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Internship proposal for 2014  
Proposal ref: MCL\_HCI\_SP\_012

**Date:** 6 September 2013

**Internship supervisor:** ÉLUARD Marc

**Laboratory / SBU:** Media Computing Lab

**Required school(s) if any:** N/A

**Required study level:** Master II – Computer science, Usability, GUI

**Title of the internship:**  
Implementation and evaluation of different authentication techniques

**Theme(s) of internship:**

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Computer graphics | <input type="checkbox"/> Video processing         | <input type="checkbox"/> Human factors                   | <input checked="" type="checkbox"/> Human computer interaction |
| <input type="checkbox"/> Computer vision   | <input type="checkbox"/> Distributed computing    | <input type="checkbox"/> Data mining                     | <input checked="" type="checkbox"/> Security & privacy         |
| <input type="checkbox"/> Computer science  | <input type="checkbox"/> Information systems      | <input checked="" type="checkbox"/> Software engineering | <input type="checkbox"/> Electronics                           |
| <input type="checkbox"/> System & networks | <input type="checkbox"/> Others : (please detail) |  |  |

**Duration (in months):** 6 months

**Desired period of training:** Spring and summer 2014

**Possibility to pursue with a Ph.D. Thesis?** YES ☐ NO ☒

**Name of proposed intern (if any):** N/A

Internship supervisor signature	N+1 name & signature	N+2 name & signature
HR notice: <input type="checkbox"/> Accepted <input type="checkbox"/> Rejected		Date: Signature:



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**Title of internship:**

Implementation and evaluation of different authentication techniques

**Summary of the internship:**



In today's digital world, authentication is needed everywhere. The goal of the internship is to test and to validate different authentication techniques defined by Technicolor researchers. This validation will be done by comparing these techniques with existing ones, in the user point of view to determine whether they provide advantages in terms of usability. The student will first have to familiarize with these authentication techniques to be able to determine a framework to experiment, test and analyse the results. This work may lead to new techniques that would be more user-oriented. The trainee will determine the best framework for the implementation of this study (PC, Web, Tablet ...).

**Detailed description:**

**Context**

During various projects, some researchers in Technicolor have studied, defined and patented a set of innovative authentication techniques in the field of graphical passwords, textual passwords and help to password entry. These techniques were never put into perspective because of lack of time.

**Objective**

The goal is threefold, firstly, these techniques need to be implemented. Secondly a user evaluation framework needs to be defined. Finally, user test have to be performed to evaluate these techniques, compare them to more traditional techniques and validate them if the results are positive.

**Task description**

The trainee should study the various techniques that we have defined and the existing ones and define a user evaluation plan. He will then make the necessary development, implement and perform user testing before analysing all the results. These results may lead to new ideas for authentication techniques.

**Keywords**

Security, Authentication, Evaluation, Validation

**Working environment**

Windows, PC, Tablet

**Profile of the applicant / Prerequisites**

Computer science, Usability, Graphical design, Statistics  
Development for Tablet or Smartphone expertise is welcome

**Internship period & duration**

6 months during spring and summer 2014