

## STATEMENT

from

Assoc. Prof. Emil Georgiev Delinov, PhD,  
Department of Informatics and Mathematics,  
Trakia University, Stara Zagora  
(PF 4.6. Informatics and computer sciences)

for

dissertation on a topic  
" Intelligent Personal Tourist Guide"

with author Christian Nedelchev Milev

for awarding the educational and scientific degree "**Doctor**"

Scientific area: 4. Natural sciences, Mathematics and Informatics,  
Professional field: 4.6. Informatics and Computer Science,  
doctoral program: Informatics

The Statement was written and presented on the basis of order No. ПД-21-906 dated 26.04.2024 of the Rector of University of Plovdiv "Paisii Hilendarski", as well as the decision of the scientific jury, taken at its first meeting on 30.04.2024, on the basis of which I have been designated as a member of the scientific jury, which prepares an Statement on the procedure for the defense of a dissertation work on the topic "Intelligent personal tourist guide" for the acquisition of the educational and scientific degree "**Doctor**". Autor of the dissertation work is Christian Nedelchev Milev - a full-time doctoral student at the Department of Computer Systems, at the FMI of PU "Paisii Hilendarski", with scientific supervisor Prof. Asya Georgieva Stoyanova-Doycheva, PhD.

### **General description of the presented materials.**

As a member of the scientific jury, I have received a set of materials on an electronic medium in accordance with Art. 36 (1) of the Regulations for the Development of the Academic Staff of the PU.

The presented documents present data from which it can be concluded that the doctoral student Christian Nedelchev Milev has in-depth knowledge and long

experience in the field of computer science and software development. He completed his bachelor's degree in 2012 at the FMI of University of Plovdiv and his master's degree in 2014 at the same university. Both are in Computer Science - "Informatics" and "Software Technologies", respectively. He has worked in the same field throughout his career from 2012 to the present. He has over 11 years of experience in various areas of the software product lifecycle.

**Relevance of the topic, knowledge of the problem, appropriateness of the set goals and tasks.** The topic of the dissertation is current and very useful. Development of personal assistants is a topic that, with the wide spread of mobile devices, is increasingly integrated with all new information technologies, including artificial intelligence, recruits a wide range of users and focuses increasingly stronger scientific and practical interest. The presented documents present data from which it can be concluded that the doctoral student has a thorough knowledge of the essence of the researched problem - the referenced literature from 126 sources, the successful implementation of a prototype of IPTE, as well as the motivation and ideas for future development.

**Research methodology.** Unfortunately, I did not find the methodology of the research in an explicit form in the presented dissertation work and abstract. From the results, I conclude that the doctoral student's experience would be of interest and recommend that he find an appropriate way to present it.

**Characterization and evaluation of the dissertation work.** The dissertation is 110 pages long, consists of an introduction, three chapters and a conclusion. The literature used is up-to-date and appropriately selected in accordance with the nature of the research. I have a note regarding the "online" Internet sources - no last viewed/accessed dates are given.

In my opinion, the thesis is structured logically correctly and coherently. It presents the stages and progress of the research.

In the introduction, the topicality of the topic is discussed and two goals and tasks of the dissertation are clearly formulated. The main purposes are defined and on p. 6 in

the dissertation work and on pages 4 and 5 of the Author's abstract in Bulgarian and 4 of its English versions. The first chapter is an overview of the state of the problem. The second chapter presents the architecture of the intelligent personal tourist guide. Attention is directed to the functionalities, to the virtual physical space and to the three layers of the architecture. The third chapter is focused on the realization of a prototype of an intelligent personal tourist guide. Attention is directed to the technical implementation and presentation of the algorithms at its core.

The abstract summarizes the content and results of the dissertation work and prepared in accordance with the requirements.

In the presented materials, I do not find the contributions of the dissertation in an obvious form, although there is a declaration of originality for them. On the basis of the completed tasks, I assume that the contributions are of a scientific-applied and applied nature.

Doctoral student Christian Nedelchev Milev has presented four publications on the topic of the dissertation published in 2020, 2021. and 2022 Three of them were published in publications indexed in the WoS, Scopus and IEEE databases. With this, the doctoral student has fulfilled the minimum national requirements under Art. 2b, p. 2 and 3 of ZRASRB and accordingly according to Art. 24, p. 1 of the Regulations for the implementation of the ZRASRB for the acquisition of the educational and scientific degree "doctor". My opinion is that they summarize the results of the research presented in the dissertation. From the materials presented, I believe that the achieved results are the personal work of the doctoral student.

**Critical remarks and recommendations.** My main remarks are related to the clear formulation of the tasks for the realization of the goals and the already mentioned lack of clear formulations of the research methodology and the contributions of the dissertation work.

I recommend the doctoral student to think about the possibilities of implementing TE for navigation systems in cars.

## CONCLUSION

Based on the documents presented in the procedure, I conclude that the doctoral student:

- satisfies the minimum national requirements in the professional field, as well as the provisions of the ZRASRB and the rules for its implementation, as well as the relevant Rules for the acquisition of scientific degrees in the PU "Paisiy Hilendarski";

- possesses in-depth theoretical and practical knowledge in the specialty "Informatics" and proven abilities for scientific research.

This gives me grounds for a positive assessment and I confidently propose to the respected scientific jury to award the doctoral candidate **Christian Nedelchev Milev** the educational and scientific degree "**Doctor**" in the Scientific area 4. Natural sciences, Mathematics and Informatics, Professional field 4.6. Informatics and Computer Science.

22. 05. 2024.

Member of the scientific jury:

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(Assoc. Prof. Emil Georgiev Delinov, PhD)