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**Faculty of Economics and Business, University of Zagreb**

Subject: Master thesis proposal

Title of thesis:\_\_\_\_**Commercial applications of multimodal affective computing**

Mentor: professor Mario Spremić, Ph.D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Committee proposal (to be filled out by mentor):

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Attachments:

* Explanation of the thesis (topic and goals of the thesis, methodology and structure)
* Content
* Literature
* Signed statement on academic integrity

# 1.1 Topic and Goals of the Thesis

The topic of my thesis will be examine how affective computing technology can calculation and detect emotional and affective states, and how can this be applied in commercial business cases. Affective computing primarily represents the computer’s ability to detect and appropriately respond to its user's emotions. It includes research and development of systems and devices that can recognize, interpret, process, and simulate human affects. It is an interdisciplinary field, which includes computer science, psychology, and neuroscience and a range of experts from other disciplines.

The data based on which affective computing can be performed varies from facial coding, speech sentiment analysis, eye tracking, implicit associations to physiological metrics collected via biosensors such as EEG, EKG, EMG, GSR, etc.

The computing can be done using a single data source or by adopting a multimodal approach – which improves accuracy and is why I want to examin this approach in detail.

There are two broad use-cases in business purposes: To diagnose how a product/service/marketing stimuli affects our target market and to make a given product/service/marketing stimuli capable of reacting and adapting to customer’s response in real time.

For the first option, the outcome is a piece of analysis with actionable suggestions on how to improve the current performance of stimuli, and for the second we are looking at numerous scenarios in which we design the system to be responsive to various human affect states. This theis will be focused on exploring commercial oportunities for multimodal affective computing in business, with the purpose of improving the current performance of stimuli tested.

# 1.2 Explanation of methodology

In order to confirm the prescribed objectives of the thesis the following methods were used: investigation of literature (primary and secondary data), collecting and analyzing data of a relevant data sample and graphical and statistical methods for discussing the research results.

A range of literature was available online, and certain academic sources were obtained from my personal work experience throughout the years, from various experts and enthusiasts in the field.

# 1.3 Structure of the Thesis

The thesis is structured in such a way so that the topic is introduced to the reader before more complicated research and case studies are presented. Introducing the topic I attempted to describe Affective computing to the reader assuming the reader has no knowledge of the topic.

Furthermore the paper goes on to explain the basic principles of emotional classification before affective computing emerged and was perfected by researchers.

Later on the paper demonstrates the testing procedure and a practical example for applying affective computing in a business environment. The testing procedure is explained in theory and then presented through a real-life case study. In this section I also added my own numerical research, trying to convey the usefulness of the law.

Before concluding the paper I examined the limitations or the methodology, ethical and legal challenges of data collection and analysis that needs to be met for the technology to be fully applicable.

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**Statement on Academic Integrity**

With this signature I confirm that in preparing this thesis I will comply fully with the Code of Ethics of the University of Zagreb.

I hereby declare and confirm that the final thesis is the sole result of my own work based on my research and relies on the published literature, as shown in the listed notes and bibliography.

I declare that no part of the work has been written in an unauthorized manner, i.e., it is not transcribed from the non-cited work, and that no part of the work infringes any of the copyrights.

I also declare that no part of the work has been used for any other work in any other higher education, scientific or educational institution.

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