Rafał Sztandera, 200774
Name of student, the index number

COMPUTER SCIENCE
Field of study

Computer Engineering
Specialty

Master, second level studies: full time, 1. year
Type of study, year of study

DECLARATION OF REALIZATION THE DIPLOMA THESIS

Diploma thesis subject in the Polish language:
Budowa modelu identyfikacji położenia górnika w kopalni miedzi.

Diploma thesis subject in the English language:
Building a miner localization identification model in copper mine.

Language of work English

Thesis supervisor Doc. dr inż. Krzysztof Waśko

The aim of the work, as well as its scope or formulate of research problems:
- The aim of the work is to propose solution model and its verification that include:
  - custom underground tracking method supplied with tests of accuracy of measured position based on custom algorithm,
  - mobile application that will provide guidance to the safe exit basing on the location.
- There will be proposed state of the art solution to help miners to escape copper mine in case of accident or bad life conditions underground with use of mobile device (smartphone) and means of wireless communication available in copper mine.

The initial structure of the work or its short description:
- There is need discover specifics of the target installation environment: available means of communication, short introduction into signal propagation problems in tunnels, simplified mine model that concerns installation place and evacuation ways.
- There is need evaluate methods of underground position tracking. There is need to position the tracking method proposal in opposite to existing solutions.
- There is need to provide reasoning behind the proposed position localization algorithms. There is need to measure accuracy of developed solution.
- There is need to review existing rescue systems, and identify possible dangers underground. There is need to position the proposal of application of proposed localization identification method in mobile application in opposite to existing solutions.
- There is need build prototype mobile application dedicated to miners that available them to find way to closest exit with use of proposed localization method as an example of practical use of proposed solution.

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(date and signature of student)

§ 24 p 8 Rules of Studies at the Wrocław University of Technology.
"A student or a person teaching the "diploma dissertation" course may, in its initial stage, file an application with the Dean for specification or correction of the subject of diploma dissertation being done, and also for a change of the supervisor at the initial stage of its realization."

....
(date and signature of the Supervisor)