Meeting Agenda (week 5)

Date Month Year, Duration

24/3/2021 13:30pm-16:30pm

Attendance:

Member	Attendance
Yuliang Ma	Yes
Jiawei Fan	Yes
Yuchen Wang	Yes
Xiaoxiang Kong	No
Yimin Xu	Yes

Tasks review (from last meeting):

1. Team members have conducted more research on the traditional algorithm and deep learning algorithm and they will be discussed during this meeting.

2. Other project management documents have all been completed.

Main objectives:

1. In this meeting we are going to mainly focus on audit 2 framework and allocate tasks to each member to prepare for audit 2.

2. Some details about the technical algorithms will also be discussed together so that every team member will get a rough understanding of what we are going to accomplish later.

Algorithm discussion

1. As for traditional ways: we will extract objects from the given videos using OpenCV technologies.

2. Then we will vectorize these objects using some existing embedding technologies.

3. The bag of words algorithm will be used to generate a single vector representation of the whole video.

4. A single vector can be viewed as a representation of the theme of the video. We will further apply some classification methods to determine the actual theme from the vector representation.

5. Some ML algorithm can be come up with to classify these vectors to the actual labels we want.

6. In practice, the efficiency of traditional methods is not high, and CNN, a typical algorithm in deep learning, is very extraordinary in image recognition, segmentation, detection, and retrieval. When using the CNN method, there is no need to manually specify the video features that need

to be extracted. That is to say, we only need to take the entire video as input instead of manually extracting specific objects. This processing method improves accuracy. For example, a feasible algorithm is NetVLAD.

7. We are planning to have a prototype of using OpenCV and if we have time we will conduct some test on CNN.

Audit 2 framework discussion:

1. Introduction (15%) We want to explain our project again because we are afraid some people may not be that familiar with our project. Do you think it is redundant?
2. Progress Summary (35%)

    2.1 Summary according to the timeline (7%) Some critical progress timeline introduction

    2.2 project management (14%)

    2.2.1 team charter (10%) Modified version of team charter, we are not sure if we should include it here because it is a requirement of audit 1, but we actually have some progress on this after audit 1.

    2.2.2 client engagement (4%) Communication methods with our client. Same confusion as 2.2.1.

    2.3 technical progress (14%) Technical research progress and prototype design flow diagram.

    2.4 Reflection and problem resolving (30%) This part mainly talks about how we have learned and formed new consensus from the reflection, which can help promote the progress of the project.

    Problem - reflection- how to resolve

3. Audit summary and future plan (20%) We will also talk about future plan and time schedule.

Audit 2 Task delegation:

All these tasks are based on audit 2 framework mentioned above

Name	Task
Yuliang Ma	Working on algorithm
Yuchen Wang	Have project progress
Jiawei Fan	Working on introduction and summary and repository intro
Xiaoxiang Kong	Working on decision making etc
Yimin Xu	Working on reflection