

Graduation Projects Competition for 2015-2016

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Abstract

The main purpose of this document is to select candidate groups to work in graduation projects for the academic year 2015-2016. It is important to select student groups who can work in harmony and each one extremely know his role in the team. The competition will last for 2 weeks only were it is important to show serious deadline meeting. At the end of the 2 weeks you have to present your group work.

1 Introduction

Graduation projects is a very sensitive kind of projects that will last in your CV at least for the coming ten years. It is very important to select a team were you being able to achieve high goals and expectations.

Mark Weiser in 1988 has defined the term “ubiquitous computing” as a method of enhancing computer use by making many computers available throughout the physical environment, but make them effectively invisible to the user [1]. Since then, the enormous development of wearable devices and small sensors have affected the field of human computer interaction in ubiquitous environments.

Sensors now are embedded in most of the new communicating devices as cellular phones, PDA, digital cameras and notebooks. Our project will focus on helping medical doctors to write medical reports and examinations in fast accurate way. Their exist many work for trials to write fast, one of the popular research is Unistroke [2] and graffiti [3]. Figure 1 shows example of using a pen based strokes.



Figure 1: UniStroke Graffiti gestures

2 Problem definition

Writing medical reports and even recite for pharmacy is a cross panic task as doctors are always busy and have no time to spend on writing using tradition keyboard and mouse. We would like to investigate this situation and invent a new method that can allow doctors to

1. Fast writing interface for medical examination reports,
2. analysis and medication reports.
3. Inventing tool, device, method or technique for fast input.
4. Improve and method to share all the data of the patient with other doctors fast and ensure privacy of patient profiles.

2.1 Project Guidance

You have to start by meeting some doctors and understand more details about how they fill the examination sheets. You must then brainstorm with your team for finding new methods of writing. Divide teams for searching in GUI design and others for some core libraries of gesture recognition if needed. The third group must work for network and packet transfer using different methods. Finally some member must be responsible for testing and proving that your idea was successfully fulfilling the it's purpose (accuracy, time and sharing), statistic tools are needed here.

2.2 Ideal Group formulation

Always stick to the specialty , find core developers, interface developers and Library developers. Three main roles in most of HCI projects are very important. 2 GUI developers, 1 Core developers and 1 or Lib developers is an accepted team for a balanced task distributions. Sure more developers can be added to fulfill tasks and assist in developing a good system. Be sure that you can communicate with your mates easily and work under stress!.

3 Deliverables

1. A complete program for writing fast medical reports
2. An experimental setup to compare between using traditional methods and your method
3. 8 pages max technical report using LATEX considering illustrating your idea and illustrating your methodology and results.

References

References

- [1] M. Weiser and J. S. Brown, *The coming age of calm technology*. New York, NY, USA: Copernicus, 1997, pp. 75–85.
- [2] P. Isokoski, “Model for unistroke writing time,” in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ser. CHI '01. New York, NY, USA: ACM, 2001, pp. 357–364. [Online]. Available: <http://doi.acm.org/10.1145/365024.365299>
- [3] S. J. Castellucci and I. S. MacKenzie, “Graffiti vs. unistrokes: An empirical comparison,” in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ser. CHI '08. New York, NY, USA: ACM, 2008, pp. 305–308. [Online]. Available: <http://doi.acm.org/10.1145/1357054.1357106>