

«File Converter» Project



Requirements

SAMPLE

Project Documentation

Background
Purpose
Scope

Audience
File

Full set of requirements specification.
To organize both development and testing process.
Business requirements, user requirements, detailed specification, limitations.
Management staff, project team.
03 06 - Requirements Sample.docx

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1. Project scope

Development of a tool to eliminate encoding multiplicity in text documents stored locally.

2. Main goals

- Eliminate the necessity for manual detection and conversion of encoding in text documents.
- Decrease document-processing time by the amount needed for manual encoding detection and conversion.

3. Criteria for main goals achievement

- Full automation of encoding detection and conversion.
- Document-processing time reduction by 1-2 minutes (average) due to elimination the necessity for manual encoding detection and conversion.

4. Risks

- High complexity of accurate detection of text document initial encoding.

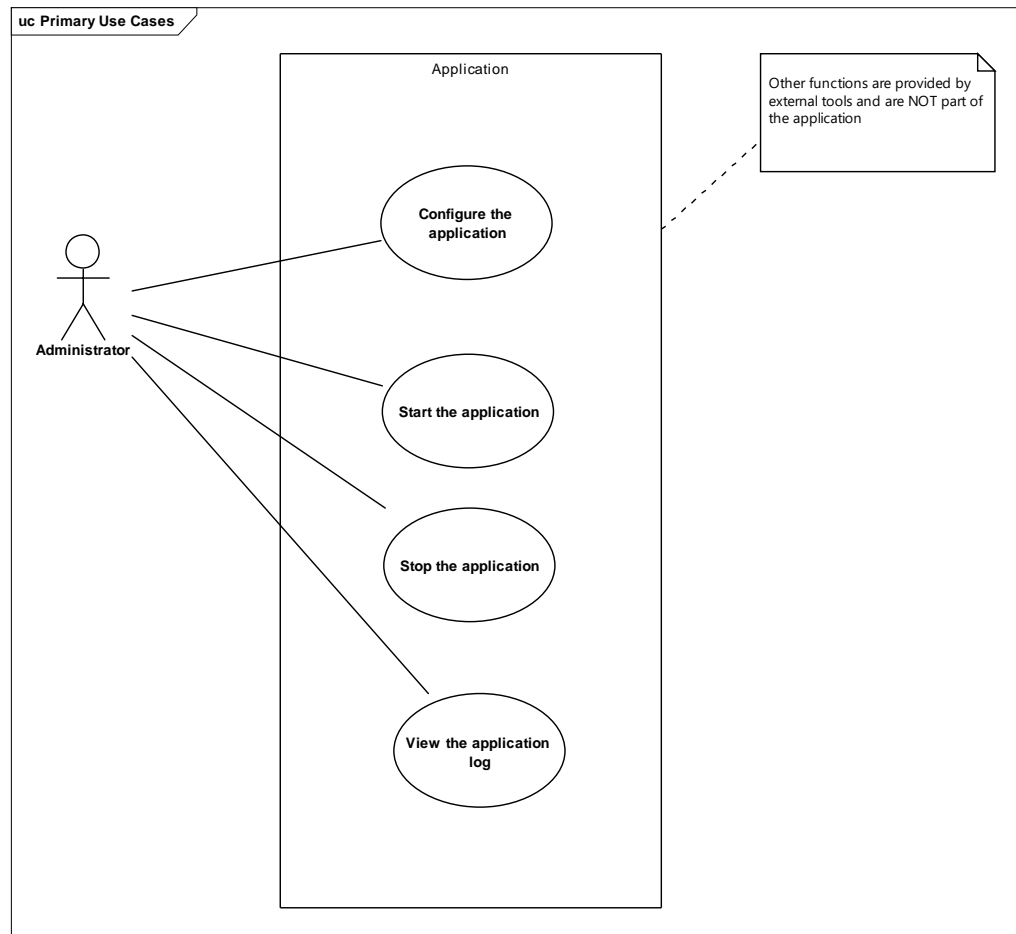
5. System characteristics

- SC-1: The application should be a console one.
- SC-2: The application should be developed using PHP (see [L-1](#) for the explanation; PHP-related details are described in [DS-1](#)).
- SC-3: The application should be a multi-platform one (taking into account [L-4](#)).

6. User requirements

- See also the use cases diagram below for details.
- UR-1: Start and stop of the application.
 - UR-1.1: The application start should be performed by the following console command: “php converter.phar SOURCE_DIR DESTINATION_DIR [LOG_FILE_NAME]” (see [DS-2.1](#) for parameters description, see [DS-2.2](#), [DS-2.3](#), and [DS-2.4](#) for error messages on any misconfiguration situation).
 - UR-1.2: The application stop (shutdown) should be performed by applying Ctrl+C to the console window, which holds the running application.
- UR-2: Configuration of the application.
 - UR-2.1: The only configuration available is through command line parameters (see [DS-2](#)).
 - UR-2.2: Target encoding for text file conversion is UTF8 (see also [L-5](#)).
- UR-3: Application log.
 - UR-3.1: The application should output its log both to the console and to a log-file (see [DS-4](#)). Log file name should comply with the rules described in [DS-2.1](#).

- UR-3.2: Log contents and format are described in [DS-4.1](#), the application reaction to log file presence/absence is described in [DS-4.2](#) and [DS-4.3](#) accordingly.



7. Business rules

- BR-1: The source directory and the destination directory
 - BR-1.1: The source directory and the destination directory may NOT be the same directory (see also [DS-2.1](#) and [DS-3.2](#)).
 - BR-1.2: The destination directory may NOT be inside the source directory or any of its subdirectories (see also [DS-2.1](#) and [DS-3.2](#)).

8. Quality attributes

- QA-1: Performance
 - QA-1.1: The application should provide the processing speed of at least 5 MB/sec with the following (or equivalent) hardware: CPU i7, RAM 4 GB, average disc read/write speed 30 MB/sec. See also [L-6](#).
- QA-2: Resilience to input data
 - QA-2.1: See [DS-5.1](#) for the requirements to input file formats.
 - QA-2.2: See [DS-5.2](#) for the requirements to input file size.
 - QA-2.3: See [DS-5.3](#) for the details on application reaction on incorrect input

file format.

9. Limitations

- L-1: The application should be developed using PHP as the Customer is going to support the application with their own IT-department.
- L-2: See [DS-1](#) for PHP version and configuration details.
- L-3: PHP setup and configuration process are out of this project scope and therefore are NOT described in any product/project documentation.
- L-4: Multi-platform capabilities of the application are the next: it should work with Windows and Linux assuming that proper PHP version (see [DS-1.1](#)) works there.
- L-5: The target encoding (UTF8) is fixed. There is no option to change it.
- L-6: The [QA-1.1](#) may be violated in case of objective reasons (e.g., system overload, low-performing hardware and so on).

10. Detailed specifications

DS-1: PHP

DS-1.1: Minimal version – 5.5.

DS-1.2: The mbstring extension should be installed and enabled.

DS-2: Command line parameters

DS-2.1: The application receives three command line parameters during the start process:

- SOURCE_DIR – mandatory parameter, points to the directory with files to be processed;
- DESTINATION_DIR – mandatory parameter, points to the directory to store converted files (see also [BR-1.1](#) and [BR-1.2](#));
- LOG_FILE_NAME – optional parameter, points to the log file (if omitted, “converter.log” file should be created in the same directory where “converter.phar” is located);

DS-2.2: If some mandatory command line parameter is omitted, the application should shut down displaying standard usage-message (see [DS-3.1](#)).

DS-2.3: If more than three command line parameters are passed to the application, it should ignore any parameter except listed in [DS-2.1](#).

DS-2.4: If the value of any command line parameter is incorrect, the application should shut down displaying standard usage-message (see [DS-3.1](#)) and incorrect parameter name, value, and proper error message (see [DS-3.2](#)).

DS-3: Messages

DS-3.1: Usage message: “USAGE converter.phar SOURCE_DIR DESTINATION_DIR LOG_FILE_NAME”.

DS-3.2: Error messages:

- Directory not exists or inaccessible.
- Destination dir may not reside within source dir tree.
- Wrong file name or inaccessible path.

DS-4: log

DS-4.1: The log format is the same for the console and the log file: YYYY-MM-DD HH:II:SS operation_name operation_parameters operation_result.

DS-4.2: If the log-file is missing, a new empty one should be created

DS-4.3: If the log file exists, the application should append new records to its tail.

DS-5: File format and size

DS-5.1: The application should process input files in Russian and English languages with the following encodings: WIN1251, CP866, and KOI8R.

Supported file formats (defined by extension) are:

- Plain Text (TXT).
- Hyper Text Markup Language Document (HTML).
- Mark Down Document (MD).

DS-5.2: The application should process files up to 50 MB (inclusive), the application should ignore any file with the size larger than 50 MB.

DS-5.3: If a file with supported format (see [DS-5.1](#)) contains format-incompatible data, such data may be damaged during file processing, and this situation should be treated as correct application work.