Idea Creation Method for HCD

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Abstract. The purpose of this study is to discover a design methodology for user experience design. This paper focuses on design creation method on UCD (User Centered Design) process. After proposing an approach to utilize design creation method, author utilized this method on UCD education for 3rd grade student on university to evaluate propose method. After the result of this education, author got several findings.

Keywords: Design Creation, User Centered Design, User Experience Design, Photo Essay.

1 Introduction

User experience design is becoming more and more important for designing interactive product, IT system and services, but its practical design method has not yet been established.

The purpose of this study is to discover a design methodology for user experience design. User Centered Design (UCD) is one of the best method for User experience design. This paper focuses on design creation method on UCD process. Author categorized 4 approaches for idea creation and described each approaches. Based on this approach, author proposed 3 idea creation method.

2 Design Method for Design Concept

Design concept is a basic design idea across all design process. For example, design concept is including target user, target market, value for target user, user experience, product image, draft product specification, etc.

Following is the design process for design concept;

1. Gathering Information and Clear Goal
2. Drafting Design Concept and Idea Creation
3. Visualizing Design Concept
4. Evaluation for Design Concept
5. Specified Design Concept

I summarized the process and design method for design concept as Table 1.

Table 1. Process and Method for Design Concept

Design Process	Design Method
1. Gathering Information and Clear Goal	Observation Method Interview Method Persona Method Scenario Method
2. Drafting Design Concept and Idea Creation	Problem Solving Approach Vision Proposed Approach Convergent Thinking Support Divergent Thinking Support
3. Visualizing Design Concept	Concept Sketch Paper Prototyping Acting Out Diagram
4. Evaluation for Design Concept	Check List Usability Testing Heuristic Evaluations Impression Evaluation
5. Specified Design Concept	Concept Sheet Concept Catalog Design Concept Specification

3 Approaches for Idea Creation

As showed Fig 1., I identified four approaches for idea creation from human and product viewpoint such as subjective point of view in human, objective point of view in human, subjective point of view in product, objective point of view in product. This paper does not include idea creation by change. The approach for idea creation identified thorough my experience are as follows:

1. The approach for idea creation by human viewpoint subjectively. During user research phase, we will find out many things. All finding is the source of idea.
2. The approach for idea creation by human viewpoint objectively. It is popular to define the persona after user research. The persona is the source of idea and we will be able to create idea by using persona and scenario.
3. The approach for idea creation by product viewpoint subjectively. During watching the product or technology, we will find out many things. All findings is the source of idea.
4. The approach for idea creation by product viewpoint objectively. It is popular to make product road map or technology road map after researching product or technology. The road map helps to create new idea.

Fig. 1. Approach for idea creation

4 Idea Creation Method

Next, we defined the idea creation method based on the approach for idea creation as follows.

4.1 Utilize User Experience Viewpoint

During idea creation phases, To extend idea, it is effective to make idea from user experience viewpoint. Because, it helps to avoid the idea by stereotypes. For example, if we start to think about new flower base, we already have stereotype of flower base, such as regular shape of flower base. But if we start to think about person's life with flower, we will be able to make many ideas.

To extend idea, one of the approach is to think about idea under specified the context such as time, people, place, reason etc. For example, not to create idea for new flower base under general situation, but also to create idea under the situation that my mother enjoy color of flower at bathroom.

4.2 Utilize User Experience Matrix

User Experience Matrix is the method to create ideas from user experience view point with the matrix. At first, two elements should be selected from basic user experience element such as person, time, place, purpose etc. After selecting tow elements, the matrix should be made by selected two elements. And the cell of this matrix is the place to put the idea under each situation of the column and the row.

As shown in Table 2, this column of matrix was assigned each person and this row of matrix was assigned the location such as living room, kitchen and bathroom. And each cell is the place to put the idea under the situation of the column and the row.

Table 2. Example of User Experience Matrix

	Living room	Kitchen	Bathroom
Grand Mother			
Father			
Myself			
Younger brother			

4.3 Utilize User Scenario

User scenario is the story about user behavior on selected environment and event. The scenario-based design method is easy for designer and developer to understand the relation with user behavior and system. It is utilized to think about new idea and also evaluate idea.

5 Experiments

5.1 Experimental Design

After proposing an approach to utilize design creation method, author utilized this method on UCD education for 3rd grade student on university. To evaluate the proposed idea creation method, 35 students took part in the evaluation experiments. All students are learning design but limited knowledge of eco design. The students performed the idea creation task using three idea creation methods for eco design workshop.

Following is the process to create several ideas for eco design;

- Step1: Creating ideas with sketches from user experience view point
- Step2: Creating ideas with text from scenario design view point
- Step3: Creating ideas with sketches from user experience matrix

After the experiment, the participants wrote the questionnaire about this workshop.

5.2 Utilize User Experience Viewpoint

To learn idea creation method from user experience viewpoint, students made product sketch and scene sketch. At first, student made product sketch for the flower base which he or she likes. And then, after writing context of the situation, student made scene sketch for the life which someone enjoy flower in his/her home.

The result of this workshop, most students made unique sketch by user experience viewpoint as shown Fig 2.

Fig. 2. Example of Scene Sketch

5.3 Utilize User Scenarios

To learn idea creation method from user scenario, students learned user scenario method and process. At first, student made product sketch for the flower base, which he or she likes. And then, after writing context of the situation, student made scene sketch for the life which someone enjoy flower in his/her home.

Following is the process to create several ideas for eco design;

- Step1: Selecting future scenario from eco design view point
- Step2: Creating ideas with text from scenario design viewpoint based on Step1
- Step3: Creating ideas with sketches for the product which save the world

The result of this workshop, most students made unique idea by user scenario viewpoint.

5.4 Utilize User Experience Matrix

To learn idea creation method from user experience matrix, students selected two element from user experience viewpoint, and then created idea sketch after making user experience matrix. For this workshop, theme was assigned to student as creating 9 sketches for eco design after making user experience matrix.

Following is the process to create several ideas for eco design;

- Step1: Selecting future scenario from eco design view point
- Step2: Creating ideas with text from scenario design viewpoint based on Step1
- Step3: Creating ideas with sketches for the product which save the world

The result of this workshop, most student's created minimum 6 idea sketches by user experience matrix as shown Fig 3.

Fig. 3. Example of User Experience Matrix

6 Conclusion

After proposing an approach to utilize design creation method, author utilized this method on UCD education for 3rd grade student on university to evaluate propose method. After the result of this education, author got several findings. In especially, user experience matrix helps student to extend idea and make several ideas.

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