x++todo

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 4

Class Documentation

4.1 ArgumentReader Class Reference

Read config file and arguments, also save config if needed.

`#include <reader.hpp>`

Public Member Functions

- void readConfig (Settings &settings, std::vector< std::string > &files, std::string &ofile)
- bool parseArguments (const std::vector< std::string > &args, Settings &settings, std::vector< std::string > &files, std::string &ofile)

Private Member Functions

- void saveConfig (const Settings &settings, const std::vector< std::string > &files, const std::string ofile)

Private Attributes

- const std::string config = ".config"

  Filepath to config file.

4.1.1 Detailed Description

Read config file and arguments, also save config if needed.

4.1.2 Member Function Documentation

4.1.2.1 parseArguments()

```
bool ArgumentReader::parseArguments (
            const std::vector< std::string > & args,
            Settings & settings,
            std::vector< std::string > & files,
            std::string & ofile )
```

Parse input arguments.

Parameters

args	Vector of arguments.
settings	Current settings.
files	Vector of given files.
ofile	Output file.

Returns

If help was found, then do not run application and print helpline.

4.1.2.2 readConfig()

```
void ArgumentReader::readConfig (
            Settings & settings,
            std::vector< std::string > & files,
            std::string & ofile )
```

Read config file.

Parameters

settings	Which setting to change or load.
files	Which are the files that are being read from.
ofile	What is the output file for storing changes.

4.1.2.3 saveConfig()

```
void ArgumentReader::saveConfig (
            const Settings & settings,
            const std::vector< std::string > & files,
            const std::string ofile )  [private]
```

Save config file with current settings.

Parameters

settings	Current stettings.
files	Vector of given files.
ofile	Output file.

The documentation for this class was generated from the following files:

- reader.hpp
- reader.cpp

4.2 ChangeTask Class Reference

When changing the task make this class to preserve the old task for undo and redo purposes.

```
#include <task.hpp>
```

Public Member Functions

- ChangeTask (Task ∗task)
- void undo ()

  Undo all changes made to the task.
- Task ∗ task ()

Private Attributes

- Task ∗ task_

  Pointer to the changed task.
- bool markedForDeletion_ = false

  If it was marked for deletion.
- std::string text_

  What was the old content.
- size_t priority_

  What was its priority.
- bool completion_

  If it was set for completion or not.
- Date completion_date_

  What was its completion date.
- Date creation_date_

  What was its creation date.
- std::string project_tag_

  What was its project tag.
- std::string context_tag_

  What was its context tag.

4.2.1 Detailed Description

When changing the task make this class to preserve the old task for undo and redo purposes.

4.2.2 Constructor & Destructor Documentation

4.2.2.1 ChangeTask()

```
ChangeTask::ChangeTask (
          Task ∗ task )
```

Default constructor.

Parameters

task	Pointer to the changed task.

4.2.3 Member Function Documentation

4.2.3.1 task()

```
Task* ChangeTask::task ( )  [inline]
```

Getter for the pointer to the changed task.

Returns

Pointer to the task.

The documentation for this class was generated from the following files:

- task.hpp
- task.cpp

4.3 Date Struct Reference

Struct for holding data about given date.

```
#include <task.hpp>
```

Public Member Functions

- Date (int y=0, int m=0, int d=0)
- bool isEmpty () const

Public Attributes

- int day

  Number of day.
- int month

  Number of month.
- int year

  Number of year.

4.3.1 Detailed Description

Struct for holding data about given date.

4.3.2 Constructor & Destructor Documentation

4.3.2.1 Date()

```
Date::Date (
             int y = 0,
             int m = 0,
             int d = 0 )
```

Default constructor.

Parameters

y	Year.
m	Month.
d	Day.

4.3.3 Member Function Documentation

4.3.3.1 isEmpty()

```
bool Date::isEmpty ( ) const
```

Whether the date is undefined (all values are equal to 0).

Returns

True if it is undefined.

The documentation for this struct was generated from the following files:

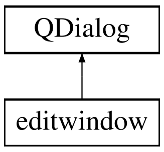
- task.hpp
- task.cpp

4.4 editwindow Class Reference

Window for editing and adding tasks.

```
#include <qui.hpp>
```

Inheritance diagram for editwindow:



Public Slots

- void mysave ()

  Slot for pressing save button.

Public Member Functions

- editwindow (Task ∗task, MainWindow ∗mainParent, bool emptyText=false, bool emptyDate=false, QWidget ∗parent=nullptr)
- ∼editwindow ()

  Default destructor.
- void write ()

  Write everything about the task into boxes.
- void showError ()

  If there was mistake show error when loading new window.

Private Attributes

- Ui::editwindow ∗ ui

  Qt ui.
- Task ∗ task_

  Which task it is handling.
- MainWindow ∗ parent_

  Which mainwindow called this window. For reloading the parent.
- bool emptyText_

  When date is not defined and should be.
- bool emptyDate_

  When there was an empty text before.

4.4.1 Detailed Description

Window for editing and adding tasks.

4.4.2 Constructor & Destructor Documentation

4.4.2.1 editwindow()

```
editwindow::editwindow (
            Task * task,
            MainWindow * mainParent,
            bool emptyText = false,
            bool emptyDate = false,
            QWidget * parent = nullptr )  [explicit]
```

Default constructor.

Parameters

task	With which task it is operating.
mainParent	Which mainWindow called this editwindow.
∗*parent*	qt constructor
emptyText	If the last editwindow ended with emptytext.
emptyDate	If the last editwindow ended with wrong dates.

The documentation for this class was generated from the following files:

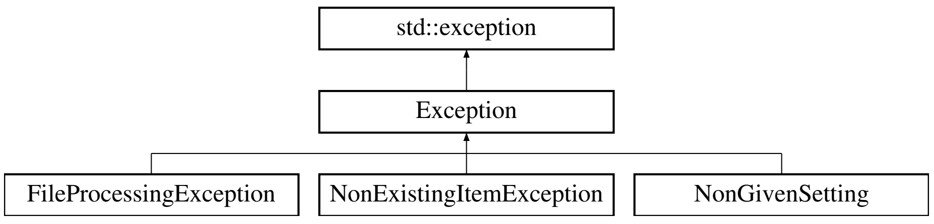
- qui.hpp
- qui.cpp

4.5 Exception Class Reference

Default class for exceptions.

```
#include <exception.hpp>
```

Inheritance diagram for Exception:



Public Member Functions

- std::string & what ()

Public Attributes

- std::string message_
    Error message.

4.5.1 Detailed Description

Default class for exceptions.

4.5.2 Member Function Documentation

4.5.2.1 what()

```
std::string& Exception::what ( )  [inline]
```

Get the error message.

Returns

Reference to the error message.

The documentation for this class was generated from the following file:

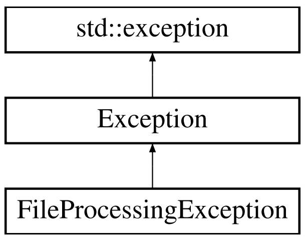
- exception.hpp

4.6 FileProcessingException Class Reference

When the givven file couldn't be accesed.

```
#include <exception.hpp>
```

Inheritance diagram for FileProcessingException:



Public Member Functions

- FileProcessingException (const std::string &filename, FILETYPE type)

Additional Inherited Members

4.6.1 Detailed Description

When the givven file couldn't be accesed.

4.6.2 Constructor & Destructor Documentation

4.6.2.1 FileProcessingException()

```
FileProcessingException::FileProcessingException (
            const std::string & filename,
            FILETYPE type )
```

Default constructor.

Parameters

filename	What is the filename / filepath.
type	If it is output or input.

The documentation for this class was generated from the following files:

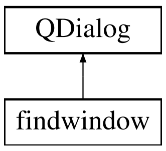
- exception.hpp
- exception.cpp

4.7 findwindow Class Reference

Window for editing and adding tasks.

```
#include <qui.hpp>
```

Inheritance diagram for findwindow:



Public Slots

- void find ()
  Slot for pressing ok button.

Public Member Functions

- findwindow (MainWindow ∗mainParent, QWidget ∗parent=nullptr)
- ∼findwindow ()

  Default destructor.

Private Attributes

- Ui::findwindow ∗ ui

  Qt ui.
- MainWindow ∗ parent_

  Which mainwindow called this window. For reloading the parent.

4.7.1 Detailed Description

Window for editing and adding tasks.

4.7.2 Constructor & Destructor Documentation

4.7.2.1 findwindow()

```
findwindow::findwindow (
            MainWindow ∗ mainParent,
            QWidget ∗ parent = nullptr )  [explicit]
```

Default constructor.

Parameters

mainParent	Which mainWindow called this editwindow.
∗*parent*	qt constructor

The documentation for this class was generated from the following files:

- qui.hpp
- qui.cpp

4.8 Tasks::iterator Class Reference

Class for iterator in Tasks.

```
#include <task.hpp>
```

Public Types

- using iterator_category = std::forward_iterator_tag

  What category is this iterator.
- using difference_type = std::ptrdiff_t

  How to solve difference of these iterators.
- using value_type = Task

  What is the type it is iterating.
- using pointer = Task ∗

  What is the pointer.
- using reference = Task &

  What is the reference.

Public Member Functions

- iterator (Tasks ∗tasks, std::size_t position)
- Task & operator∗ () const
- bool operator!= (const iterator &other) const
- iterator & operator++ ()

Private Attributes

- Tasks ∗ tasks_

  Pointer to parent Tasks.
- size_t position_

  At which position is the iterator looking.

Friends

- class **Tasks**

4.8.1 Detailed Description

Class for iterator in Tasks.

4.8.2 Constructor & Destructor Documentation

4.8.2.1 iterator()

```
Tasks::iterator::iterator (
            Tasks ∗ tasks,
            std::size_t position )
```

Basic constructor.

Parameters

tasks	Which tasks it is bounded to.
position	At which position it is looking.

4.8.3 Member Function Documentation

4.8.3.1 operator"!=()

```
bool Tasks::iterator::operator!= (
             const iterator & other ) const
```

How to compare two iterators.

Parameters

other	Second iterator.

Returns

If they are different.

4.8.3.2 operator∗()

```
Task & Tasks::iterator::operator∗ ( ) const
```

To use ∗ operator with the iterator.

Returns

reference to that Task.

4.8.3.3 operator++()

```
Tasks::iterator & Tasks::iterator::operator++ ( )
```

Default operator for incrementation.

Returns

Reference to changed iterator.

The documentation for this class was generated from the following files:

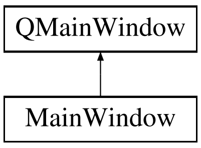
- task.hpp
- task.cpp

4.9 MainWindow Class Reference

Main window for showing tasks.

```
#include <qui.hpp>
```

Inheritance diagram for MainWindow:



Public Slots

- void undo ()

  Slot for pressing undo button.
- void redo ()

  Slot for pressing redo button.
- void edit ()

  Slot for pressing edit button.
- void add ()

  Slot for pressing add button.
- void done ()

  Slot for pressing done button.
- void myDelete ()

  Slot for pressing delete button.
- void sort ()

  Slot for sorting tasks.
- void save ()

  Slot for saving document.
- void open ()

  Opening new file.
- void import ()

  Importing from another file.
- void checkDel ()

  Show or not show deleted items.
- void checkDone ()

  Show or not show done items.
- void openFind ()

  Open find window.
- void reload ()

  Reload file.

Public Member Functions

- MainWindow (Tasks ∗tasks, Reader ∗reader, std::string ∗ofile, QWidget ∗parent=nullptr)
- ∼MainWindow ()

  Default destructor.
- void refresh ()

  Reload list with tasks.
- void refreshMatch (const std::string &match)

  Reload list with matching ones.
- void addPart (QString text)
- void changeColor (Task ∗task, size_t index)
- size_t selectedItem (QListWidgetItem ∗item)
- void showFound (std::string match)

  For showing found tasks.

Private Attributes

- Ui::MainWindow ∗ ui

  Qt ui.
- Tasks ∗ tasks_

  Which tasks it is handling.
- Reader ∗ reader_

  Which reader to use when writing to files or reading them.
- std::string ∗ ofile_

  What is the path to output file.
- bool done_ = false

  Whether to show done items.
- bool deleted_ = false

  Whether to show deleted items.

4.9.1 Detailed Description

Main window for showing tasks.

4.9.2 Constructor & Destructor Documentation

4.9.2.1 MainWindow()

```
MainWindow::MainWindow (
            Tasks * tasks,
            Reader * reader,
            std::string * ofile,
            QWidget * parent = nullptr )
```

Default constructor.

Parameters

tasks	What tasks it is operating with.
reader	The reader that is used.
ofile	What is the filepath to the output file.
∗*parent*	qt constructor.

4.9.3 Member Function Documentation

4.9.3.1 addPart()

```
void MainWindow::addPart (
             QString text )
```

Add new line to list with taks.

Parameters

text	What is to be inserted.

4.9.3.2 changeColor()

```
void MainWindow::changeColor (
             Task * task,
             size_t index )
```

Change color of item based on its priority or if it is incorrect.

Parameters

task	Which task.
index	What is the index in list widget.

4.9.3.3 selectedItem()

```
size_t MainWindow::selectedItem (
             QListWidgetItem * item )
```

Return index of the task that is selected.

Returns

Its index.

The documentation for this class was generated from the following files:

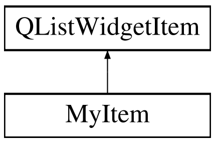
- qui.hpp
- qui.cpp

4.10 MyItem Class Reference

Derivative of list widget item to store index of the task.

`#include <qui.hpp>`

Inheritance diagram for MyItem:



Public Member Functions

- MyItem (size_t index)
- size_t getIndex ()

Private Attributes

- size_t task_index_

  Tasks index.

4.10.1 Detailed Description

Derivative of list widget item to store index of the task.

4.10.2 Constructor & Destructor Documentation

4.10.2.1 MyItem()

```
MyItem::MyItem (
             size_t index )
```

Default constructor.

Parameters

index	Index of the task.

4.10.3 Member Function Documentation

4.10.3.1 getIndex()

```
size_t MyItem::getIndex ( )
```

Get the index of the task.

Returns

Its index.

The documentation for this class was generated from the following files:

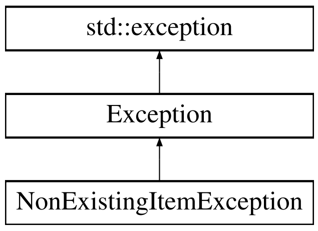
- qui.hpp
- qui.cpp

4.11 NonExistingItemException Class Reference

When someone is trying to reach nonexisting task.

```
#include <exception.hpp>
```

Inheritance diagram for NonExistingItemException:



Public Member Functions

- NonExistingItemException (size_t given, size_t max)

Additional Inherited Members

4.11.1 Detailed Description

When someone is trying to reach nonexisting task.

4.11.2 Constructor & Destructor Documentation

4.11.2.1 NonExistingItemException()

```
NonExistingItemException::NonExistingItemException (
            size_t given,
            size_t max )
```

Default constructor.

Parameters

given	Which task is nonreachable.
max	What is the maximal position that cold be reached.

The documentation for this class was generated from the following files:

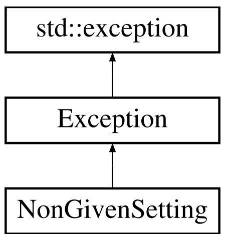
- exception.hpp
- exception.cpp

4.12 NonGivenSetting Class Reference

When there is missing settings to proper start the application.

```
#include <exception.hpp>
```

Inheritance diagram for NonGivenSetting:



Public Member Functions

- NonGivenSetting (SETTINGTYPE type)

Additional Inherited Members

4.12.1 Detailed Description

When there is missing settings to proper start the application.

4.12.2 Constructor & Destructor Documentation

4.12.2.1 NonGivenSetting()

```
NonGivenSetting::NonGivenSetting (
              SETTINGTYPE type )
```

Default constructor.

Parameters

type	What settings is missing.

The documentation for this class was generated from the following files:

- exception.hpp
- exception.cpp

4.13 predTask Struct Reference

Functor for pointer to task to sort vector with task pointer.

```
#include <task.hpp>
```

Public Member Functions

- bool operator() (Task ∗task1, Task ∗task2) const

4.13.1 Detailed Description

Functor for pointer to task to sort vector with task pointer.

4.13.2 Member Function Documentation

4.13.2.1 operator()()

```
bool predTask::operator() (
            Task * task1,
            Task * task2 ) const  [inline]
```

Operator () of the functor.

Parameters

task1	Pointer to first task.
task2	Pointer to second task.

Returns

If the first task has bigger priority.

The documentation for this struct was generated from the following file:

- task.hpp

4.14 Reader Class Reference

Reading and saving files with todo.txt syntax in it.

```
#include <reader.hpp>
```

Public Member Functions

- void readFiles (const std::vector< std::string > &files, Tasks &tasks)
- void readFile (const std::string &file, Tasks &tasks)
- void saveFile (const Tasks &tasks, const std::string &ofile)

4.14.1 Detailed Description

Reading and saving files with todo.txt syntax in it.

4.14.2 Member Function Documentation

4.14.2.1 readFile()

```
void Reader::readFile (
            const std::string & file,
            Tasks & tasks )
```

read only one file.

Parameters

file	Whhich file to read.
tasks	Where to store all tasks.

4.14.2.2 readFiles()

```
void Reader::readFiles (
            const std::vector< std::string > & files,
            Tasks & tasks )
```

Read all files in given vector and add all tasks.

Parameters

files	Vector of given files with tasks.
tasks	Where to store all tasks.

4.14.2.3 saveFile()

```
void Reader::saveFile (
            const Tasks & tasks,
            const std::string & ofile )
```

Save current state of tasks to output file.

Parameters

tasks	From where to get tasks.
ofile	Which file to use as an output file.

The documentation for this class was generated from the following files:

- reader.hpp
- reader.cpp

4.15 Settings Struct Reference

What is the settings of current program.

```
#include <reader.hpp>
```

Public Attributes

- CLIENT client = NONE

  Chosen client.
- bool save = false

  Whether to save this settings to config file.
- bool useConfig = true

  Whether to read config file or not.

4.15.1 Detailed Description

What is the settings of current program.

The documentation for this struct was generated from the following file:

- reader.hpp

4.16 Task Class Reference

Class for holding all properties of task.

```
#include <task.hpp>
```

Public Member Functions

- Task (bool done=false, char priority='0')
- std::string & text ()
- const std::string & getText () const
- std::string & project ()
- const std::string & getProject () const
- std::string & context ()
- const std::string & getContext () const
- void setDeletion (bool del)
- bool markedForDeletion () const
- void switchDeletion ()

  Switch deletion to the negation of the current state.
- void setCompletion (bool completion)
- bool isComplete () const
- void switchCompletion ()

  Switch completion to its negation of the current state.
- void setCompletionDate (std::string date)
- void setCompletionDate (Date date)
- const Date & getCompletionDate () const
- void setCreationDate (std::string date)
- void setCreationDate (Date date)
- const Date & getCreationDate () const
- size_t getPriority () const
- void setPriority (char pr)
- bool match (const std::string &match)

Private Attributes

- bool markedForDeletion_ = false

  If the task is set to be deleted (not saved).
- std::string text_

  What is the content of the task.
- size_t priority_

  What priority does the task have (from A to Z, but in size_t format).
- bool completion_

  If the task is marked as completed or not.
- Date completion_date_

  When the task is set to be done.
- Date creation_date_

  When the task was created.
- std::string project_tag_

  What is the project tag.
- std::string context_tag_

  What is the context tag.

4.16.1 Detailed Description

Class for holding all properties of task.

4.16.2 Constructor & Destructor Documentation

4.16.2.1 Task()

```
Task::Task (
            bool done = false,
            char priority = '0' )
```

Default constructor.

Parameters

done	If the task was marked as done or not.
priority	If the task has any given priority.

4.16.3 Member Function Documentation

4.16.3.1 context()

```
std::string& Task::context ( )  [inline]
```

Get the reference to the context tag.

Returns

Reference to the context tag.

4.16.3.2 getCompletionDate()

```
const Date& Task::getCompletionDate ( ) const  [inline]
```

Getter for constant reference to the completion date.

Returns

Const reference to the completion date.

4.16.3.3 getContext()

```
const std::string& Task::getContext ( ) const  [inline]
```

Getter for constant reference to the context tag.

Returns

Const reference to the context tag.

4.16.3.4 getCreationDate()

```
const Date& Task::getCreationDate ( ) const  [inline]
```

Getter for constant reference to the completion date.

Returns

Const reference to the completion date.

4.16.3.5 getPriority()

```
size_t Task::getPriority ( ) const  [inline]
```

Getter for priority in size_t format.

Returns

Priority.

4.16.3.6 getProject()

```
const std::string& Task::getProject ( ) const  [inline]
```

Getter for constant reference to the project tag.

Returns

Const reference to the project tag.

4.16.3.7 getText()

```
const std::string& Task::getText ( ) const  [inline]
```

Getter for constant reference to the text.

Returns

Const reference to the text.

4.16.3.8 isComplete()

```
bool Task::isComplete ( ) const  [inline]
```

Getter for completion flag.

Returns

If the task is complete or not.

4.16.3.9 markedForDeletion()

```
bool Task::markedForDeletion ( ) const  [inline]
```

Getter for deletion flag.

Returns

If the task is set to be deleted.

4.16.3.10 match()

```
bool Task::match (
            const std::string & match )
```

If the task is matching with given string.

Parameters

match	Matching string.

Returns

If it matches.

4.16.3.11 project()

```
std::string& Task::project ( )  [inline]
```

Get the reference to the project tag.

Returns

Reference to the project tag.

4.16.3.12 setCompletion()

```
void Task::setCompletion (
            bool completion )  [inline]
```

Set the completion of the task.

Parameters

completion	Whether the task is going to be completed or not.

4.16.3.13 setCompletionDate() [1/2]

```
void Task::setCompletionDate (
            Date date )  [inline]
```

Set comletion date with already existing date.

Parameters

date	Given date.

4.16.3.14 setCompletionDate() [2/2]

```
void Task::setCompletionDate (
             std::string date )
```

Set completion date with date in string format.

Parameters

date	The string with writte date.

4.16.3.15 setCreationDate() [1/2]

```
void Task::setCreationDate (
             Date date )  [inline]
```

Set comletion date with already existing date.

Parameters

date	Given date.

4.16.3.16 setCreationDate() [2/2]

```
void Task::setCreationDate (
             std::string date )
```

Set creation date with date in string format.

Parameters

date	The string with writte date.

4.16.3.17 setDeletion()

```
void Task::setDeletion (
             bool del )  [inline]
```

Set the deletion for the task.

Parameters

del	If the task is to be deleted or not.

4.16.3.18 setPriority()

```
void Task::setPriority (
             char pr )
```

Setter for priority with given character.

Parameters

pr	Priority in char format (A-Z).

4.16.3.19 text()

```
std::string& Task::text ( )  [inline]
```

Get reference to the text.

Returns

Reference to the text.

The documentation for this class was generated from the following files:

- task.hpp
- task.cpp

4.17 Tasks Class Reference

Class holding all tasks and to work with them.

```
#include <task.hpp>
```

Classes

- class iterator

  Class for iterator in Tasks.

Public Member Functions

- void addTask (const std::string &line)
- void printTasks (std::ostream &os=std::cout)
- void printAllTasks (std::ostream &os=std::cout)
- void print (std::ostream &os) const
- void sort ()

  Sort all tasks based on their priority.
- Task & at (size_t position)
- Task & addEmpty ()
- void undo (bool print=false)
- void redo (bool print=false)
- size_t size () const
- Task & operator[ ] (size_t index)
- Tasks::iterator begin ()
- Tasks::iterator end ()
- ∼Tasks ()

  Default destructor for destructing all tasks.
- void clear ()

  Destroy all tasks and change tasks.

Private Attributes

- std::vector< Task ∗ > tasks_

  Where all task are stored. As pointers to easily make new pointers to them.
- std::stack< ChangeTask > undo_

  Stack of last changes.
- std::stack< ChangeTask > redo_

  Stack of last undos.

4.17.1 Detailed Description

Class holding all tasks and to work with them.

4.17.2 Member Function Documentation

4.17.2.1 addEmpty()

```
Task & Tasks::addEmpty ( )
```

Adding new (empty) task.

Returns

Reference to the newly constructed task.

4.17.2.2 addTask()

```
void Tasks::addTask (
             const std::string & line )
```

Adding task in string format.

Parameters

line	Task in string format.

4.17.2.3 at()

```
Task & Tasks::at (
            size_t position )
```

Getter for reference of the task at the given index, also make copy for undo.

Parameters

position	What is the index of the task.

Returns

Reference to the task.

4.17.2.4 begin()

```
Tasks::iterator Tasks::begin ( )
```

Begining iterator.

Returns

Newly constructed iterator pointing to the begining.

4.17.2.5 end()

```
Tasks::iterator Tasks::end ( )
```

Ending iterator.

Returns

Newly constructed iterator pointing to the end.

4.17.2.6 operator[]()

```
Task & Tasks::operator[] (
            size_t index )
```

Get Task on the postion through brackets.

Parameters

index	which position.

Returns

Reference to thatt task if it exists.

4.17.2.7 print()

```
void Tasks::print (
            std::ostream & os ) const
```

Print all tasks in its base string format.

Parameters

os	Which stream to use.

4.17.2.8 printAllTasks()

```
void Tasks::printAllTasks (
            std::ostream & os = std::cout )
```

Print all tasks with ther index.

Parameters

os	Which stream to use.

4.17.2.9 printTasks()

```
void Tasks::printTasks (
            std::ostream & os = std::cout )
```

Print tasks that are not done and not marked for deletion with their index.

Parameters

os	Which stream to use.

4.17.2.10 redo()

```
void Tasks::redo (
             bool print = false )
```

Redo last undo.

Parameters

print	Whether to print the change to cout or not.

4.17.2.11 size()

```
size_t Tasks::size ( ) const  [inline]
```

How many tasks it has.

Returns

The size.

4.17.2.12 undo()

```
void Tasks::undo (
             bool print = false )
```

Undo last change.

Parameters

print	Wheter to print the change to cout or not.

The documentation for this class was generated from the following files:

- task.hpp
- task.cpp

Chapter 5

File Documentation

5.1 exception.cpp File Reference

Source file for handling all exceptions.

```
#include "exception.hpp"
```

5.1.1 Detailed Description

Source file for handling all exceptions.

5.2 exception.hpp File Reference

Headder file for handling all exceptions.

```
#include <string>
#include <sstream>
#include <exception>
```

Classes

- class Exception

  Default class for exceptions.
- class NonExistingItemException

  When someone is trying to reach nonexisting task.
- class FileProcessingException

  When the givven file couldn't be accesed.
- class NonGivenSetting

  When there is missing settings to proper start the application.

Enumerations

- enum FILETYPE { **OUTPUT** , **INPUT** }

  if the file is for output or input.
- enum SETTINGTYPE { **OFILE** , **IFILE** , **INTERFACE** }

  What settings is missing, output file, input file or user interface.

5.2.1 Detailed Description

Headder file for handling all exceptions.

5.3 main.cpp File Reference

is the main entrypoint.

```
#include <iostream>
#include <string>
#include <vector>
#include "reader.hpp"
#include "task.hpp"
#include "terminal.hpp"
#include "exception.hpp"
#include <QApplication>
#include "qui.hpp"
```

Functions

- void printHelpArgs ()

  Print all possible arguments when calling program.
- int main (int argc, char ∗∗argv)

5.3.1 Detailed Description

is the main entrypoint.

5.3.2 Function Documentation

5.3.2.1 main()

```
int main (
            int argc,
            char ** argv )
```

Main function of the application.

Parameters

argc	Argument count.
argv	List of arguments.

Returns

Application exit code.

5.4 qui.hpp File Reference

Handling graphical interface.

```
#include <QDialog>
#include <QMainWindow>
#include <QErrorMessage>
#include <QFileDialog>
#include <QListWidgetItem>
#include <string>
#include <typeinfo>
#include "task.hpp"
#include "reader.hpp"
```

Classes

- class MainWindow

  Main window for showing tasks.
- class editwindow

  Window for editing and adding tasks.
- class MyItem

  Derivative of list widget item to store index of the task.
- class findwindow

  Window for editing and adding tasks.

5.4.1 Detailed Description

Handling graphical interface.

Header file for handling GUI.

5.5 reader.cpp File Reference

Cpp file for implementation of reader.hpp.

```
#include "reader.hpp"
#include "task.hpp"
```

5.5.1 Detailed Description

Cpp file for implementation of reader.hpp.

5.6 reader.hpp File Reference

Header file for reading files, arguments and configuration file.

```
#include <string>
#include <set>
#include <fstream>
#include <vector>
#include "task.hpp"
#include "exception.hpp"
```

Classes

- struct Settings

  What is the settings of current program.
- class ArgumentReader

  Read config file and arguments, also save config if needed.
- class Reader

  Reading and saving files with todo.txt syntax in it.

Enumerations

- enum CLIENT { **GUI** , **CLI** , **NONE** }

  User interface.

5.6.1 Detailed Description

Header file for reading files, arguments and configuration file.

5.7 task.hpp File Reference

Source file for classes Task, Tasks and everything related to them.

```
#include <string>
#include <sstream>
#include <iostream>
#include <vector>
#include <algorithm>
#include <stack>
#include "exception.hpp"
```

Classes

- struct Date

  Struct for holding data about given date.
- class Task

  Class for holding all properties of task.
- class ChangeTask

  When changing the task make this class to preserve the old task for undo and redo purposes.
- struct predTask

  Functor for pointer to task to sort vector with task pointer.
- class Tasks

  Class holding all tasks and to work with them.
- class Tasks::iterator

  Class for iterator in Tasks.

Functions

- void bindStrings (const std::vector< std::string > &parts, size_t start, size_t end, std::string &bind)
- void splitString (const std::string &line, const char splitter, std::vector< std::string > &parts)
- std::ostream & operator<< (std::ostream &os, const Date &date)
- bool operator< (const Date &date1, const Date &date2)
- Date convertDate (const std::string &writtenDate)
- std::ostream & operator<< (std::ostream &os, const Task &task)
- bool operator< (const Task &task1, const Task &task2)

5.7.1 Detailed Description

Source file for classes Task, Tasks and everything related to them.

Headder file for classes Task, Tasks and everything related to them.

5.7.2 Function Documentation

5.7.2.1 bindStrings()

```
void bindStrings (
            const std::vector< std::string > & parts,
            size_t start,
            size_t end,
            std::string & bind )
```

Put together strings from vector (start to end) to one string.

Parameters

parts	String parts in vector.
start	First index of string from vector that will be used.
end	First index of string that won't be used.
bind	New constructed string.

5.7.2.2 convertDate()

```
Date convertDate (
            const std::string & writtenDate )
```

Convert date from string in format y-m-d.

Parameters

writtenDate	String with this format.

Returns

Newly constructed Date.

5.7.2.3 operator<() [1/2]

```
bool operator< (
            const Date & date1,
            const Date & date2 )
```

To compare dates between each other.

Parameters

date1	First date.
date2	Second date.

Returns

If the first was earlier.

5.7.2.4 operator<() [2/2]

```
bool operator< (
            const Task & task1,
            const Task & task2 )
```

To compare tasks between eachother.

Parameters

task1	First tasks.
task2	Second task.

Returns

If the first task has less "priority" (deletion - done - priority - completion date - creation date).

5.7.2.5 operator<<() [1/2]

```
std::ostream& operator<< (
            std::ostream & os,
            const Date & date )
```

To use default << operator to print date.

Parameters

os	Which stream to use.
date	Which date wil be putted to the stream.

Returns

Reference to the stream.

5.7.2.6 operator<<() [2/2]

```
std::ostream& operator<< (
            std::ostream & os,
            const Task & task )
```

<< operator for task.

Parameters

os	Reference to the used stream.
task	Which task will be used.

Returns

Reference to the stream.

5.7.2.7 splitString()

```
void splitString (
            const std::string & line,
            const char splitter,
            std::vector< std::string > & parts )
```

Split spring based on given splitter.

Parameters

line	Which line is going to be split.
splitter	By which character I am going to split.
parts	Where to put all the parts.

5.8 terminal.cpp File Reference

Source file for running application in terminal.

```
#include "terminal.hpp"
```

Functions

- void printEditPart (const std::string &text, std::string &before)
- void printEditDate (const std::string &text, const Date &date)
- void edit (Task &task, std::string &text)
- void printHelp ()

  print all possible calls in terminal app.
- void terminalRun (Tasks &tasks, Reader &reader, const std::string &ofile)

5.8.1 Detailed Description

Source file for running application in terminal.

5.8.2 Function Documentation

5.8.2.1 edit()

```
void edit (
            Task & task,
            std::string & text )
```

Edit or add task dialog.

Parameters

task	What is the task.
text	What to write after.

5.8.2.2 printEditDate()

```
void printEditDate (
             const std::string & text,
             const Date & date )
```

When edditing print date part of a dialog.

Parameters

text	What is the text to be shown on the beggining.
date	Which was the date beforehand.

5.8.2.3 printEditPart()

```
void printEditPart (
             const std::string & text,
             std::string & before )
```

When edditing print one part of a dialog.

Parameters

text	What is the text to be shown on the beggining.
before	What is the old text that is to be edited.

5.8.2.4 terminalRun()

```
void terminalRun (
             Tasks & tasks,
             Reader & reader,
             const std::string & ofile )
```

Main loop for running terminal application.

Parameters

tasks	What are the tasks.
reader	Which reader is to be used. For saving files.
ofile	Where will the tasks be saved in an output file.

5.9 terminal.hpp File Reference

Headder file for running application in terminal.

```
#include "task.hpp"
#include "reader.hpp"
#include "exception.hpp"
#include <iostream>
```

Functions

- void printEditPart (const std::string &text, std::string &before)
- void printEditDate (const std::string &text, const Date &date)
- void terminalRun (Tasks &tasks, Reader &reader, const std::string &ofile)
- void edit (Task &task, std::string &text)
- void printHelp ()

  print all possible calls in terminal app.

5.9.1 Detailed Description

Headder file for running application in terminal.

5.9.2 Function Documentation

5.9.2.1 edit()

```
void edit (
            Task & task,
            std::string & text )
```

Edit or add task dialog.

Parameters

task	What is the task.
text	What to write after.

5.9.2.2 printEditDate()

```
void printEditDate (
            const std::string & text,
            const Date & date )
```

When edditing print date part of a dialog.

Parameters

text	What is the text to be shown on the beggining.
date	Which was the date beforehand.

5.9.2.3 printEditPart()

```
void printEditPart (
            const std::string & text,
            std::string & before )
```

When edditing print one part of a dialog.

Parameters

text	What is the text to be shown on the beggining.
before	What is the old text that is to be edited.

5.9.2.4 terminalRun()

```
void terminalRun (
            Tasks & tasks,
            Reader & reader,
            const std::string & ofile )
```

Main loop for running terminal application.

Parameters

tasks	What are the tasks.
reader	Which reader is to be used. For saving files.
ofile	Where will the tasks be saved in an output file.

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