****

*BT- Form*

University Unit (Faculty):

**Faculty of Computer Science Engineering (CSE)**

**Application for Bachelor Thesis**

**Applicant’s Data**

Name and Surname: Ljupcho Cvetanoski

Index no.: 1064

Study Program: 4-year study program

Contact info:

Tel. 078-456-341

E-mail: ljupcho.cvetanoski@cse.uist.edu.mk

**Bachelor Thesis Title**

“Through mobile application to the proper and healthy functioning of the body”

**Explanation of the Scientific, Artistic and Professional Viability of the Topic**

* **Topic of Research**
* We live in a time when physical activity is significantly decreasing thanks to the rapid pace of the technology. Functioning as an inverse – proportional force, organic food is also replaced with factory processed and "fast" food. Furthermore, turbulent living, life in front of screens, as well as life on social networks has led to disrupted metabolism in both sexes as a consequence of the above problems, along with disrupted and insufficient sleep. In the first part of my research, I will focus on raising awareness of the current state of humanity and the consequences, including many current illnesses: depression, anxiety, and sterility. In the second part, I will try to offer a complete or partial, individual solution through a mobile application that will contain all the necessary guidelines for increasing productivity in the areas where most of us lack (physical activity, healthy nutrition, rest) and at the same time have a completely disrupted functioning throughout the day.
* **Topic Justification**

It is inevitable that the saying "the body is a temple of the soul" is true. The ultimate effect, in turn, is directly related to how much we invest and care for that temple. However, just dreaming and wishing to be better is not enough. It requires self-dedication every day, as much as possible. At least we need to be better than yesterday. Progress is needed. A little progress is better than no progress at all. Discipline is the key that opens all these doors. And that key would be enabled by creating this application.

For its users, this means a huge increase in awareness. Indicating mistakes and potentially correcting them to a solid normal level, thereby automatically improving the overall physical health of the individual. It is important to note that physical and mental health are two inextricably linked conditions that necessarily depend on each other.

For me, on the one hand, from the aspect of a person who has managed to overcome and go through most of the problems caused by societal changes in relation to the rapid pace of technology in recent years, and related to health, this feat will significantly increase my personal satisfaction in two fields:

1. To feel happy because I will share what I have learned from past experience;
2. To double my desire for further work, learning, and advancement in both programming and promoting a healthy lifestyle and raising awareness among people about it.

On the other hand, from the aspect of a programmer, the process of building the application from idea to final implementation, independently incorporating only my vision and how it will improve my engineering skills and increase my competitiveness in the market for intellectual power in technology through which I will present my solution. It also leaves room for further development of the same, with the possibility of turning into a start-up that would be placed on the PlayStore and AppStore (code written in Swift, respectively) so that it would reach a wider audience of people around the world.

* **Research Methodology**

The language I will use is relatively new, but an official language for Android applications (Kotlin) and carries many spheres that need to be preserved when building a project of this size. Performing data management, using API calls in and out of the application (online), design and schema for parallel programming, use of notifications, and optimized time for obtaining screen data for the end user, I absolutely and ultimately cautiously combined two methodologies that most closely matched the "requirements".

Specifically, I will use Extreme Programming (which is actually part of Agile methodology) and "Lean" methodology.

Part of the characteristics of extreme programming and part of the characteristics of "Lean" technology are expected to help me realize a simple, exceptionally designed and managed application, both from the user's perspective and behind the scenes. Fast to use, with a high level of accessibility and with minimal unnecessary work. This quality product will be built in five phases:

1. Planning (Drawing up a primary sketch and through it determining the sub-tasks in order to achieve the same part by part, through several repetitions, as well as providing documentation);
2. Management (Specifically timed, separated into several parts, in order to get a representation of where it is and how to proceed with the construction at each stage);
3. Design (High-quality prototype, which means the application as a prototype, without its functionality);
4. Coding;
5. Testing (Testing the functionality of the code, as well as conducting research to improve the application).

* **Research Goals and Objectives**

• Improving my complete knowledge and ability in programming;

• Creating a high-quality application that will be useful to a large number of people;

• Finding a way to achieve originality in the final outcome, which includes market research for similar applications;

• Understanding the impact of fitness applications on people and how to improve to be accepted;

• Obtaining feedback through surveys on areas that can be improved, as well as obtaining critical evaluation for the entire application.

* **Expected Outcomes**

Touch the people's awareness to convince them to be more active. That is, increasing general health as much as possible for more people. The application will be easy to use, motivationally oriented, with the aim of daily use of it, and thus gaining a general understanding of the need for individual investment in oneself.

As a final expectation and desire, the application to be deployed on PlayStore.

* **Structure of the Bachelor Thesis**

In the first part of the final outcome of the diploma, an introduction to the current state of global, general and overall health will be presented, as well as the close relationship of the evolution of technology on it. In the second part, I will justify the above with facts, supported by research and consecutive graphics. In the third part it will be given a brief introduction to my solution (the application) and the language i.e technology with which I will achieve it.

The fourth part will provide a clear picture of certain, important parts of the application, as well as examples of code. The fifth and final part, equally important as the others, will present a conclusion based on questions and their results.

**References**

[1] Saumont, P.-Y. (2019) The Joy of Kotlin.

[2] Jemerov, D. and Isakova, S. (2017) Kotlin in Action.

[3] Phillips, B., Stewart, C. and Marsicano, K. (2017) Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides). 3rd edn. Big Nerd Ranch Guides.

[4] Keane, B. (2017) The Fitness Mindset: Eat for energy, Train for tension, Manage your mindset, Reap the results.

[5] Greget, M., Stone, G. (2017) How Not to Die.

[6] Extreme Programming; Tips & Advantages [Online]

[Accessed: 14-December-2022].

Available: https://medium.com/@Apiumhub/extreme-programming-tips-advantages-6e3bd84869d7

[7] Official documentation for android and kotlin [Online].

Available: https://developer.android.com/

[8] Open Coding Community that Helps Developers Answer their Questions [Online].

Available: https://stackoverflow.com/

[9] Online Learning Platform for Students/Developers [Online].

Available: https://www.geeksforgeeks.org/

[10] Online Learning Platform for Students/Developers [Online].

Available: https://www.tutorialspoint.com/

[11] Youtube channel for android development with Kotlin [Online].

Available: <https://www.youtube.com/@PhilippLackner>

**Proposal for Mentor of Bachelor Thesis:**

- PhD Dijana Capeska Bogatinoska (Associate Professor)

**Proposal for Member of the Committee for Defense of Bachelor Thesis:**

- PhD Aleksandar Karadimce (Assistant Professor)

**Date** **Applicant**

07.12.2022 Ljupcho Cvetanoski

(name and surname)

(signature)