**1. Use Case: Add a step to a flowchart**

**1.1 Description:**

This use case determines how a user adds a step to a flowchart


**1.2 Actors:**

      2.1 User

      2.2 Flowchart


**1.3 Preconditions:**

User is viewing canvas


**1.4 Basic Flow of Events:**

      1 Use case begins when the user opens the window to add a step

      2 Display edit window, can include saved information

      3 The user selects the type of step desired

      4 The user enters the description of the step

      5 After saving, a template will be shown

      6 After clicking submit the change will be added and the user will be taken back to the canvas


**1.5 Alternative Flow:**

      1.5.1 Cancel action

      If in step 1-5 the user decides not to submit then they can exit the edit window without making a change


**1.6 Postconditions:**

      1.6.1 Success

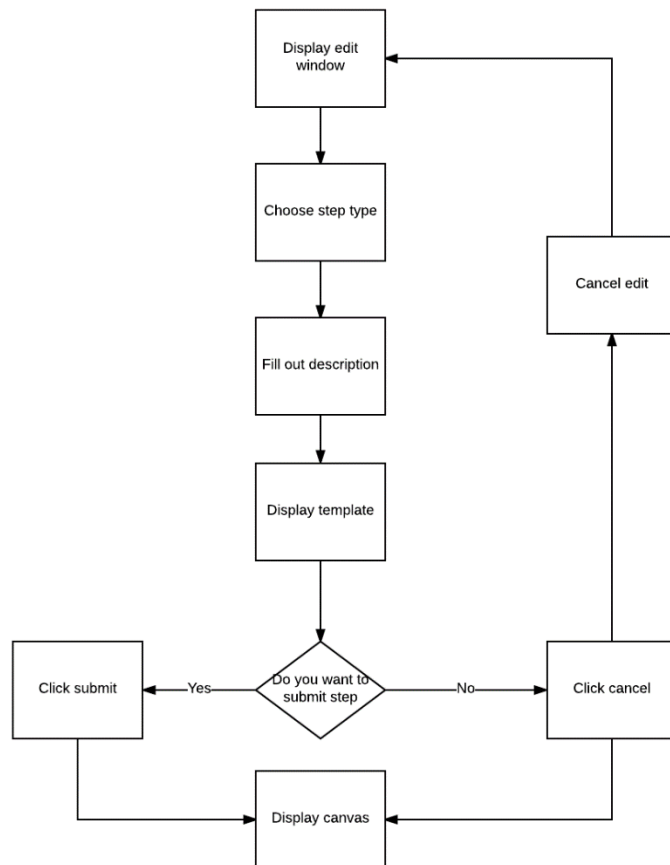      A step is added to chart and the canvas is displayed

      1.6.2 Failure

if user does not enter a discription for the step then an error will be displayed and no change will happen to the chart

**1.7 Special Requirements:**

1. A step may have no more than five children

**1.8 Add step Flowchart**

```
            ┌──────────────┐
            │ Display edit │◄─────────────────────────┐
            │   window     │                          │
            └──────┬───────┘                          │
                   │                                  │
                   ▼                                  │
            ┌──────────────┐                          │
            │Choose step type│                ┌──────────────┐
            └──────┬───────┘                  │ Cancel edit  │
                   │                          └──────▲───────┘
                   ▼                                  │
            ┌──────────────┐                          │
            │Fill out description│                    │
            └──────┬───────┘                          │
                   │                                  │
                   ▼                                  │
            ┌──────────────┐                          │
            │Display template│                        │
            └──────┬───────┘                          │
                   │                                  │
                   ▼                                  │
  ┌──────────┐  ◄─Yes─  ◇Do you want to◇  ─No─►  ┌──────────┐
  │Click submit│       ◇ submit step ◇           │Click cancel│
  └────┬─────┘                                   └────┬─────┘
       │              ┌──────────────┐                │
       └─────────────►│Display canvas│◄───────────────┘
                      └──────────────┘
```

**2. Use Case: Add conditional loops to a flowchart**


**2.1 Description:**

User can add a step which may point to a farther step or a previous one depending of a conditon


**2.2 Actors:**

      2.2.1 User

      2.2.2 Flowchart


**2.3 Preconditions:**

User is vewing window to edit or add a step


**2.4 Basic Flow of Events:**

      1. Use case begins when user opens window to edit or add a step

      2. Display edit window with saved info or a blank window

      3. Form has the option to choose a conditional

      4. Form has an option to state the next step to follow

      5. User will be prompted for the condition to be checked as well as all outcomes

      6. After making selections a template will appear showing the step


**2.5 Alternative Flow:**

      2.5.1 Cancel

      If user decides to cancel the action they can close the edit window without making a change


      2.5.2 No condition supplied

      If no condition is supplied error will be displayed stating that one must be present


      2.5.3 Does not loop

If user does not select a previous step to loop back to than an error is displayed

## 2.6 Postconditions:

2.6.1 Success

If the conditional loop is added then it will be displayed on the canvas

2.6.2 Failure

If the loop is not added then the user will receive an error message

## 2.7 Special Requirements:

1. One child must be an existing step

## 2.8 Add Conditional Flowchart:

```
┌──────────────┐                                    ┌──────────────┐
│ Open edit    │◄───────────────────────────────────│              │
│ window       │                                    │              │
└──────┬───────┘                                     │              │
       │                                             │              │
       ▼                                             │              │
┌──────────────┐                                     │              │
│ Choose       │                                     │              │
│ conditional  │                                     │              │
│ step         │                                     │              │
└──────┬───────┘                                     │              │
       │                                             │              │
       ▼                                             │              │
┌──────────────┐                                     │              │
│ Specify      │                                     │              │
│ conditional  │                                     │              │
└──────┬───────┘                                     │              │
       │                                             │              │
       ▼                                             │              │
┌──────────────┐                                     │              │
│ Specify step │                                     │              │
│ to loop      │                                     │              │
│ back to      │                                     │              │
└──────┬───────┘                                     │              │
       │                              ┌──────────────┴───┐
       ▼                              │ Cancel edit. user │
┌──────────────┐                      │ is free to make   │
│ Specify other│                      │ new edit          │
│ outcome if not│                     └──────────▲────────┘
│ looping back │                                 │
└──────┬───────┘                                 │
       │                                         │
       ▼                                         │
┌──────────────┐                                 │
│ Show template│                                 │
│ in edit      │                                 │
│ window       │                                 │
└──────┬───────┘                                 │
       │                                         │
       ▼                                         │
              ◇ Do you want to ◇                 │
┌──────────┐ Yes    submit    No  ┌──────────────┴┐
│ Click    │◄──────◇        ◇────►│ Click cancel  │
│ submit   │         ◇    ◇        │               │
└────┬─────┘           ◇◇          └──────┬────────┘
     │                                    │
     │          ┌──────────────┐          │
     └─────────►│ Show canvas  │◄─────────┘
                └──────────────┘
```