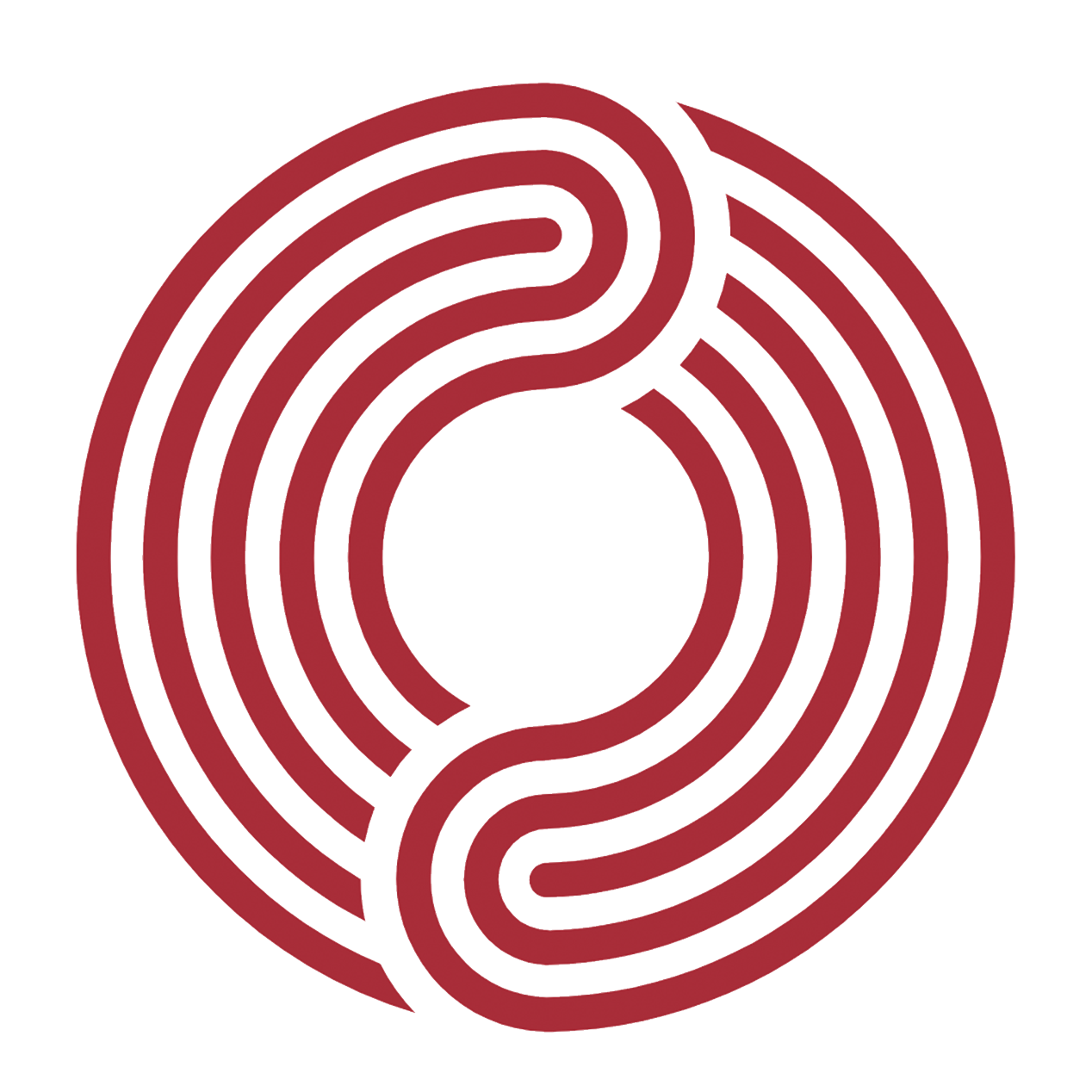
Logo

Description automatically generated

**Freewheelin' Process Document**

3rd Iteration

Author: Xiangyu Shen

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# 1 Prototypes

## 1.1 Goal of Cycle

The goal of this iteration is to get a mobile-friendly software based on the second round of interviews and team brainstorming discussions, which will incorporate the data and information we gathered during the interviews and requirements analysis to produce the mobile version of the Freewheelin software

The mobile terminal is designed for Freewheelin to facilitate those groups who do not have tablets and computers or do not need professional editing. They mainly edit short videos and edit them directly on the mobile phone after shooting on the mobile phone, without importing the video to the tablet or computer. Designing a mobile terminal for Freewheelin has greatly expanded the scope of use of Freewheelin, popularized more people, and provided better editing services for more people

## 1.2 Prototyping Technique

### 1.2.1 The name of the techniques

1. Wireframing

2. Native (a completed interactive executable software)

### 1.2.2 Software use

|  |  |
| --- | --- |
| **Software** | **Usage** |
| GoodNotes | It is used to illustrate the rough ideas with iPad and Apple Pencil. |
| Qt Designer | It is used to design the UI of software and create the QSS file. |
| Clion | It is used to develop the Software. |

## 1.3 Theoretical Motivation

This is our 3rd iteration; we have successfully incorporated mobile into our software design based on interview results.

1. Provide Freewheelin with a more **robust ecology**: We have already made adaptations for Freewheelin on PC and tablet, and with the third design of the mobile terminal, Freewheelin will be able to be switched and used on multiple devices, which greatly enriches the user experience.
2. Take good advantage of the **Affordance Theory**. We carefully select the icons so that they can be instructive and perceptive.

## 1.4 Working technique chosen

We chose agile development as our main working Principe and Disruptive innovation as our philosophical guidance and theoretical support.

### 1.4.1 Justifications

1. We choose **Agile development** as our team working technique. Agile development is an incremental delivery approach where each iteration is a fully usable product. Agile development is a great way to embrace user needs and changes, and it is easy for the team to explore user needs and pain points step by step because it receives immediate feedback after each iteration.

2. We choose **disruptive innovation** as our philosophy guidance and theoretical support. First, we investigate similar products. After identifying user needs and pain points, we first design and code a minimal software that satisfies their specified needs, then expand software functions and refine the interactions step by step taking advantage of the feedback after each iteration (the development of SpaceX has well-integrated this concept).

### 1.4.2 Evidence

图形用户界面, 应用程序

描述已自动生成

Figure 1. screenshots of the Kanban board

## 1.5 Exploring the Design and Process and Evolution

|  |  |
| --- | --- |
|  |  |
| Figure 2. sketches index page | Figure 3. wireframe index page |

The picture above is the design prototype of the mobile terminal. As shown above, the basic blueprint was realized after interviews, market software research, and brainstorming sessions within the team. The left picture is the wireframe of the software, and the right picture is the simulated picture generated by the software, which meets the requirements of internationalization. The software is developed step by step according to the wireframe diagram. The first is to use Qt Designer (native) to develop the software interface, realize the corresponding editing, and add functions such as filters and stickers.

# 2 Code

## Improvements

Compared with the previous iteration, this software iteration has increased adaptation to the mobile end according to the needs of users. In the software on the mobile end, we retain most of the practical functions on the mobile end, such as the playback function and adjustment of the contrast and highlight of the video.

Figure 4. mobile software

## Prototypes and Implementation

|  |  |
| --- | --- |
| **Prototypes** | **Implementation** |
|  | 不同颜色的手机截图  描述已自动生成 |
| According to the comparison between the initial prototype design and the software, we can find that the final software has almost no difference in the user interface from the design drawing. | |

# Evaluation

## 3.1 Evaluation Technique

In this round of software evaluation, we adopted the form of a questionnaire survey for evaluation. Because the form of a questionnaire survey can collect many users' experiences quickly and in a short time.

## 3.2 Evidence of the Evaluation

According to the questionnaire survey results, we found that most users were satisfied with the mobile terminal software we iterated this round.

|  |  |
| --- | --- |
|  | 图表  描述已自动生成 |
| Figure 4. score on mobile version | Figure 5. score on edit function |

However, some users still say that it may be inconvenient to edit on mobile phones because the mobile screen is too small, so they hope that we can adapt the software to the PC side. This feedback also gave us direction to iterate on later versions. We will be adding adaptations to the computer side in the next iteration.

|  |  |
| --- | --- |
| 图表  描述已自动生成 | 图形用户界面, 文本, 应用程序, 电子邮件  描述已自动生成 |
| Figure 6. develop a PC version | Figure 7. comments on mobile version |

# Reference

Cleave, P. (2021). *Advantages of Questionnaires in Online Research*. [online] SmartSurvey. Available at: https://www.smartsurvey.co.uk/blog/advantages-of-questionnaires-in-online-research [Accessed 12 Dec. 2022].