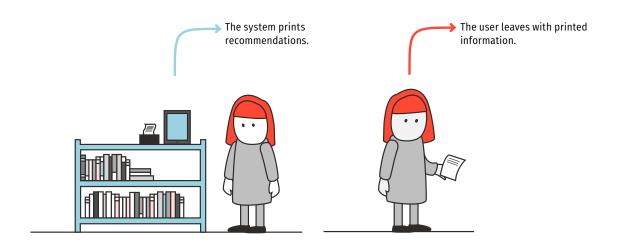
Location | Collection spaces Individual **Tablet or touch** screen integrated into the furniture Before, during or after an event

### **Development context :**

PLACED team design workshop, Lyon, March to June 2019.

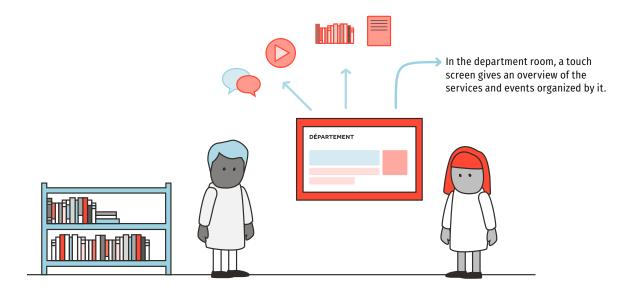
### **Designers**:

Members of the PLACED project group in Lyon: librarians from the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction)



In the organization of a hip-hop concert at the library, the librarians gather various information related to the event: date, discography and bibliography, videos, texts, etc. In the music room, on a shelf in the "Hip-hop" section, a touch screen offers users the opportunity to discover this event and content selected by the librarians. Through this screen, they can print a ticket that acts both as a concert ticket and as a guide to find all the resources related to this event from home.

The aim of this system is to make the cultural programme known to users who tend to frequent the collection spaces only. It is also about making visible connexions between various function of the library: between an event and the resources it produces (audio-visual recordings), between the physical and digital resources of the library relating to the event, and between resources internal to the library and external ones that might complement them. As the tablet is easily moved, these connexions can take place between events and collections that are apparently not very linked. The device aims to create bridges between the various fields of knowledge of the library. Moreover, the tablet can be installed in other strategic places in the city and thus connect other places of the city with the library.



# **#8** DISPLAYING THE INVISIBLE

## Informations.

Location Usage

Equipment

Timeframe

Music Room Individual and collective Large touch screen, smartphones, tablets Before, during and after the event

### **Development context :**

PLACED - Musique team design workshop, Lyon, September-December 2019.

### **Designers**:

Members of the PLACED project group in Lyon: librarians of the Music department of the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction)

• Idea catalog



In the music room, a large touch screen shows three posters that rotate every 20 seconds. These posters are centred on an upcoming event, for which they succinctly give practical information. Each poster features a selection of digital resources created by the librarians: blog posts, radio shows, and more. To go further in the discovery and browse these resources, a tablet is available.

This system aims to give visibility to digital knowledge produced by the library. Unfortunately, this often remains inaccessible to users who frequent the physical collections or events. For the library, the aim is to promote documentary work carried out by specialists, and to do so on the occasion of events, that are an opportunity to produce new digital content.



### THE DUMMIES OF THE LIBRARY

#### Informations.

Location | Shelves Usage Timeframe

Individual Equipment **Box, paper, pens** Before, during and after the event

#### **Development context :**

National meeting of music librarians (RNBM), Lyon-Villeurbanne, April 2019.

#### **Designers** :

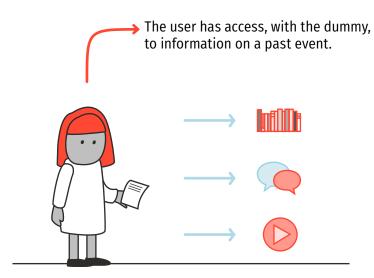
Music librarians, members of the PLACED team

> The user finds "book dummies" between the documents in the library.

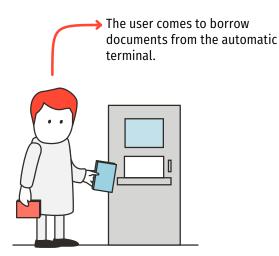


Users walking through the shelves of the music sector may see book dummies in the form of cardboard boxes or paper sheets. These book dummies are updated with information about library events. They contain a reminder of the event and various resources related to the artist or speaker who came to the library or related to the theme of the event. The dummy displays a link which leads to explore these resources.

The aim of this device is to create links between an event and a collection. This link is built by highlighting the common themes addressed by the physical collections, event collections and digital collections, and temporally between past events and the current presence of the collection. For librarians, it is a matter of showing spaces of knowledge which are usually invisible to users and hence their own documentary qualities.







The machine advises the user on events related to their loans.



# #10 **A FINE PRINT**

#### Informations.

Location	At lending machines wherever they are located
Usage	Individual
Equipment	Lending machine,
	thermal printer (for
	receipts).
Timeframe	Before an event

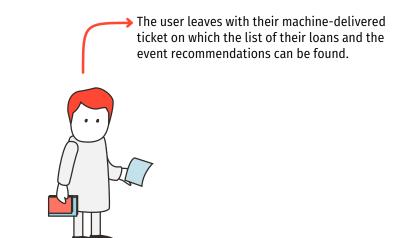
#### **Development context :**

French-speaking international summer school in library and information sciences, Montreal, July 2017

#### **Designers**:

Students and teachers in library science at EBSI (Montreal) and ENSSIB (Lyon), Quebec librarians, members of the PLACED project group researchers in LIS (Library and Information Sciences).

• Idea catalog



When borrowing a document via a lending machine, users receive a ticket. This lists the loans, indicates the return dates and suggests event recommendations related to the themes of the loans made. The list of loans is preceded by the message: "If you like to read / watch / listen to..." and the list of recommendations by the message: "Then you might like to attend...".

The aim is to introduce patrons to the library's event program. This device targets users who tend to visit physical and borrowable collections rather than events offered by the library. It provides an alternative to expert librarian advice. Finally, this system involves indexing the cultural, scientific and educational events of the programme with the same keywords as for indexing collections, and thus makes it possible to think of the events as a collection in their own right.

# • Idea catalog



## THE SUMMARY OF EVENTS

### Informations.

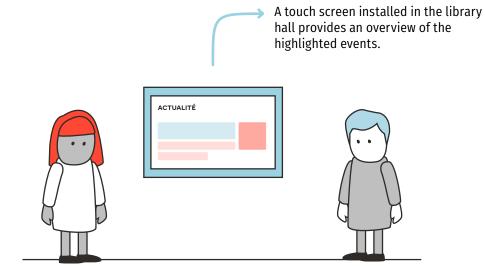
Location Entrance, hall or reception Usage Individual Equipment Large touch screen Timeframe **Before the event** 

#### **Development context :**

PLACED team design workshop, Lyon, March to June 2019.

#### **Designers**:

Members of the PLACED project group in Lyon: librarians from the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction)



At the entrance of the library or in one of its central spaces with a high attendance, a large touch screen allows users to navigate through the cultural programming. The screen allows users to discover the next upcoming events accompanied by a short text of practical information and photos. The touch screen also provides access to additional information on each event, such as bibliographies, videos, web magazine articles, etc.

The aim is to make the future events visible in the library and to ensure better visibility for users who are not informed of these events. Furthermore, the tool allows users to navigate between events and see the links between them. Finally, it allows the discovery of the event beyond the practical elements given in the schedule, through the selection of resources carried out by the librarian organisers. Navigating the cultural programme becomes another experience of mediating the collections.



# • Idea catalog

# #12 THE MUSICAL CHAIR

### Informations.

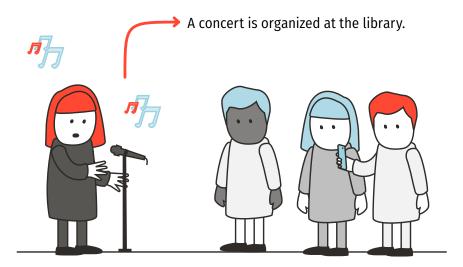
Location | Places of socialization and traffic Individual Usage Tablet, headphones, Equipment armchair Before, during and Timeframe after the event

#### **Development context :**

PLACED - Musique team design workshop, Lyon, September-December 2019.

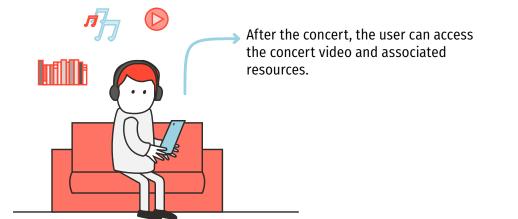
#### **Designers**:

Members of the PLACED project group in Lyon: librarians of the Music department of the Municipal Library of Lyon, researchers in LIS (Library and Information Sciences) and HCI (Human-Computer Interaction).

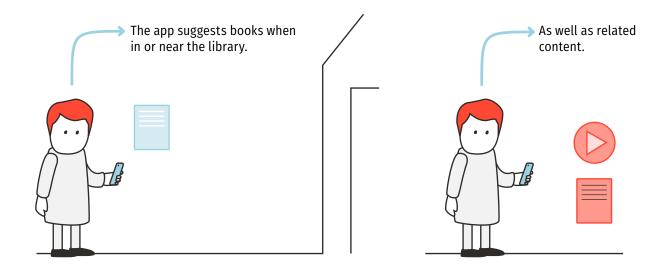


A concert is organised at the library. After the concert and in the same location, an armchair is set with a tablet and headphones. Users can view the concert video recording and a selection of related resources. The tablet also allows users to watch videos of past concerts and consult the list of upcoming concerts.

The aim is to offer users a route through organized events, concerts or others, between access to past events and information on upcoming events. This listening and viewing station is designed as a display in the library space for digital audio-visual resources. These resources are struggling to find their place on websites or in catalogues but could take their place physically in the library via dedicated devices.







# #13

### **A CULINARY WALK**

#### Informations.

Location Usage Equipment Timeframe

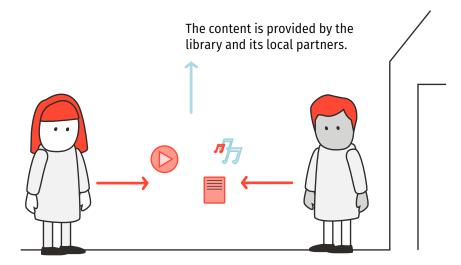
Near the library Individual Smartphone Before, during and after the event

#### **Development context :**

French-speaking international summer school in library and information sciences, Montreal, July 2017

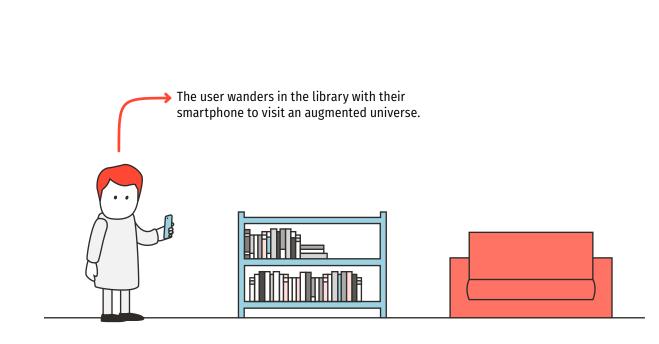
#### **Designers** :

Students and teachers in library science at EBSI (Montreal) and Enssib (Lyon), Quebec librarians, members of the PLACED project group researchers in LIS (Library and Information Sciences).



An application provides access to library resources (events and collections) around the theme of cooking. On site or near the library, the user receives cooking recipes, menus from neighbourhood restaurants, cooking advice given by local restaurateurs, tips related to food provided by local associations. The application also offers a selection of books and digital resources acquired or produced by the library. Finally, it informs the user of the library's program relating to the theme of food and nutrition.

The aim for the library is to link the knowledge it offers with that of the community and its local businesses and associations. The resources are offered thematically and localised to a neighbourhood, thus offering a new form of multifaceted and multisource recommendation. The application does not necessarily belong to the library but can still be fed by the library open data.



# #14 **AN AUGMENTED STROLL**

#### Informations.

Timeframe

Location | The whole library Usage Individual Equipment **Tablet, smartphone** Before, during and after the event

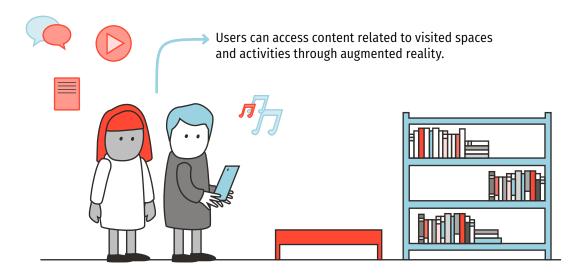
#### **Development context :**

National meeting of music librarians (RNBM), Lyon-Villeurbanne, April 2019.

#### **Designers**:

Music librarians, members of the PLACED team





The library has organized an augmented digital universe for each of its spaces. Thanks to their smartphones, users can walk in this parallel universe and thus access digital resources through the physical space. Depending on the events organized at the library, this parallel universe is updated with the appropriate resources.

For the library, the challenge is to make digital resources visible on the basis of two principles: first, in relation to the space in which the user wanders, and then in relation to the time of the cultural program of the library. Librarians can highlight resources which are not highly visible and whose links to physical resources and with events are underexploited.

# • Idea catalog



### Informations.

Usage Equipment Timeframe

Location | The whole library Collective Signage **Before and during** the event

#### **Development context :**

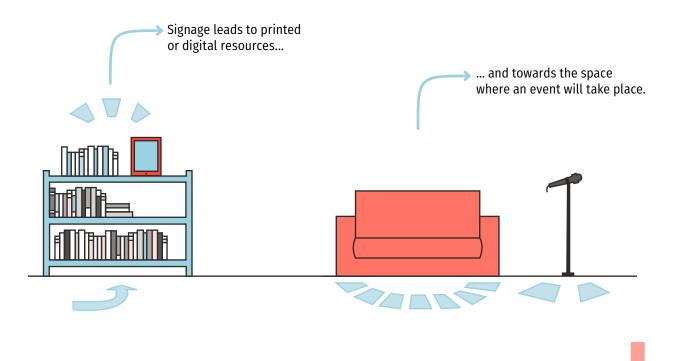
National meeting of music librarians (RNBM), Lyon-Villeurbanne, April 2019.

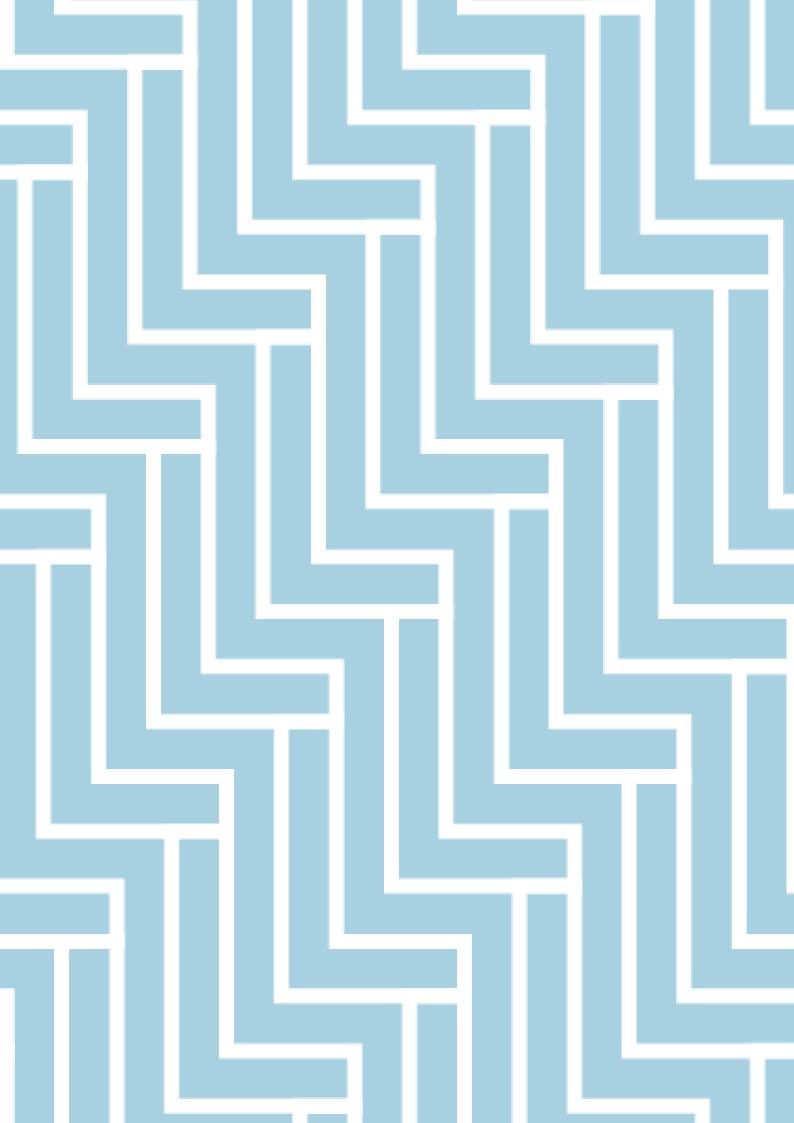
#### **Designers**:

Music librarians, members of the PLACED team.

Users locate signage on the ground.  Upon entering the library, users locate signage on the ground. This relates to an event with similar visuals. The users following the signage will be invited on a journey through the library and its collections, with stops at various presentation tables, and ending at the place where the event is organised. A variant of this step by step consists of offering signage accompanied by a QR code that leads to various digital resources.

The aim of this installation is first to make the event global, i.e., combining the experience of the user following a new path in the library, the promotion of the collections, and the discovery of the event. The second aim is to show users the strong relationship events have with the resources offered by the library. The third aim is to attract users to the site of the event itself and invite those who did not plan to participate.





## **PROTOTYPES AND EXPERIMENTS**

The PLACED project gave rise to the design of two prototypes which were the subject of a 2-year work with partner libraries to develop digital services focused on events, to test them and to study their use in situ.

While the concepts presented above come from various design activities and ad hoc interactions with a large number of people: courses, workshops, conferences, etc., the prototypes presented here are the result of a participatory design process with the librarians engaged in the project.

In this process, we decided to consider the prototypes, not as finished products, but as opportunities to experiment. Thus, the prototypes that we have designed aim to question the technical possibilities, to reveal the existing and potential uses, and to provoke a reflection on the practices within the institutions where they are designed and tested.

These two prototypes are PARTICIPATE and EXPLORE. The first facilitates documentation of events, the second aims to enhance them.

We now present how the two prototypes we developed work and how they were used during various experiments in Europe. We conclude with an example integrating the two prototypes as part of a six-month deployment in Denmark.

#### **PARTICIPATE : Document Events**

PARTICIPATE is a tool that allows everyone to document events that take place in the library, before, during or after events. Upstream, librarians can associate resources from collections or external sources (Web, magazines, general public media, documents from partners, etc.) to the event. During the event, users and librarians can add photos, videos, comments, surveys, documents, products around the event in real time. After the event, librarians can add recordings, summaries, additional bibliographies or link this event to a future one.

The association of content with the event makes it possible to document its progress and the exchanges among patrons and librarians, so as to visualize the dialogue that takes place between the different sources of knowledge and knowledge that is built around the events.

The Danish research team of the PLACED project led the design of PARTICIPATE. All the partners took part in ethnographic work to collect information on the organisation of events, the exchanges that take place there, the digital tools used by librarians as well as by participants, etc. This ethnographic work combined with interviews with librarians in a workshop enabled the development of a first version of the PARTICIPATE prototype.

#### **PARTICIPATE, Aarhus v1**

This first iteration, very rich in documentation and participation features (photo and video recording, possibility to ask questions, to create surveys, to share multimedia resources), was tested by teams from the three partner libraries. This version turned out to be too complex and, in the end, not well suited to the temporalities of use and practices: during the event, time is limited, participants and librarians favored direct exchanges rather than a digital service.

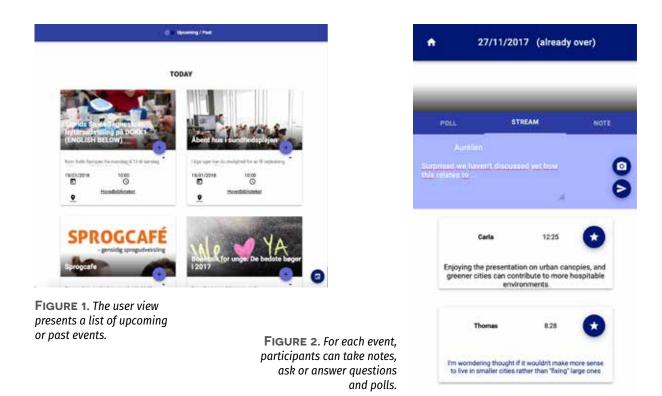
#### PARTICIPATE, Aarhus v2

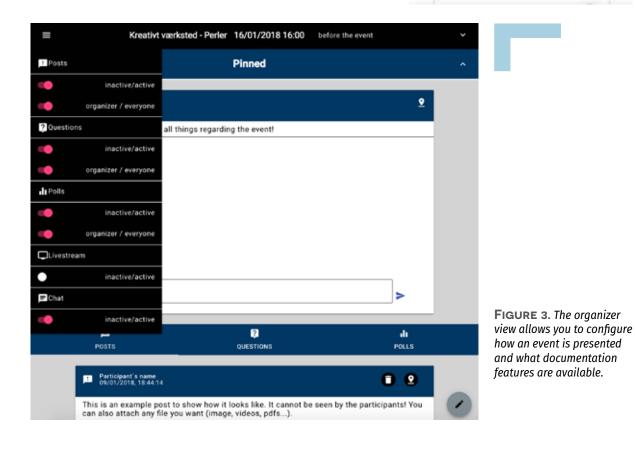
The second iteration of PARTICIPATE focused on the Krea Workshop, a bi-weekly creativity workshop held at the DOKK1 library in Aarhus. Working closely with the organizer of the library workshops, the Aarhus University team simplified the 1st version of PARTICIPATE and reorganised it into three parts: documentation, collection sharing, and a space for inspiration.

Each event has a set of associated posts. Librarians, like users, can document an event by posting photos or text notes to tell what happened there, or what resulted from it.

Each event or event cycle can have an associated virtual shelf. Anyone can add a book or document from the library's document base. This addition can be done either via a classic keyword search, or via automatic suggestions accepted or rejected with a simple gesture.

Librarians or users can associate external resources with each event. This part, named "inspiration", allows users to collect images, videos, personal photos, or other visual resources. Designed primarily for use on a mobile phone, PARTICIPATE is accessible from any web browser.





#### **Technical details**

PARTICIPATE is based on a document-centric web-based system called Webstrates. Unlike conventional applications, this system embeds all the data in the page and allows any document to be programmable and programmed by anyone who loads the page in their web browser. PARTICIPATE is hosted on Aarhus University's Webstrates servers.

Users do not need to download any application or create an account. However, privileged access exists to allow the librarian to curate the shared documents. PARTICIPATE interfaces with the calendars and document bases of partner libraries via APIs specific to each institution.



#### Publications

Librarians and patrons can create posts associated to events. Posts can be text, photos or videos.



#### Collections

A virtusal shelf is associated to each event.Anybody can add a book or another resource from the library collection database, either by keyword search, or via a swipemechanism to accept or reject suggestions.



#### Inspiration

Patrons and librarians can create inspiration threads. These are primarily visual posts on a given theme displayed in a graphical way.

**FIGURE 4.** The three main views of PARTICIPATE: participant publications, collections selected by librarians, and an inspiration space with external resources.

# EXPLORE : make events visible

Our second prototype, EXPLORE, makes it possible to manage the moments preceding and following events. Librarians can associate information resources with events and publish this information on a variety of devices and channels: tablets, public screens, library websites, smartphones. The objective is to facilitate the discovery and participation of users in events.

#### EXPLORE Lyon v1

The first version of EXPLORE was designed during a series of 6 workshops bringing together librarians from the Public Library of Lyon and researchers from Lyon. The goal of this first iteration was to anchor digital content linked to an event in the collections. The prototype therefore took the form of tablets which can be integrated on a shelf, close to the works to which it relates.

The application was designed primarily for touch devices, in particular to take advantage of the public screens arranged in library space. EXPLORE considers these screens to be located, that is to say that the events are displayed in an intelligent way according to the surrounding content (for example the events on contemporary debates will be displayed in the society department of the library and those concerning the children in or around the youth area).





**FIGURE 5 AND 6.** EXPLORE V1 : Each tablet is configured to display information and digital content on an upcoming library event



**FIGURE 8.** EXPLORE in the Hall of the library of the 2nd district of Lyon



**FIGURE 7.** EXPLORE in the Library Hall of the Lyon Part Dieu Public Library

Digital content is represented in the interface by a tile adapted to the type of content displayed. The prototype supports the exploration of videos, playlists, podcasts and other websites. Although the events are very diverse in nature, EXPLORE is generic enough to support a uniform management and to associate external resources with each event (other library databases, blogs, YouTube videos, etc.)

In order to allow library users to leave with the content presented, users can flash a QR code on the tablet. The user thus obtains the link allowing access to the mobile interface and giving access to downloadable content.

In addition to these tablets integrated into the library's collections, we have offered large touch screens in the library lobby allowing access to a more global view of the place's agenda. On these screens, users can browse upcoming events and get a brief description of them. We installed a large screen and 2 tablets at the Part-Dieu Library (in the "Culture and Society" and "Civilisation" departments). We also installed a large screen and 3 tablets at the library in the 2nd disctrict.

We carried out tests on the technical aspects (data management, distribution of content in the library screens) and on the uses (usability of devices, perceived utility) of the EXPLORE prototype. This resulted in a deployment in two libraries in Lyon (illustrations below) for two months at the beginning of 2019. We conducted a longitudinal evaluation focused on an event cycle for over six months at the Aarhus City Library (see photos below) in the second half of 2019.

This first deployment allowed us to understand the technical issues in terms of deploying digital devices: limited network access in many places, difficulty in accessing a power source, complexity of finding a visible and engaging location that does not conflict with the communication already set up by the library. However, these challenges could be solved by means of data caching mechanisms so that the application remains accessible even without wifi, energy savings achieved on the tablets to allow operation during a whole day without the need for charging.

On the usage side, we were able to identify several challenges. The screens integrated into the collections have received relatively little attention. They were not clearly visible and did not sufficiently indicate what information they were offering. However, they revealed the need for librarians to make events durable and to create bridges between different documentary information related to events. Finally, we identified an opportunity to support mediation activities carried out by libraries rather than supporting independent exploration by users.

#### **EXPLORE V2**

For the specific needs of the Music Department of the BML, we have developed a version of EXPLORE in the form of a large digital poster showing the content selected by the librarians around one or more events. This digital poster allows users to consult the links presented on the poster directly on their smartphone (via a short link and a QRcode). Next to this large screen, a tablet with the "classic" EXPLORE interface is available and provides on-site access to details of the event and related content.

The evaluation of the second version was disrupted in spring 2020 due to the coronavirus pandemic and which led to limited tests.

> FIGURE 9. EXPLORE on a public screen: each page is centred on a series of events which are listed in the centre of the display. The poster also shows some of the content selected by the librarians.





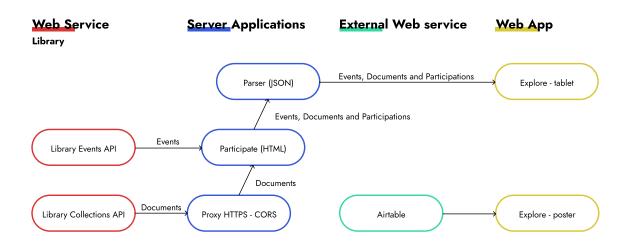
**FIGURE 10.** EXPLORE ON Tablet with details on a particular event: users can browse the events on the right column and display on the main panel the details from the diary card but also the content selected by the librarians.

PLACED / PROTOTYPES AND EXPERIMENTS

#### **Technical details**

EXPLORE is a publicly accessible web application through a browser. Once loaded, the application can continue to function in the absence of internet access. EXPLORE is based on the Single Page Application (SPA) principle, and developed with the Vue Javascript framework.

In its first version, each event had a dedicated page in the application, accessible via a specific URL. According to the elements accessible for each event, EXPLORE composes different graphic components adapted to the type of content displayed: Web page, Playlist, Video, etc. This version has been designed to fit particularly on tablet screens and smartphones. The content of the page is taken from the library's online calendar, as well as from the administration interface used by librarians. In its second version, each cycle of events is accessible via a single link. The display is based, like the 1st version, on the assembly of multiple graphic components specialized according to the contents. This second version is very closely linked to the PARTICIPATE prototype from a technical point of view: the content displayed in EXPLORE comes from data provided by PARTICIPATE. The display is designed for large touch screens (43") and can be adapted to tablets.



**FIGURE 10.** Software architecture of PARTICIPATE and EXPLORE in Lyon: The events are retrieved from the API developed by the Public Library of Lyon (BML), as for the documents in the catalogue, they come from the Solr search engine used by the Integrated Library System (ILS) of the BML. As part of the "poster" version of EXPLORE used in the Music department, the data is taken from an Airtable database, an online service.

#### **PARTICIPATE & EXPLORE**

The PLACED team worked on these two prototypes with different approaches and objectives, then consolidated the PLACED digital service by exploring the possibilities of integrating the two prototypes, so that the documentation of an event and the dissemination of this documentation is coordinated in terms of digital tools.

Integrating the two prototypes into a single tool allows librarians and patrons to create and share content during a cycle of events. This version was designed in close collaboration with the event organizer who was the main user. EXPLORE was installed on a large touch screen in front of the room where the workshop takes place. Unlike the first version, which was designed to highlight only one event at a time, the interface highlights all the events of a cycle and allows you to browse through their content. While the content selected by the librarians was at the heart of the previous version, here the photos of the achievements of the workshop participants take a prominent place.

In order to achieve this second version integrating PARTICIPATE and EXPLORE, we have developed an API to extract all of the data from PARTICIPATE and make it available in an easy-to-use JSON format. EXPLORE uses this interface at regular intervals, thus making it possible to provide content that is always up to date. In order to ensure the quality of the content published on EXPLORE, only content validated by librarians in PARTICIPATE is used.

For the evaluation phase of this service integrating the two prototypes, we deployed the service at the Dokk1 library in Aarhus, during a cycle of events on creative hobbies: the Krea Workshop. Initially planned for 2 months, the deployment was extended at the request of the organiser and some users.

We were able to observe many participants using the screen to show their creations to family members or friends, just after the workshop, or many weeks later. While we had planned mechanisms to filter out inappropriate content or content that did not respect the anonymity of participants (often minors), it was the event organiser who took the majority of the documentation photos, often at the request of the participants. This helped to maintain a consistent structure and style of event documentation over the long term and respecting the privacy of participants. In addition, we observed that the public screen was particularly used before and after the associated events. It anchors and facilitates exchanges on the past or future event. Finally, the ability to create digital libraries led to creation of ephemeral library for each event highlighting a selection of related physical documents.

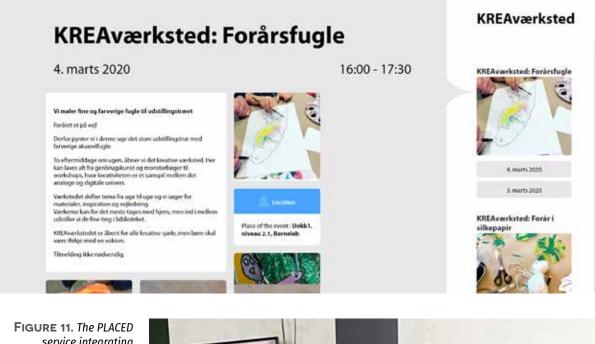


FIGURE 11. Ine PLACED service integrating PARTICIPATE and EXPLORE as deployed at DOKK1 in Denmark. Top: A screenshot of the public screen showing an upcoming event. Right: a child exploring the creations of a past event





## PLACED IN YOUR LIBRARY

This third and last section of our document presents the costs and income sources that are possible regarding the implementation of the PLACED project. We will mention the open-source prototypes, source code access, the value of the service as well as the business and pricing model. You will find details to start a budgetary study to implement a service such as PLACED in your library.

PLACED / Placed in your library

#### **Open-source prototypes**

We offer the PLACED prototypes as open source, which means that anyone could take the source code, free of charge, given a proper understanding of the software development environment. You can access the whole source code on an open depository from GitHub, a software development Internet hosting site.

The EXPLORE code for the various modules is available on <u>the GitHub repository</u><sup>1</sup> of the Placed Project.

<u>PARTICIPATE</u><sup>2</sup> is based on the <u>Webstrates</u> <u>technology</u><sup>3</sup> which was developed by Aarhus University. The Webstrates code is available on <u>GitHub</u><sup>4</sup> and the PARTICIPATE code is directly modifiable by any visitor to the web page.

The code is open and free; however, the service supplier will have to cover the costs for continuously developing, updating and maintaining the service. As for the customers, they will need to be able to pay the supplier. The cost structure and the revenue streams need to be balanced. The service owner covers the cost, whereas the customers cover the revenue streams. We then thought it was useful to add information regarding the implementation cost for such a service.

- 1 https://github.com/Placed-Project
- 2 https://placed.cc.au.dk/oM9G\_h-TvT/
- 3 https://webstrates.net
- 4 https://github.com/Webstrates/Webstrates

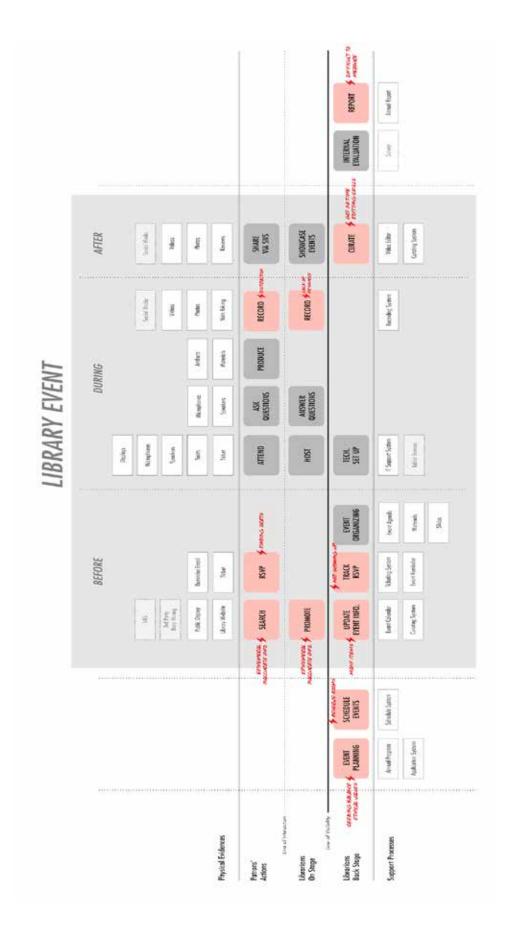
# What value proposition for the PLACED services?

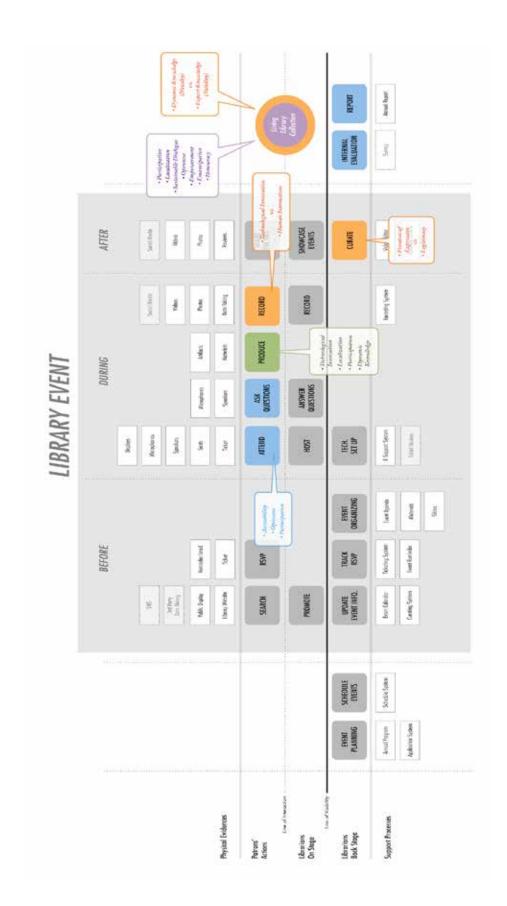
The PLACED prototypes meet an existing need for new services or to accompany the transformation of existing services. In this section, we touch on the potential value of such services so the cost can be discussed. For this analysis, we organised a workshop, in which we brought together all of the PLACED partners to elicit lists of value pains and gains as well as a list of "jobs to be done".

Using the service blueprint, we generated a service map to visualise the overall work process of organising a library event (Figure 1). We worked on identifying practical needs and pain points met by the library staff when performing these tasks, considering they could partially be resolved by the service implementation. The red squares indicate difficulties or sticking points in the event organisation or participation.



FIGURE 1. Traditional service blueprint focusing on customer touchpoints and pain points.





PLACED / Placed in your library

The service blueprint supports the development of a value proposition for a service such as the one offered by PLACED. We can define what are considered as library missions and point them toward previously identified difficulties. Service value propositions can then be aligned with library values (meant as what is important and addressed as librarians' ethos). Figure 2 presents librarians' values (in blue) in comparison to the event organisation process by showing points that the new service adds value to. The benefit of a value-centered approach is to focus on the satisfaction of the parties involved.

The costs of this service still need to be addressed. Our approach enables you to think of the costs depending on a measure of the service value and to prioritise developments accordingly. By identifying value points, we know what elements need to be prioritised to respect a determined budget line.

Another approach, known as design-to-cost, enables you to think of the service design depending on the anticipated costs, even if it means adapting the project so the costs don't exceed the budget. If the advantages of this approach are obvious in terms of budget management, the disadvantage is to reduce the service to its cost and reduce the risk of demotivating teams if the final result happens to be too far away from the initial project.

From this value-centered analysis, we then designed business canvases for the PLACED service.



**FIGURE 2.** Value-oriented service blueprint focusing on value propositions and tensions.

#### **Business Model Canvases**

Based on interviews with some of the project stakeholders (municipality officials, librarians and IT entrepreneurs), we developed several model canvases. The interviews enabled us to understand their expectations and value-generating elements as well as to define the service costs for each of them. The costs don't draw on piecework but on what they expect to gain from the final result.

Nine elements define the structure of the business model canvas: the value proposition, the customer segment, the customer relationship, the key-channels, the revenue streams, the key activities, the key resources and competences, the key partners and the cost structure.

We identified three potential service owners: municipalities, libraries and entrepreneurs. We then developed a business model canvas prototype based on the use conditions for each service owner-customer model (Figure 3, 4, 5).

What creates value is different whether we consider the entrepreneur, the municipality of the library. As a consequence, the interviews allow us to offer you pricing elements designed according to what generates value according to the interviewees.

In order to visualise these elements, we used a presentation tool known as "Business Model Canvas".

## Value and business model canvas for the library

In the library version, the business model canvas is based on values related to commitment and citizen participation, to the central positioning of libraries within their community and the collection development. (Figure 3).



FIGURE 3. Business Model Canvas: Library version

#### **KEY PARTNERS**

- IT consultancy
- Event creators
- Researchers

#### **KEY ACTIVITIES**

- Planning Annual Calendar
- Promoting Events
- Organizing Events (e.g., logistics)
- Documenting Events (e.g., archives)
- Curating Events (e.g., public outreach)
- Evaluating Performance
- Reporting Performance
- Budget Proposal

#### KEY RESOURCES / KEY COMPETENCES

(Kraaijenbrink, 2012)

- Librarianship (expertise to curate and moderate information)
- Library collection
- Public venues
- "Public procurement"

#### CUSTOMER SEGMENT

- Library Event-focused Web
  Application
- Library Event-focused Public Interactive Displays
- Events
- Other Library Digital Installations
  (e.g., non-interactive public displays)

### EXPECTED OUTCOME (c.f KPIs)

Systematic reporting of:

- Number of participants
- · Diversity of participants
- · Level of engagement by participants
- Quality of content generated
- Quantity of content generated
- Number of books added to the community bookshelf

#### **CUSTOMER RELATIONSHIP**

- Mainly automated
- Personal

#### VALUE PROPOSITION

A digital service that increase community engagement and participation in events by providing a tool to take part, before, during and after, placed and activity based events in the municipality.

Acting as a platform for community coproduction of knowledge to empower citizens and democratize knowledge. Increase access to and use of all that is going on within the municipality by providing link between the municipality and the community-generated digital collection. Strengthenning the relationship between the municipality and their citizens, SME and visitors.

Continuous dialogue with citizens and SME to better understand needs that are identified through user studies and content. (ISO) Quality of individual well-being (e.g., information literacy, digital literacy) (ISO) Sense of social inclusion

- (ISO) Sense of social inclusion
- (ISO) Sense of social cohesion

#### CHANNELS

- Library Information Desks
- Official Website
- Social Media
- Application / public procurement

#### **COST STRUCTURE**

#### HR

- Maintenance: Content management (e.g., monitoring, moderating)
- · Training staff about the system

#### **REVENUE STREAMS**

Revenue stream:

• Received budget from the municipality

# Value and business model canvas for the municipality

The municipality business model canvas adds value to the strengthening of interactions between the municipality, the citizens and the companies and organisations via a tool respectful of personal data.



FIGURE 4. Business Model Canvas: Municipality version

#### **KEY PARTNERS**

- Amazon Cloud
- Researchers
- Local "studieförbund"
- "Business Sweden"
- "Business Region Gothenburg"
- SKL

#### VALUE PROPOSITION

Increase interaction between the municipality and the citizens, enterprises and non-profit organisations.

High integrity (as opposed to Facebook)

See separate value proposition canvas.

#### CHANNELS

- · Participatory design workshops
- · Events eg SKL
- Advocates
- Training

#### KEY RESOURCES / KEY COMPETENCES

(Kraaijenbrink, 2012)

- · Service designer
- UX / graphic designer
- Developer
- Sales / Entrepreneur

#### COST STRUCTURE

#### <u>HR</u>

- Design (SD, UX, Graphic)
- Development
- Support
- Operations

#### User and ethnographic research

#### **KEY ACTIVITIES**

- Ethnographic and user studies
- UX / graphic design
- Development
- Sales (p.p.)
- Events

#### **CUSTOMER RELATIONSHIP**

- Direct and personal
- Public procurement
- Ongoing engagement high level of automation

#### CUSTOMER SEGMENT

- Head of, or officials, within municipalities
- Committees for clustered municipalities
- Other organisations in with similar need

#### **REVENUE STREAMS**

- · Monthly subscription
- Roofed Pay per use
- Pay per use
- Single Municipality revenue
- · Multiple Municipality revenue
- Two year agreement

#### Infrastructure

- Licenses
- APIs

#### <u>Events</u>

Marketing and sales

# Value and business model canvas for digital entrepreneurs

Finally, the business model canvas for entrepreneurs draws on the value related to the service commercial operation. It involves creating added value by selling a generalisable service to a large number of libraries, benefitting from the economy of scale. Considering social and solidarity entrepreneurship, libraries could be partners or shareholders of the company.



**FIGURE 5.** Business Model Canvas: Digital entrepreneur version

#### **KEY PARTNERS**

- Libraries
- Academic partners (e.g., library science research Institution)
- Industry partners
- Municipalities

#### **CUSTOMER RELATIONSHIP**

- · Peer review
- Research partners
- Research subjects/participants

#### **CUSTOMER SEGMENT**

- Academic community (e.g., HCI researchers, service design researchers)
- · Library staff
- · Library patrons

#### VALUE PROPOSITION

Increase the knowledge of the libraries position in relation to increase access to and use of the library collection by providing link between the library collection and the community-generated digital collection.

Exploring the progress of the technological development that can support libraries and librarians in their transformation from quiet haven to vibrant hub.

#### EXPECTED OUTCOME(C.F KPIS)

Systematic reporting of:

- Number of participants
- · Diversity of participants
- · Level of engagement by participants
- Quality of content generated
- Number of books added to the community bookshelf

#### **KEY ACTIVITIES**

- Ethnographic Fieldwork
- Co-creation workshops
- UX Design
- Technical Implementation
- Deployement
- Evaluation
- Knowledge Dissemination
- Write application

#### KEY RESOURCES / KEY COMPETENCES

(Kraaijenbrink, 2012)

- · Service designer
- UX designer
- Developer
- · Ethnographic researcher
- · Academic network
- Students

#### CHANNELS

- Conferences
- Academic Publications
- Public Press
- Social Media
- Project Meetings
- Workshops, Webinars
- Social Meetups
- Application

COST STRUCTURE

#### HR

- Maintenance: Content management (e.g., monitoring, moderating)
- Training staff about the system

#### **REVENUE STREAM**

Received budget from the municipality

### Pricing

To study the service viability, we took development costs, salaries for the UX and development teams, data warehouse, maintenance, technical and user support as well as administrative overhead charges into consideration (full length version available online). We used the financial elements that were provided during the interviews to evaluate, on one hand, the amount of necessary clients and, on the other hand, different pricing models.

Three pricing models present high investment thresholds to launch the service. According to the chosen models, the costs and risks are divided between the library and the organisation in charge of the development. These models are examples among a range of possibilities, and they could be blended regarding needs and constraints.

The first model consists of selling the software with hosting on the library servers, including maintenance and support over a specified period (e.g. two years). This model allows a public procurement, and the municipality can control the costs of the service. The risk is to have a service that does not evolve once invoiced and that would be performed at the minimum of the bill of specifications, rather than in an evolving manner.

The second model is subscription sale (monthly, biannual or annual). In this model, the provider controls servers and data. Access to data remains guaranteed and an application programming interface (API) is made available to enable the integration with other library services. The cost is more diffused, and it offers more flexibility regarding public procurements. The service is then shared for all the libraries working with the same organisation and they would all benefit from the latest development made by the provider. Finally, a third model is based on the payper-use pricing model. It is similar to the subscription model regarding the technical part. In this case, the municipality only pays for the actual number of people using the service. That is, if the service is a flop then there is no cost for the municipality. However, if the service is a total success then the cost could break the budget for the municipality. If we can add a ceiling to the pay-per-use model, then there would be no risk to the municipality. If it is a flop then there is no cost, but if it is a success, even with the ceiling, it would cost more than the subscription model.

Considering the above elements, we estimate that the service, to be viable, needs 12 libraries involved for two years.

PLACED

## To conclude

All of these elements (cost, pricing and viability depending on the size of the municipality or on the existence of one or more municipalities) are to be weighed. The various business model canvases need a deeper analysis and adaptation with the municipality in order to find this one that fits the best for the PLACED service. The actual cost per user, per month, per year and the ceiling level also need to be prototyped and tested.

Nonetheless, this cost calculation prospecting, which is not based on work stages but on a value given by partners on the project development and on the implementation of such a tool in a library, offers the opportunity of a better understanding of the input and value generated by the PLACED service for a structure, for its supervisory authority and for a company.

We hope that this work on business model canvases will help librarians, willing to use a service such as PLACED, to have first advocacy indications to convince their directors, local authorities and partners to start in this new venture that meets library current issues. Authors : Raphaëlle Bats, Alix Ducros, Mathilde Gaffet, Aurélien Tabard

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