# README: Operating Systems - Project #1: guish (Gnu Island Shell)

**Project Overview**

This project implements a simple UNIX shell program called **guish** (Gnu Island Shell) as a part of the COSC 3346 Operating Systems course. The main objective of the project is to provide hands-on experience in system programming and system call interfaces while working with the UNIX environment. **guish** can execute simple Unix commands and supports internal shell commands such as **exit**, **hist**, and **r n**.

**Features**

1. Execute simple Unix commands or executable program file names with optional arguments: **progname [args]**.
2. Exit the shell with the internal command **exit**.
3. Display the 10 most recent commands entered by the user with the internal command **hist**.
4. Execute the nth command from the history list using the internal command **r n**. Execute the most recent command with just **r**.
5. Customizable shell prompt.
6. Proper error handling and checking of return values.

**Contents**

* **README.md**: This file, which describes the project and its contents.
* **Makefile**: Contains rules for compiling the code, cleaning up the directory, and performing other required tasks.
* **guish.c**: The main source code for the guish shell.
* **test\_data.txt**: Test data for the guish shell.

**Compilation**

1. Ensure you have a C compiler (such as GCC) installed on your system.
2. Navigate to the project directory containing the **Makefile** and the source code.
3. 3. Run the following command to compile the code: “make”

This will compile the **guish.c** file and produce an executable named **guish**.

**Usage**

To run the **guish** shell, execute the following command from the terminal:

./guish

You should now see the shell prompt, where you can start entering commands. Type the command and press Enter to execute it. For example:

bashCopy code

./guish$ ls ./guish$ mkdir test\_directory ./guish$ cd test\_directory ./guish$ touch test\_file.txt ./guish$ hist ./guish$ r 2 ./guish$ exit

**Cleaning up**

To clean up the project directory, run the following command:

make clean

This will remove any object files and the **guish** executable from the project directory.