

Undo functionality.

Model (ExpenseTrackerModel.java)

Add Stack for Undo:

Add a `Stack<Transaction>` field called `undoStack` to keep track of recently removed transactions.

```
private Stack<Transaction> undoStack = new Stack<>();
```

Update `removeTransaction(Transaction t)` Method:

Implement a method to remove a transaction from the list and push it onto `undoStack`.

```
public void removeTransaction(Transaction t) {  
    transactions.remove(t);  
    undoStack.push(t);  
}
```

Add `undoLastRemoval()` Method:

Restore the last removed transaction from the stack.

```
public void undoLastRemoval() {  
    if (!undoStack.isEmpty()) {  
        transactions.add(undoStack.pop());  
    }  
}
```

Controller (ExpenseTrackerController.java)

Add `removeTransaction(int rowIndex)` Method:

Remove a transaction by row index and update the view.

```
public void removeTransaction(int rowIndex) {  
    Transaction t = model.getTransactions().get(rowIndex);  
    model.removeTransaction(t);  
    refresh(); // Re-render updated table  
}
```

Add `undo()` Method:

Call the model's undo method and update the view.

```
public void undo() {  
    model.undoLastRemoval();  
    refresh();  
}
```

View (ExpenseTrackerView.java)

Add "Remove Transaction" and "Undo" Buttons:

```
private JButton removeBtn = new JButton("Remove Selected");
private JButton undoBtn = new JButton("Undo");
```

Set Up Action Listeners:

Expose these buttons via getters so the controller can register action listeners.

```
public JButton getRemoveBtn() { return removeBtn; }
public JButton getUndoBtn() { return undoBtn; }
```

Layout:

Add `removeBtn` and `undoBtn` to the `buttonPanel`.

Wiring in Controller Constructor

Register event handlers:

```
view.getRemoveBtn().addActionListener(e -> {
    int selectedRow = view.getTransactionsTable().getSelectedRow();
    if (selectedRow >= 0) {
        removeTransaction(selectedRow);
    }
});
```

```
view.getUndoBtn().addActionListener(e -> undo());
```

Result

- A user can select a transaction row and click “**Remove Selected**” to remove it.
- The “**Total Cost**” updates accordingly.
- Clicking “**Undo**” restores the last deleted transaction and recalculates the total.