English Progress Report

1. **Introductions (ALL)**

The project we are in charge of implements "algorithmic tools and capturing software for facial recognition". Facial recognition is often used as a tool to secure devices or even to control the use of applications. This technique both helps adults secure their systems and devices and parents limit and control access to systems for their kids. The main idea was to improve parental control on tablets for children’s use. This could be helpful for parents wishing to use facial recognition to limit their children’s use past a certain time of a day. The work required for this project is the development of a share recording software for recognition of facial expressions in order to be able for instance to identificate a face from an ID list in a home or for parental control.

Therefore, we are using two methods of facial recognition that are : Eigenfaces and Fisherfaces. A image database set is to be used to program and test the methods in python, a programming language. And once we get those methods programmed, we will be able to compare for each method their results.

The Delivery date of product / service is scheduled on June 10, 2015 at 4 pm.

1. **Activities and results**

* **Work completed**

During the months at the project launch, we started by writing the user requirements, which is a document etablished according to the needs of the product owner. The user requirements allow all users to orient the project progress and to keep in view the expected objectives. So this is a writing task. This  user requirements was presented to the product owner and before an academic jury. **(TA)**

Thanks to the training given by Mister Christian Chatellier, we achieved the implementation of the project management system. This system includes the written backlog which lists each individual task there is to complete during the project and which allows us to define every sprints (knowing that a sprint represents a week of work). Obvisoulsy, a Trello account was created from that document to help us to hold a daily project meeting which lasts fifteen minute and is called Scrum. Scrum is useful for daily monitoring of a current sprint.

The main purpose of this organization was for us to complete a second important task which is the writing of the state of the art and help us progress more easily. State of the art is a document reporting the theoretical aspect to be developped in the project but also the explanation of the methods used and the algorithms to be programmed. This task was carried out throughout the sprint 1.

And at the sprint 2, we did a literature search to deepen the appearance of algorithmic methods and presented the results of our research so that we all stand on the same point of view. **(GS)**

* **Work in progress**

Currently we are working on 3rd sprint, it is the phase development of Eigenfaces  which is  the  first  method used for facial recognition. We are programming them in Python and at the same time we are writing the  technical report and difficulties faced. **(TA)**

* **Work remaining**

The completion of the project  could require 3 weeks. We are going to implement the Fisherfaces method which is the second method of our project and debug its  code. In addition, we will write  the technical document along with the impementation and debugging. **(VA)**

1. **Work schedule (All)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ctegory** | **Task Description** | **Priority** | **Estimate** |
| **Software Dev** | Function of database images loading (GS) | 70 | 1 J |
| Function of conversion of lists in arrays (GS) | 50 | 1/2 J |
| Function of image matrix transformation in vector | 70 | 1/2 J |
| Function on determination of a global image matrix | 70 | 1/2 J |
| Function calculating of the average image (TA) | 70 | 1/2 J |
| Function centering of training set images  (TA) | 70 | 1/2 J |
| Function calculating the covariance matrix (VA) | 70 | 1/2 J |
| Function on calculation of Eigenvalues and Eigenvectors (TA) | 70 | 1 J |
| **Redaction** | Bibliography writing | 40 | 3 H |
| Difficulties faced writting | 40 | 2 H |
| Writing of prospects on the applications or prototypes’ use | 40 | 2 H |
| Technical report writing | 60 | 1 J |
| Progress report writing Rapport d'etat d'avancement de projet (English) | 65 | 6 H |
| **Software Dev** | Function implementing the calculation of a weight matrix from a test image | 60 | 1 J |
| Function calculating Euclidian distance | 60 | 1 J |
| Generating the technical document with Sphynx | 40 | 1/2 J |

1. **Conclusion**

To conclude we can say that this project can be benificial for us because it will help to gain knowledge and skills in the image  processing field.

During this project we will have to put in practice theories studied in the image processing module.

To achieve the objectives,we have divided the project into several tasks sorted by priority and each task is allocated to a member.With this tasks,we wiil achieve the objectives fixed in the proposed schedule **(VA)**