**CSCI992 PROJECT PROPOSAL**

**Tracking Learning Detection and labeling the objects**

Group members:

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1. Summary

This section includes the main information about our project topic which called Tracking Learning Detection. In this part, we should introduce some basic terms, ideas and functions for those readers who will not focus on the area. Our project based on the open resource which called OpenTLD. Using this algorithm, we will add other functions especially labeling the object.

The proposal should include the following elements:

1. Simply identification and purpose of our project.
2. Topic definition.
3. Background of OpenTLD.
4. Some basic knowledge about out project.
5. Project plan.
6. Risk assessment.
7. Introduction

First of all, we should talk about the reason why we choose this topic. Because recently so many people are good at using phone and computer system with internet developing, we want to develop a program or application to help people especially for students on the GPS map. Based on OpenTLD which is very popular algorithm, we want to use this algorithm to follow and track the object in the camera on phone. We will use the GPS and develop IOS platform.

1. Topic definition

The definition of our project topic is tracking and following the object which was select in long term.

1. Background on OpenTLD

Tracking learning detection is a kind of tracking algorithm which can follow the object in long time. For the long-term video, we should focus on the object which contains the human, car and some special areas. The process of OpenTLD is divided in three part. First part is learning part. In this part, we should select one area in the video. Then the computer will know the area which was selected is an object have to be follow and tracking. Secondly, with the video playing, the target should be followed until we stop that. Final part is processing the cases when the object was covered or changed in different angels. This algorithm used in camera photo and map.

1. Some basic knowledge of Tracking Learning Detection

There are two model in old and traditional long term tracking which are tracking and detection. For the normal algorithm, once the object was selected and initialized, the computer can predict the object moving in the future. But when the object disappears and occur in the video again, the computer can not know and follow the object. However, the TLD algorithm can build a set to store the object in different conditions. So when the object occur again, the computer can follow that.

For the labeling part we want to let the user to choose the object in the system. Then the users open the camera walking until found the object. Once the object was found, the text and label will occur on the object.

1. Project plan
2. Risk assessment

In this part, we will introduce the problems and some possible risk which will be occur in the future during application development. Software project development is a very complex process which includes lots of conditions and factors. For example the identification and the management of risk.

1. Identification of software risks

The process of risks identification is a kind of statement which changes the uncertain possibilities to certain part. The most important part is how to recognize possible risks accurately and continuously. Identification risks not only need to make sure the resources but also to make sure when the risks will happen, the conditions of risk occurred as well. This part will talk about the characteristic of risks and which possible risk will increase the cost of project. The identification not the one-time process. It is a long term process until the project finished.

* 1. Reference materials

From the point of project management, the reference materials include the contract, project plan and history reference materials.

* 1. The tools and ways of identification software risks

In our group project, there are three kinds of ways to set and identification the possible risks.

* + 1. Searching from the relevant projects history to find the possible risks. Because our project is a kind of mobile platform application, our possible risks include that the application maybe only can be used in the phone and can not be used in the PC. For the tracking algorithm, there are some conditions which can not be avoided such as when the object was blocked or the changing the light, the system maybe not find the objects.
    2. Method is brain storm method. After lots of group meeting, we collected every member’s ideas of possible risks.

These contain the collection from design part to the database problems and the cost of hardware and the storing of sets of test data.

* + 1. We found the possible risk depended on the flow chart. We had drawn the flow chart. Depending on different flow chart, it is a easy way to find the possible risks.
  1. The type of risks

After identified the possible risks, we had better to classify different parts depend on the period of project process, the severity of problem or risk and the cost risk.

There are some examples of possible risk.

* + 1. Because of lacking of large number of history data as reference, the functional requirement is hard to set.
    2. Because of lacking of assessment of project process, system requirement maybe wrong.
    3. Especially when the group lack of management of project, we may use the new hardware or new program languages.
    4. Over dependence on simple or single program language or technique.
    5. Maybe need large number of surface to connect the other system.
    6. The model used maybe not fix with project.
    7. Members are hard to communicate with others.
    8. Because of low working efficiency, we can not finish part of project on time
    9. Lacking of working abilities.
    10. Due to ignoring the simple problems or bugs at start, the project can not be change easily in the future.

1. Management of project risk
   1. Priorities risks

Some risks have a higher impact than others. Therefore, we had better spend our time on the risks that can cause the biggest losses and check if we have any showstoppers than could derail our project.

* 1. Analyse risks

Understanding the nature of risk is a precondition for a good response. Therefore, we have to take some time to have a closer look at individual risks and do not jump to conclusion without knowing what a risk is about.