

Programming Project / C++ – Sports Activity Tracking System –

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I. Task Description

Student 1 is responsible for core application management:

- Adding, modifying, deleting sports activities
- Viewing all recorded activities and detailed statistics
- Managing data persistence (load/save to CSV)
- Implementing input validation and terminal UI

Student 2 is responsible for user interaction features:

- Implementing search and filter options
- Generating ASCII-based visual progress charts
- Creating and tracking fitness goals
- Managing goal notifications and reports

II. Data Structures Used by the Team

The following classes will be used:

- ActivityType: string date, double duration, double distance, int repetitions
- Goal: double targetDistance, double targetDuration, int targetReps, string deadline, string description, bool achieved

III. File Structure

The following files will be used:

activities_cpp.csv

A file where details about the performed activities will be stored in the form: <activity ID> <date> <duration> <distance> <repetitions>

activities_goals_cpp.csv

A file where details about goals set will be stored:

<activity ID> <description> <deadline><target repetitions><target duration><target distance>

IV. Interacting with Executables

Application 1 will offer the following options:

`./app_1.exe add_activity <activity ID>`

To view add a new activity

`./app_1.exe view_activity <activity ID>`

To view an activity based on ID

`./app_1.exe view_activities`

To view all activities

`./app_1.exe add_goal <goal ID><activity ID><description> <deadline><target repetitions><target duration><target distance>`

To add a new goal

`./app_1.exe view_goal <goal ID>`

To view an goal based on ID

`./app_1.exe view_goals`

To view all goals

`./app_1.exe modify_goal <goal ID> | <activity ID><description> <deadline><target repetitions><target duration><target distance>`

To modify a goal

Application 2 will offer the following options:

`./app_2.exe view_statistics`

To view general statistics

`./app_2.exe filter_statistics <activity ID> <goal ID>`

To view statistics based on an activity and goal

`./app_2.exe view_progres<goal ID>`

To view the progress made on a certain goal

`./app_2.exe delete_goal <goal ID>`

To remove a goal based on ID

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./app_2.exe backup <file path>
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To backup your data on a certain file