C++ File
Handler
tutorial

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Specifications
Interests of
specifications
Specifications of
"File Handler"

C++ project: File Handler tutorial

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Overview

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Overview

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Specifications, or specs, allow to:

- clarify the context of a project,
- define the goals and the expectations,
- limit the scope of the desired features.

Example: specs for a car engine

- target: an engine
- context: for a car (not a plane nor a rocket)
- goals: minimize volume, minimize consumption…
- limit the scope: maximum power (e.g., so that speed $< 150\,\mathrm{km/h}$)

There are two types of specifications for this project:

1. functional specifications,
2. design specifications.

Functional specs define the aims as well as the different functions, or blocks, of the whole system.

Design specs describe the implementation of the functions, i.e., the structure, architecture, design techniques as well as specific features.

Functional specifications must define:

- the aims of the project
- the interface of the end-user

Handling files refers to:

- automatically opening and closing files (RAII),
- opening either for read or write operations according to the request of the user,
- allow access to only one thread at a time.

Thread safe operation

File stream use = critical resource access in multi-thread application $\implies$ control access strategy is required!

Two types of interface:

1. read operations,
2. write operations.

Conversely, some specific behaviours must be hidden to the end-user, i.e., must be excluded for the interface!

Design specifications of "File Handler"

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