

CJM-Based Service Design Process

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Abstract. As the current service design process is not suitable for Alipay O2O service due to the particularity of users, product and service in China, our own service design process that is based on the Customer Journey Map (CJM) has been formed. This process forms five concepts (Steps, Matters, Contents, Details, and Sensory) according to the process of confirming the five user experience elements (The Strategy Plane, The Scope Plane, The Structure Plane, The Skeleton Plane, and The Surface Plane). This paper takes Chinajoy as an example to introduce the process on basis of five concepts in detail. The complete process begin with making CJM, then ascertaining Steps and listing Matters, furthermore proposing and overviewing Contents, clearing Details, finally accomplishing Sensory. Refinement in each phase is not a linear movement, but a to-and-fro and interactive process. When designing the contents on each phase, information at the former steps should be iteratively optimized so as to create better user experience.

Keywords: Service design process · Customer journey map · E-Ticket · Alipay

1 Introduction

Since 2013, a fundamental change from online payment product to online-to-offline (O2O) payment service is discernable in Alipay, which is the biggest Third-Party Payment platform in China. As a result, we start to explore with service design methodology in O2O payment service, and the tool we used most is Customer Journey Map (CJM).

However, we gradually realized that we don't know how to transform the contents of CJM into the services. While a large number of literatures focused on the definition, methods and tools of service design, and the method of how to make a CJM [1–8], **the process of how to use CJM is still lacking. And the current service design process is not suitable for Alipay O2O service due to the lack of localization to China**, for the two reasons: (1) The difference of the number of users: Services come to existence at the same moment they are being provided and used. That means the huge difference of the number of users possibly result in huge differences in terms of designing the services [8]. And the current service design process hasn't been verified by the situation of large population. (2) The difference of the products and services: Alipay is morphing into all-in-one banking tool: a savings bank, wire service and investment house. Most importantly, it's all done via mobile device. Using Alipay app, you can buy anything

you want online and in brick and mortar stores, send money to friends, make cross-border transactions, and earn a healthy interest on your balance. Alipay is unique worldwide.

In order to filling up the blank, we reviewed and found that the traditional experience design process is the process to establish the contents of the five elements of user experience (Surface, Skeleton, Structure, Scope, and Strategy) [9] in essence. On this aspect, it is in line with service design. So we decided to form the service design process according to the process of confirming the five user experience elements. Finally, our own service design process, which is CJM-based, has been formed.

This paper will take Chinajoy (China International Digital Interactive Entertainment Products and Technology Exhibition, hereinafter referred to as “CJ”) as an example to introduce the process in detail. CJ is held in Shanghai every summer. It lasts four days, and up to about 200 thousand people participates every year. Every participant typically needs to line up for a long time due to the huge number of people. In peak hours, the queue for checking can cost up to 2 to 3 h. We used our service design process to design the CJ electronic tickets’ selling and checking process. The result has proven to be a success in 2014 and 2015. And this is also the first significant success for Alipay to provide E-tickets’ checking service in large-scale offline event.

2 Five Concepts Through CJM

In *The Elements of User Experience: User-Centered Design for the Web*, Jesse James Garrett gives a detailed introduction about the five elements of user experience [9]. As these five elements are proposed in traditional experience design, to make them more applicable in service design, we’ve done some simple revisions (see Fig. 1).

Revised Definition of the Five Elements for Service Design

Elements	The Strategy Plane	The Scope Plane	The Structure Plane	The Skeleton Plane	The Surface Plane
Original definition in Traditional Design	The core strategic concerns are who the critical stakeholders are and how to balance the major stakeholders’ interests and users’ needs.	This plane deals primarily with functions and contents transferred from users’ needs and product.	This plane defines patterns and sequences in which options will be presented to users, namely, address problems related to information architecture (classification and presentation) and flow.	This plane deals primarily with arrangements, namely, optimization of interface layout to realize the best presentation of information and effective communication of certain elements (buttons, fields, pictures or texts).	Be it in traditional experience design or service design, this plane is dealing with the Sensory design and presentation of the logical arrangements that make up the skeleton of the Details in five senses (vision, hearing, touch, smell and taste). All goals on other planes will be archived on this plane. The final deliverable of this plane will be in the form of products or service recognizable to users in pictures, words, sound, taste or other elements.
Revised definition for Service Design	In spite of a wider range and more major stakeholders, service design has the same core concern on the strategy plane. But the CJM is more effective to extract users’ needs than stakeholders’. Therefore, this paper is not going to discuss the Strategy Plane.	As service process always involves complex offline scenario, functions and contents are indivisible. We should to pack them and name them Matters so as to clear goals of the structure plane. In order to confirm Matters in a more comprehensive and accurate way, we have to design Steps first.	It also defines touchpoints in which channels will be presented in Service Design. To be more specific, we should know: 1. Which touchpoints will be used? 2. What are the necessary Contents in each touchpoints in order to accomplish Matters? 3. How to put these Contents under systematic management?	There’s huge difference in online and offline part, Contents should be considered separately. As for the online part, interface layout should be organized and wireframe be created; while for the offline part, the specific form, location and number of people or objects in each segment should be designed, namely, Details .	
Concepts	No Concept Extracted	Steps, Matters	Contents	Details	Sensory

Fig. 1. The Definition of the Five Planes

2.1 The Strategy Plane

Generally speaking, the needs of major stakeholders are in the back and front stage of service [10], but CJM tends to show the front stage more [4]. Therefore, extract users' needs, rather than the stakeholders', from CJM is effective. The upside is the stakeholders' interests already become relatively clear before a service being carried out.

2.2 The Scope Plane: Steps and Matters

When using the CJM to complete Steps and Matters on the scope plane, the contents of "Phase", "Do", "Hear", "See", "Say", and "Thoughts" in CJM will be referred to. The steps are as follows:

- Steps Design
 - (a) Review the variety and location relevant centralization of touchpoints in different phases of CJM, which will decide that we may have to use a different method to design the Steps. Here, location relevant centralization refers to the distance between touchpoints and users. If users take mobiles wherever they go, then location relevant centralization of mobiles is high. Generally speaking, the smaller the distance, the higher the location relevant centralization, and the lower the mobility costs for users, the easier design becomes.
 - (b) For phases where touchpoints exist in fewer than three types and have centralized locations, Steps design can directly refer to "Do" in CJM. In the phase of E-ticket buying in CJ project, touchpoints are mostly mobiles, so the contents of "Do" in CJM can be directly referred to. In this process, unreasonable Steps from "Do" should be optimized and simplified to the largest extent on the basis of being in line with user cognition and habit.
 - (c) For phases where touchpoints exist in more than three types and have disperse locations, location should be factored. In this case, other methods such as circulation design should be selected to design Steps according to the on-site environment.

- Matters Design

The Steps needs to be decomposed into possible Matters based on "what users' and stakeholders' need" from the Strategy Plane and the lanes from the CJM.

- (a) In this process, users' needs should be detailed by delving into "Thoughts" and "Feelings" in CJM and taking "Issues" and "Opportunities" as supplement, while stakeholders' needs will be clarified by their representatives during the project.
- (b) New ideas that may be generated during the above process need to complement the Steps.
- (c) Determine the priority of Matters. Matters with the highest priority are which will cause process suspension without being accomplished; Matters with second high priority are which frequently take place in each Step. When project resources are limited, accomplishing Matters with high priority is the precondition to basic user experience.

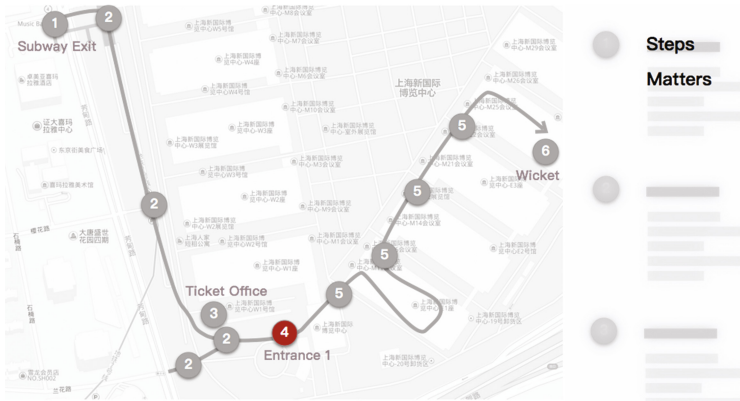


Fig. 3. The Circulation Design of CJ

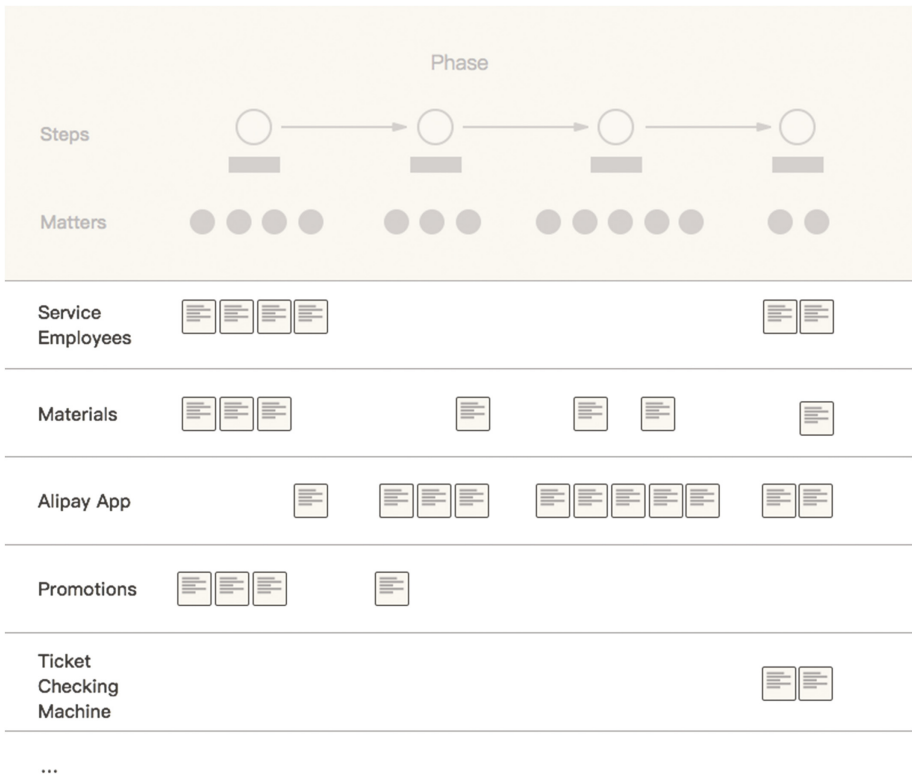


Fig. 4. The Touchpoints Lane

- (f) To consider the relevance of “Touchpoints” and “Environment” while designing Contents from Matters in each Step. Generally speaking, to design the Contents needed in each touchpoints based on the two questions: “Are these touchpoints suitable to accomplish these Matters?” and “How to accomplish them?”.

We have mentioned before that No. 1 Entrance Hall is a key Step where users may have the Matter “Search Alipay E-ticket Check”. When reviewing all Touchpoints Lanes, we can find that in “Service Employees”, “Materials”, “Alipay APP” and “Promotions”, the former two can accomplish this Matter. So “Service Employees” and “Materials” should have Contents such as “showing up in the sight of users /informing users the location of E-ticket checking/informing users how to go to wicket and how far it is”.

According to the variety of Touchpoints Lane, all Contents of this variety should be reviewed:

- From the perspective of ensuring contents management and uniformity, design modules for Contents that have the same contents and functions should be created.
- From the perspective of saving design and production costs, Contents that have the same geographic location touchpoints should be integrated.
- From the perspective of ensuring the completeness of process, breaks between each Step should be modified, and the whole process be improved.
- From the perspective of information load of each touchpoints, Contents that are overloaded should be split up once again. While doing this, Steps may be affected in the other way around. If that happens, Steps need to be revised, supplement or recombined.

2.4 The Skeleton Plane: Details

For the online part, traditional experience design process can be referred to in designing Details of the Skeleton Plane. This paper will explain in detail how to use the CJM to design the Details in offline part where CJM can give full play to its strength.

The common practice is to reversely deduce every single Details that can be clarified with CJM according to the final deliverables, extract useful information from “Environment”, “Do”, “Hear”, “See”, “Say”, “Thought” and other information in the CJM, and thus design the Details of people or objects in each segment of offline part.

Take on-site materials as an example, things needed in delivery are: Wireframe of materials, Functions, Dimension, Number, Position, Specifics, Environment Description, and Note. As for Environment Description, Number and Dimension, they can be acquired from “Environment” of CJM; the Positions can be acquired from “Do” and “See”; and the Specifics, from “Environment” and “Do”...

The specific Contents of materials in No. 1 Entrance Hall are as below (Fig. 5).



Fig. 5. The Contents of materials in No.1 Entrance Hall

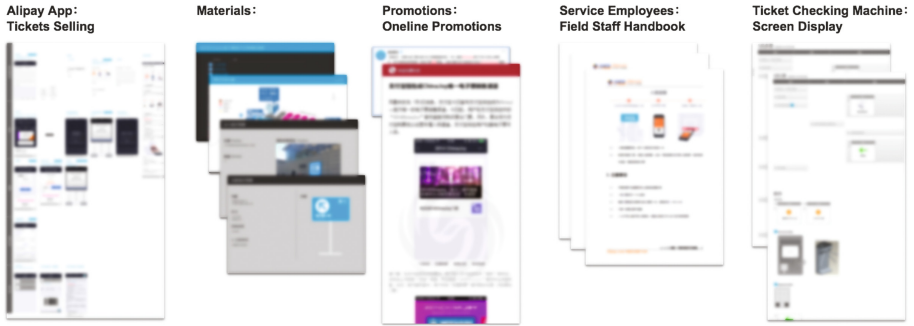


Fig. 6. The deliverables of Details for CJ

Ultimately, the deliverables (Fig. 6) we will output are corresponding to every Touchpoints Lane that were obtained from the Structure Plane.



Fig. 7. The deliverables of Sensory for CJ

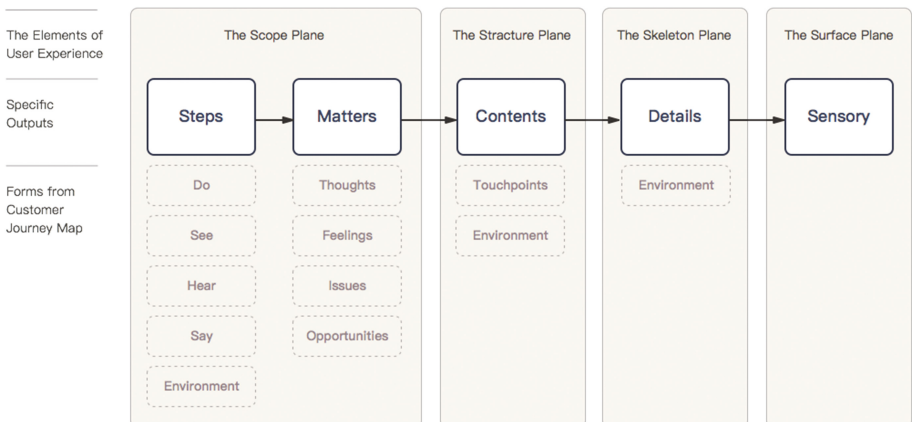


Fig. 8. The Five Concepts

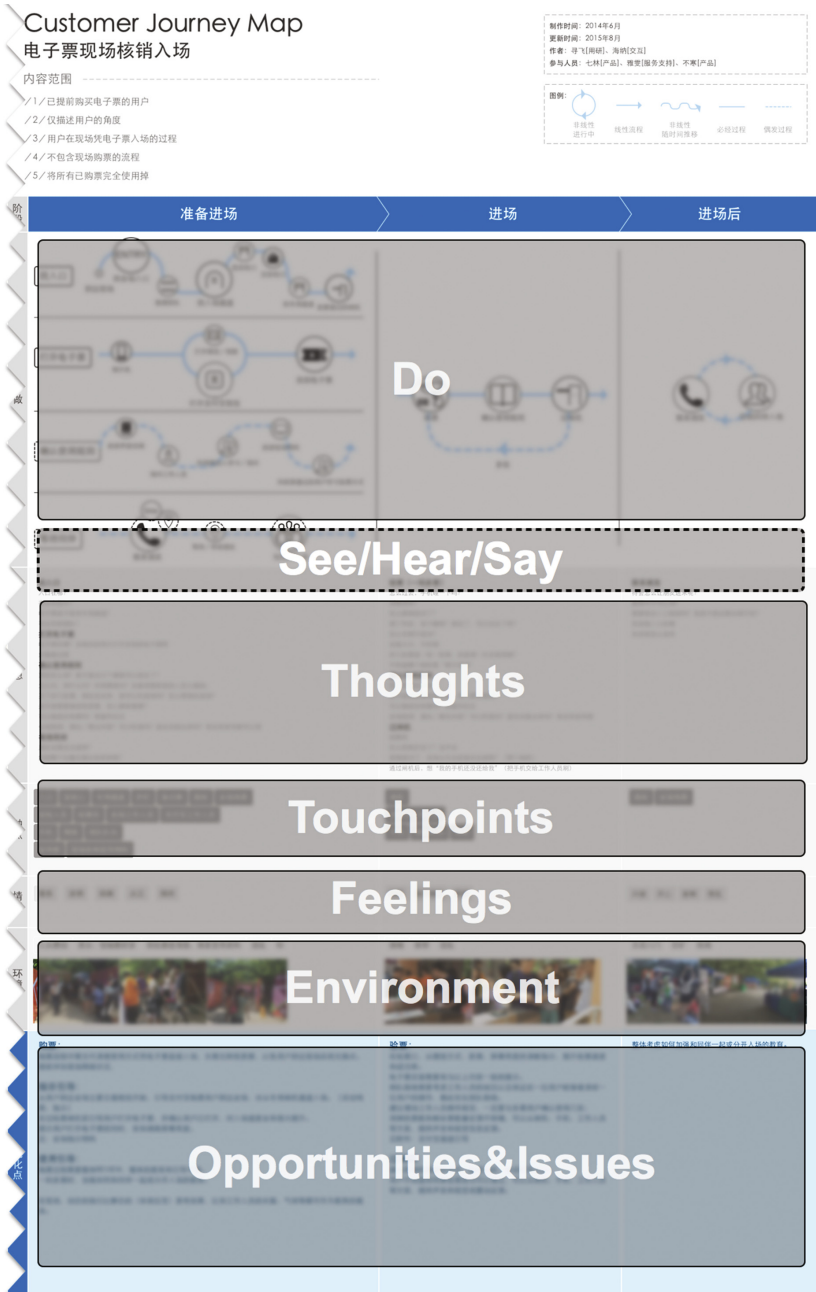


Fig. 9. The Customer Journey Map of CJ E-ticket Checking

2.5 The Surface Plane: Sensory

The success of design for the Surface Plane depends on the designers’ experience and inquisitive mind. CJM has a quite limited role on this plane.

As for how to do the five sensory design, there are large number of literatures available in relevant subject, so we will not dilate upon this topic.

Some deliverables of Details may need to be visualized on this plane. Finally, we obtained 3 sets of visuals for CJ program (Fig. 7).

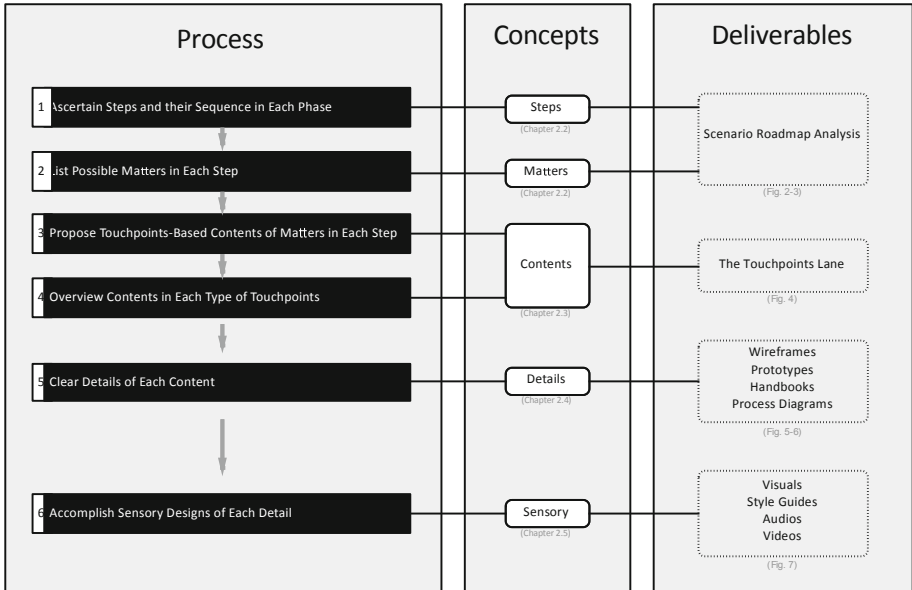


Fig. 10. The Process of Service Design

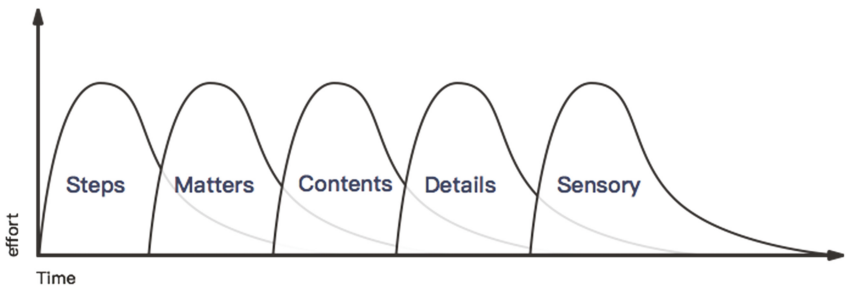


Fig. 11. The Interaction of Service Design Process

3 Conclusion

Obviously, five significance concepts—Steps, Matters, Contents, Details, and Sensory—are formed according to the process of confirming the five user experience elements from CJM (see Fig. 8).

Before design, we need to reconstruct the real scenario—make the CJM first. The Fig. 9 is a draft of CJM in the CJ E-ticket checking segment.

Next, we can start describing the process of service design on the basis of this draft. The whole process and its deliverables are as follows (see Fig. 10).

From the above process, one can find that in service design process, we still follow the idea of the five elements of user experience. Refinement in each phase is not a linear movement, but a to-and-fro and interactive process (see Fig. 11). When designing the contents on each phase, information at the former steps should be iteratively optimized so as to create better user experience.

4 Prospect

Although the results are good when we put this service design process into practice in other project, which based on CJM, there are still more to do to verify the applicability. As this process is based on CJM and Alipay, we'll optimize the process on two aspects:

- We cannot affirm the process will be suitable also for the back stage design, because CJM only involves front stage design. Besides, CJM is just one of many tools of service design. We will continue to explore the process' validation when using other tools such as service blueprint.
- It possibly has some defects that our own business and team could not realize because of our mindset. So we are putting this process into practice to other business units and teams now, and we'll revise the whole process according to the outcome.

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