



## Table with drag-drop features

Linh Nguyen  
Research Assistant

[nguyenli@frib.msu.edu](mailto:nguyenli@frib.msu.edu)  
November 02 2024

**MICHIGAN STATE**  

---

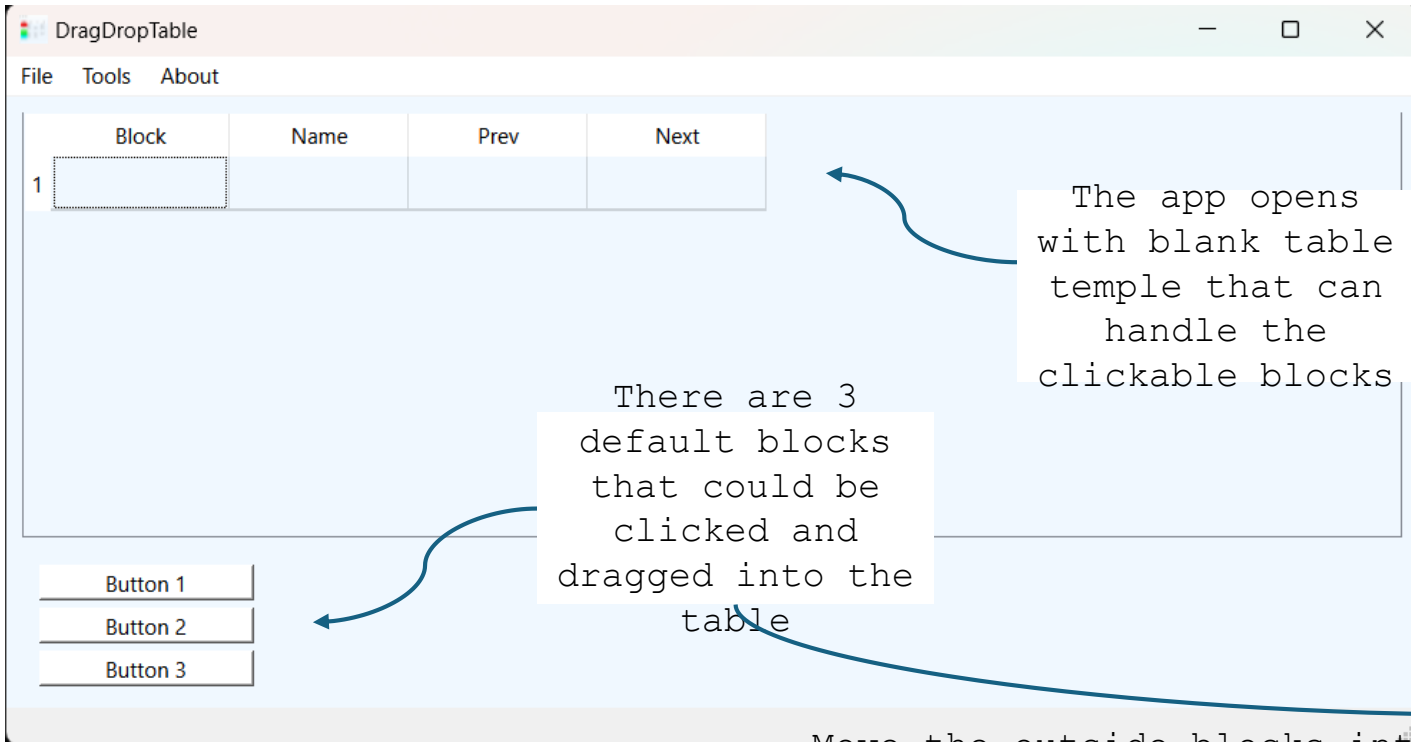
**UNIVERSITY**



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

# Default template when opening the app



The app opens with blank table temple that can handle the clickable blocks

There are 3 default blocks that could be clicked and dragged into the table

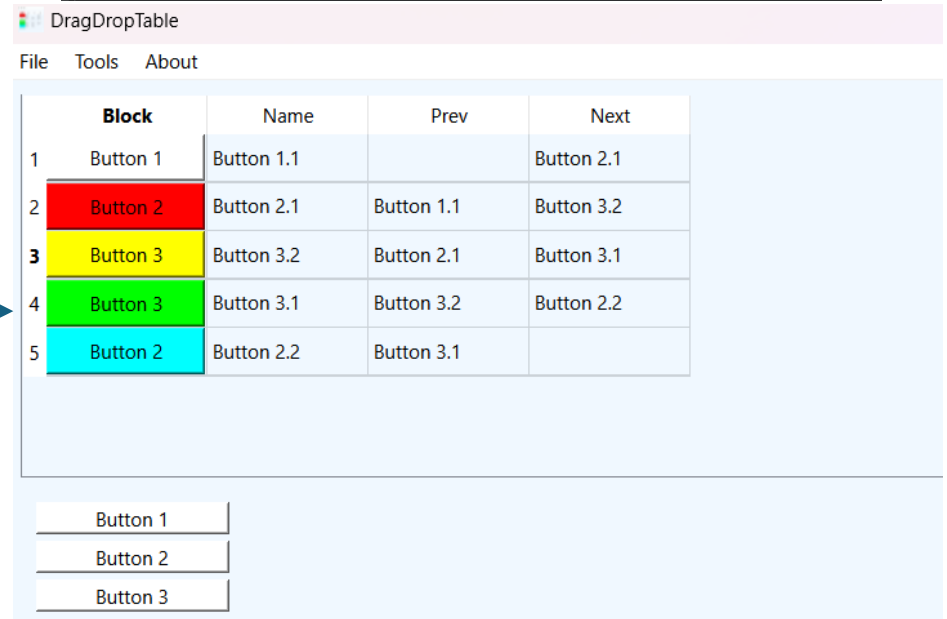
Move the outside blocks into the table

```
// Create draggable buttons
DragButton* button3 = new DragButton("Button 3", nullptr, mTable, "", centralWidget);
DragButton* button2 = new DragButton("Button 2", button3, mTable, "", centralWidget);
DragButton* button1 = new DragButton("Button 1", button2, mTable, "", centralWidget);

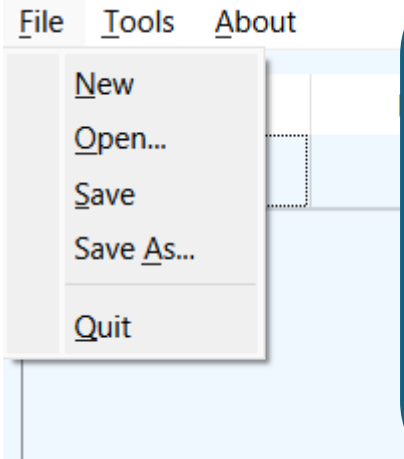
// Resize the buttons (width = 120, height = 50)
button1->setFixedSize(120, 20);
button2->setFixedSize(120, 20);
button3->setFixedSize(120, 20);

QWidget* buttonContainer = new QWidget(centralWidget);
buttonContainer->setFixedSize(300, 80);
// Center the buttons group horizontally
QVBoxLayout* buttonsLayout = new QVBoxLayout(buttonContainer);
buttonsLayout->addWidget(button1);
buttonsLayout->addWidget(button2);
buttonsLayout->addWidget(button3);
buttonsLayout->setAlignment(Qt::AlignLeft | Qt::AlignTop);
buttonsLayout->setSpacing(10);

layout->addWidget(buttonContainer, 0, Qt::AlignLeft);
```

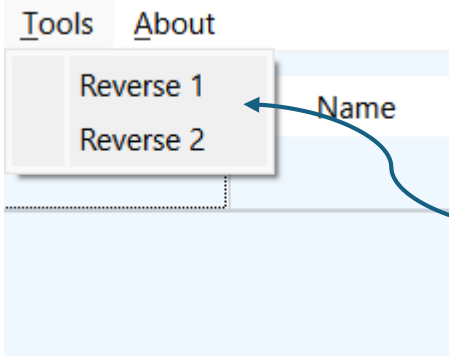


# Menu bar and About dialog



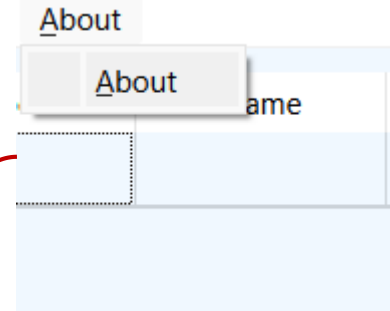
Files menu contains 5 different functions:

- New: Open a new blank template.
- Open: Open the file with \*ddg tail contain saved table
- Save: save data to current opened file or new file (depends)
- Save As: Save to new file or overwrite certain file
- Quit: Quit program



In the Tools menu, there are 2 reverse options that would reorder the table in the reversed order. Both lead to 1 outcome, however, each one has its own method in reversing all the blocks (mention later)

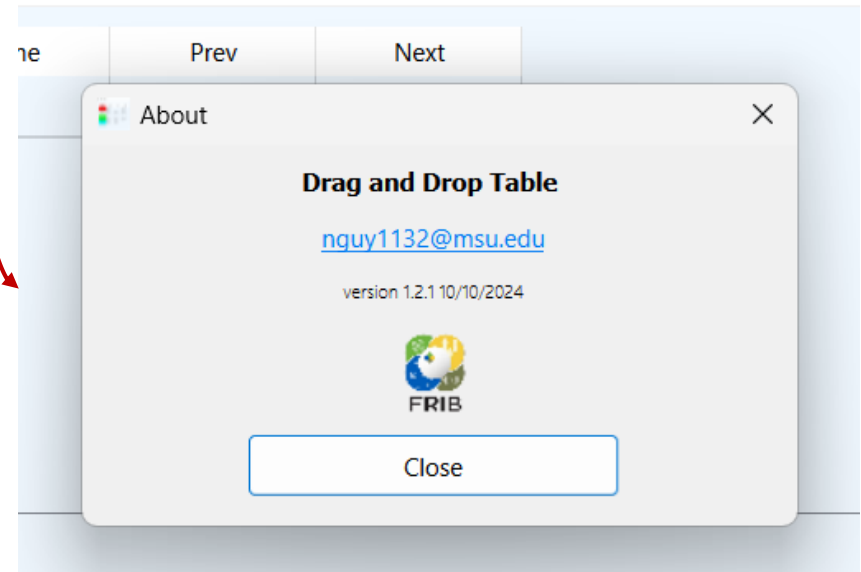
Step 1:



About Dialog designing with QT UI, include:

- Email link to outlook
- Version and Logo

Step 2:



# Working with blocks and table

DragDropTable

File Tools About

	Block	Name	Prev	Next
1	Button 1	Button 1.1		Button 2.1
2	Button 2	Button 2.1	Button 1.1	Button 3.1
3	Button 3	Button 3.1	Button 2.1	Button 2.2
4	Button 2	Button 2.2	Button 3.1	Button 3.2
5	Button 3	Button 3.2	Button 2.2	

Button 1

Button 2

Button 3

DragDropTable

File Tools About

	Block	Name	Prev	Next
1	Button 1	Button 1.1		Button 2.1
2	Button 2	Button 2.1	Button 1.1	Button 3.2
3	Button 3	Button 3.2	Button 2.1	Button 3.1
4	Button 3	Button 3.1	Button 3.2	Button 2.2
5	Button 2	Button 2.2	Button 3.1	

Button 1

Can drag the blocks inside the table

Each row contains one blocks with it data in the linked list like previous block, next block. This information will auto change if you move the blocks to the different position

Drag these blocks into the table. The table will auto create the name base on the block id such as button 1.1, button 1.2

3	Button 3	new name	Button 2.1	Button 3.1
4	Button 3	Button 3.1	new name	Button 2.2

Rename the block

# Copy and Multiple selections with keyboard

	Block	Name	Prev	Next
1	Button 1	Button 1.1		Button 3.1
2	Button 3	Button 3.1	Button 1.1	Button 2.2
3	Button 2	Button 2.2	Button 3.1	new name
4	Button 3	new name	Button 2.2	Button 2.1
5	Button 2	Button 2.1	new name	

**Shift+Click**  
to select  
and move  
multiple  
blocks into  
new  
position

	Block	Name	Prev	Next
1	Button 1	Button 1.1		Button 2.2
2	Button 2	Button 2.2	Button 1.1	Button 2.1
3	Button 2	Button 2.1	Button 2.2	Button 3.1
4	Button 3	Button 3.1	Button 2.1	new name
5	Button 3	new name	Button 3.1	

**Control+Click** to copy and  
insert a new block from the  
table

File Tools About

	Block	Name	Prev	Next
1	Button 1	Button 1.1		Button 2.2
2	Button 2	Button 2.2	Button 1.1	Button 2.1
3	Button 2	Button 2.1	Button 2.2	Button 3.1
4	Button 3	Button 3.1	Button 2.1	copy Button 2.1
5	Button 2	copy Button 2.1	Button 3.1	new name
6	Button 3	new name	copy Button 2.1	

**Control+ Shift + Click** to copy  
and insert multiple new block  
from the table

2	Button 2	Button 2.2	Button 1.1	Button 2.1
3	Button 2	Button 2.1	Button 2.2	Button 3.1
4	Button 3	Button 3.1	Button 2.1	copy Button 2.1
5	Button 2	copy Button 2.1	Button 3.1	new name
6	Button 3	new name	copy Button 2.1	copy copy Butt...
7	Button 2	copy copy Butt...	new name	copy Button 3.1
8	Button 3	copy Button 3.1	copy copy Butt...	