Statement of Work

Version 3.0

Date: 19th Mar 2021

1. Overview

1.1 Introduction about our client

Cinefly is a media-tech company which aims to develop the most advanced patented storytelling and file platform. Cinefly form a team of professional directors to design some interesting storyboards which can be directly used by users. Storyboards are patterns that help creators to determine the frame and split of the video, serving as guidance for those creators. They believe that they can help users become extraordinary storytellers, with students, researchers, volunteers, business, government, and other industries engaging together to share ideas, stories, and experiences. Additionally, Cinefly strives to share these wonderful videos to have positive effects on the society, with the goals of tackling global issues such as Climate Change, Food, and Plastic Waste, Poverty.

1.2 Project Goal

The company is currently working on developing a new mobile client. This project team is responsible for developing and implementing a machine learning algorithm with python, which accepts inputs of the video sources provided by the client and classifies the videos according to the given label list. After analyzing, we should be able to extract information of people and objects from the videos and classify the videos into different types. For example, when analyzing a self-introduction video, our algorithm can directly extract information such as that person's occupation, hobbies offered by the video, then the information would be put into that users' profile. This will be used by the management team of Cinefly as the core function of the software.

1.3 Stakeholders

Our project stakeholders consist of 5 groups: client, customer, sponsor, director, software engineer team.

The client is Kai Eris, who is also the product manager and the sponsor of the company Cinefly.

Customer is the user of the website, who can use the app Cinefly to create some videos based on storyboards created by some professional directors employed by the company.

Directors are employees working together to create some storyboards for users. They are also the suppliers and vendors who offer creative ideas to the company.

Software engineer team are also employees who supply technical support about the website construction and the app's development for the company.

1.4 Business Analysis of the Client

1.4.1 Business model of the Cinefly

The Cinefly is an app/website which can help video creators to create new videos. The company hired some professional directors to design and develop storyboards which can be used by video creators. Those storyboards help creators to determine the frame and split of the video, serving as guidance for those creators.

The method of making profit for the company is selling those storyboards to the video creators, so that they can improve the quality of their work.

1.4.2 Competitor Analysis

As a startup company with a unique and novel business model, it is difficult to find highly similar competitors in the market. Here, the team selected Tok-tok's products to compare with Cinefly App:

(1) The profit model is different. Tok-tok mainly relies on advertising business for revenue, while Cinefly relies on selling Storyboard.

(2) The video content on the platform is different. The content of Tok-tok is more of entertainment themes. Cinefly pays more attention to serious content video creation, aiming to provide business groups and individuals with a higher standard and convenient video creation experience.

2. Project Details

2.1 Project Scope

This semester we will mainly focus on designing the algorithm and try to test and improve the performance of the algorithm.

2.2 Minimum Viable Product (MVP)

a. Design an algorithm which can be used to extract information from videos to help accomplish the user's profile.

b. Set types and the videos can be classified into certain types automatically.

2.3 Period of Performance

The scope of the project Cinefly will span the first and the second semester of 2021. The beta version 1.0 should be available before June 1st according to the requirement of the client Kai Eris. Our work after that will be settled down in future meetings with the client.

2.4 Location

There will be both on-campus meetings in Canberra and online meetings because 2 of our members are still in China now.

2.5 Technical and other constraints

Reliability: users often upload videos containing too much information, which may affect the analysis result of our algorithm. As a result, under some circumstances classification results may not be so satisfactory

Safety: the analyzed customer information should be strictly used in weather, public safety, and other fields, and should not be used for private purposes

2.6 Risk management, quality control and potential costs

2.6.1 Risk management

It is difficult to measure the progress of the development and the quality of the algorithm, which makes the management of the algorithm difficult to grasp. There is no correct process form in the algorithm production process: it is certain that different algorithm development projects should adopt different or targeted algorithm development processes, while the real algorithm development process can only be understood after the completion of algorithm project development. Therefore, the beginning of project development can only be selected according to the characteristics of the project and development experience, and constantly adjusted in the development process

Large algorithm projects are often "one-time". The experience can be used for reference. The only way to avoid and control the risk of project management is to set up a supervision system. Any major decision in project development must have the main technical links, or even the participation of users. In this project, the project supervision is implemented by the quality supervision group in the project development, that is, members supervise each other.

There are 4 specific approaches for the team members to manage project risk:

(1) Grasp the overall situation, focus on the business aspect of the project, and act as the interface link of formal communication between the project team and customers.

(2) In the phase of algorithm analysis, it helps analysts to define the boundary and function of the system, audit the algorithm of specific detection points, and put forward suggestions for test strategy and operation interface.

(3) Prepare algorithm quality control plan and be responsible for implementation; control the production of necessary documents, supervise the software quality in the process of project implementation through documents, and generate algorithm quality report for review by project manager and project leader; preside over and hold quality review meeting for problems in the project.

(4) Cooperate with the project leader to analyze and design the algorithm system and write the algorithm requirement analysis and system design related documents. In the algorithm implementation phase, the test strategy is compiled, and the performance test is guided.

2.6.2 Quality control

2.6.2.1 Algorithm scalability

It refers to the ability of the algorithm to adapt to different working environments without stopping modifying. Due to the contradiction between the rapid development of the algorithm and the long development cycle of the algorithm, the need to upgrade the algorithm is very urgent. If it is very difficult to upgrade and transplant the algorithm, the life of the algorithm must be very short, which makes the algorithm system developed with huge human and material resources useless.

Therefore, for major changes, it is only necessary to inherit the original algorithm, and then use virtual functions to replace the original calling interface, which will reduce the number of changes to the minimum

2.6.2.2 Algorithm ease of use

Algorithm ease of use is the key factor affecting whether the algorithm is accepted by users. In the algorithm products, the design is complex, the function is powerful and complete, but it is not uncommon to be shelved because of frequent operation.

The main reason is

(1) The lack of macro grasp ability of algorithm architecture in algorithm development.

(2) On the other hand, there is a lack of effective means to determine the algorithm requirements and potential requirements.

2.6.3 Costs:

Cost of using other companies' APIs, using great deal of images and video sets for training. Plenty of time of training models.

2.7 Project resources and tools

Resources: The resources available for this project include videos in the database provided by Client (Cinefly). The materials in the ANU library and the tutor resources provided by the Techlaunch project.

Tools: The tools used in this project include: IDEs used to develop software, such as PyCharm, communication tools within the team or between the team and the client, such as WeChat, Zoom, etc.

3. Team Charter

This part can be retrieved at:

https://github.com/ch4ser/21-S1-2-C-Cinema/blob/main/01_Team_Charter/Team%20Charter.pdf

Signatures

Client

Kai Eris

Team

Jiawei Fan

Yuchen Wang

Yuliang Ma

XiaoXiang Kong

Yimin Xu