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Fundamentals of Programing 2

Project

1. Introduction

In this document, the rules and terms of the assessment of a project are presented. It is also published on Achilles portal (https://achilles.tu.kielce.pl).

**"Algorithms +
Data Structures
= Programs"**

-Niklaus Wirth

2. Contact

- In person, during the classes.

- In person, during the consultations. The schedule of consultations is published on the Achilles portal.

- Via email: l.ciopinski@tu.kielce.pl

3. Working teams

- All students are divided into working groups (depending of number of students, into two-person and one three-person groups).

- Information about members of each group and the chosen project topic should be sent to the teaching assistant via email to: l.ciopinski@tu.kielce.pl by the end of March at latest. Each groups receive a reply with information about accepting or rejecting chosen topic, because each topic could be obtained by only one group.

- Failure to submit requested information before the deadline will result in negative note for the course.

4. Project content

- A program written in C language (neither C++ nor C#) together with its source code

- A report of a project, which contains:

  - Topic and its number

- An abstract - very short (a few sentences) description of the project

- Information, what has been accomplished.

- Information, what has not been accomplished and why.

- Bibliography (also links to websites)

- additional, items which are necessary to run the project (if applicable)

5. Evaluation of a project

- The finished project should be sent to the teaching assistant at least 4 days before the last classes.

- The Project evaluation will be based on:

  - program features (its accordance with the topic)

  - a source code quality

  - a performance and a stability of the program

7. Topics

1. Game Gomoku with Swap2 Rule
    A program should allow two users to play against each other. All moves should be against by the program to ensure that players play according to the game rules.
    Three-person group should add colours to the interface.

2. Encryption and Decryption
    Use the Vigenere cipher to encrypt and decrypt a text file. The algorithm should use uppercase and lowercase letters and special characters, like space, !@#$.
    Three-person group should use a very long password stored in a text file.

3. An escape from a labyrinth
    Using the A* algorithm, find the shortest way from a selected place in labyrint to the exit. Three-person group: use Curses library to present a map of a labyrinth.

4. GUI
    A simple GUI for Text editor, using Curses library. Three-person group should add colours to the interface.

5. "OPEN"
    Any topics proposed by students and accepted by the teaching assistant