Vysoké učení technické v Brně
Fakulta informačních technologií

Desktop Calculator Application

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1   Introduction

This desktop calculator application is designed for everyday PC users who need a reliable, simple, and powerful tool for basic and advanced calculations. With a clean interface and a variety of built-in mathematical functions, it offers an intuitive experience for users of all skill levels.

2   System Requirements

Based on the application's interface and behavior, the basic requirements are:

- Operating System: Windows or Linux

- Screen resolution: Minimum 300x500

- Input: Mouse and/or keyboard

- No internet connection required

3   Installation and Launch

To install the Desktop Calculator Application, follow these simple steps:

1. **Run the installer:** Double-click `calculator_setup.exe` to begin the installation process.

2. **Choose installation location:** Select the destination folder where you want the application to be installed (e.g., `C:\Program Files\Calculator`).

3. **Select Start Menu folder (optional):** Choose whether to create a Start Menu shortcut for easy access.

4. **Complete installation:** Click `Install` and wait for the process to finish. Once done, the calculator will be ready to use.

3.1   Launching the Application

After installation, you can start the calculator by:

- Double-clicking the desktop shortcut (if created during installation).

- Searching for "Desktop Calculator" in the Start Menu.

- Running `calculator.exe` directly from the installation folder.

Figure 1: Calculator interface

3.2 Uninstallation

To remove the Desktop Calculator Application from your system:

1. **Locate the uninstaller:** Navigate to the folder where the calculator is installed (typically `C:\Program Files\Calculator`) and run `unins000.exe`.

2. **Confirm uninstallation:** A prompt will appear asking for confirmation. Select `Yes` to proceed with the removal.

3. **Completion:** The uninstaller will delete all application files. Once finished, the calculator will be completely removed from your system.

4 User Interface Overview

The calculator's layout is divided into several intuitive sections. Below is a labeled screenshot of the application:

4.1 Top Section

- **Help Icon ("?")**: Opens the help or user manual. This is useful if you need guidance on how to use the calculator.

- **Expression Field**: Displays the current mathematical expression you are entering.

- **Result Display**: Shows the calculated result in real-time.

4.2 Function Buttons

These are located in the top row of the button grid:

- x^2 – Square
- $\sqrt{2}$ – Square root
- ! – Factorial
- MOD – Modulo operation
- x^n – Power
- $\sqrt[n]{x}$ – n-th root

4.3 Control Buttons

- AC – Clears the entire expression
- DEL – Deletes the last entered digit or symbol

4.4 Numeric and Operator Pad

- Standard number keys (0–9)
- Arithmetic operators: $+$, $-$, $\times$, $\div$
- = – Evaluates the entered expression

5 Features

This calculator supports:

- Basic arithmetic operations: addition, subtraction, multiplication, division
- Advanced math functions: power, square, square root, factorial, modulo, and n-th roots
- Real-time expression evaluation
- Keyboard or mouse input

6 Example Usage

6.1 Simple Example

Expression: $5 + 3 \times 2$

Steps:

1. Press: 5, +, 3, *, 2
2. Press: =

Result: 11

6.2 Advanced Example

Expression: $\dfrac{(5! + \sqrt{81})}{2^3} + 7 \times 3^2 - 6$

This expression uses factorial, square root, exponentiation, multiplication, and division.

Steps:

1. Press: `5`, `!` → (result: 120)

2. Press: `+`, $\sqrt{\ }$, `9`, `=` → (result: 3), full expression: $120 + 3$

3. Press: `/`, `2`, `^`, `3` → denominator: $2^3 = 8$

4. Press: `+`, `7`, `*`, `3`, `^`, `2` → $7 \cdot 9$

5. Press: `-`, `6`

6. Press: `=`

Result:

$$\frac{120 + 3}{8} + 7 \cdot 9 - 6 = \frac{123}{8} + 63 - 6 = 15.375 + 57 = \boxed{72.375}$$

7 Project Authors

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