File Encryption Tool

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Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

main.cpp 3

Chapter 2

File Documentation

2.1 CMakeLists.txt File Reference

Functions

- cmake_minimum_required (VERSION 3.10) project(FileEncryptionTool) set(CMAKE_CXX_STANDARD 11) option(USE_OPENSSL "Use OpenSSL for encryption" ON) option(USE_LIBAKRYPT "Use Libakrypt for encryption" OFF) add_executable(file_encrypt main.cpp) if(USE_OPENSSL) find_package(OpenSSL REQUIRED) if(WIN32) set(OPENSSL_USE_STATIC_LIBS TRUE) include_directories($

2.1.1 Function Documentation

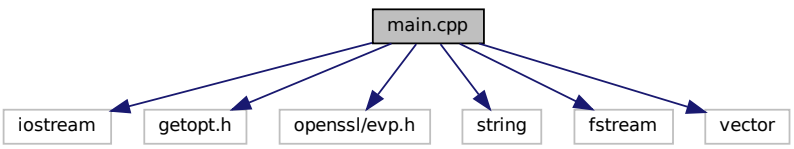
2.1.1.1 cmake_minimum_required()

```
cmake_minimum_required (
             VERSION 3.  10 )
```

2.2 main.cpp File Reference

```
#include <iostream>
#include <getopt.h>
#include <openssl/evp.h>
#include <string>
#include <fstream>
#include <vector>
```

Include dependency graph for main.cpp:



Functions

- void print_usage ()

  Prints usage information for the file encryption tool.
- int main (int argc, char ∗argv[ ])

  Main function for file encryption/decryption.

2.2.1 Function Documentation

2.2.1.1 main()

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

Main function for file encryption/decryption.

This function takes command line arguments to perform encryption or decryption of a specified file using a password-derived key. It uses the OpenSSL library for the cryptographic operations.

Parameters

argc	The number of command line arguments.
argv	The array of command line arguments.

Returns

int Returns 0 if successful, otherwise returns an error code.

Generates a key from the password using PBKDF2.

Uses PKCS5_PBKDF2_HMAC to generate a 256-bit key from the user-provided password.

Parameters

password	User-provided password.
key	Generated key.

Returns

bool Returns true if key generation is successful, false otherwise.

2.2.1.2 print_usage()

```
void print_usage ( )
```

Prints usage information for the file encryption tool.

This function outputs the usage details for encrypting or decrypting files. It explains the command line options required to use the tool.

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