

# This Happens, Then That Happens

## Idea/Introduction

Conditional logic occurs in code often. It explains what your app should do in very specific circumstances. We can visually represent conditional logic with a flow chart. A flow chart outlines how the screens and actions within them are connected and provides a clear understanding of how the full app functions.

## Learning Outcome

By the end of the activity, participants should be able to visually diagram every action from start to finish with a flow chart.

## Time

10 min

## Definitions

**Flow Chart:** A visual diagram showing every action and screen in a computer program.

**Conditional Block (or Decision Block):** A part of a flow chart, typically represented as a diamond, that shows when there are two or more possible outcomes from an action in the app.

## Activity

### Step 1. Introduce the topic

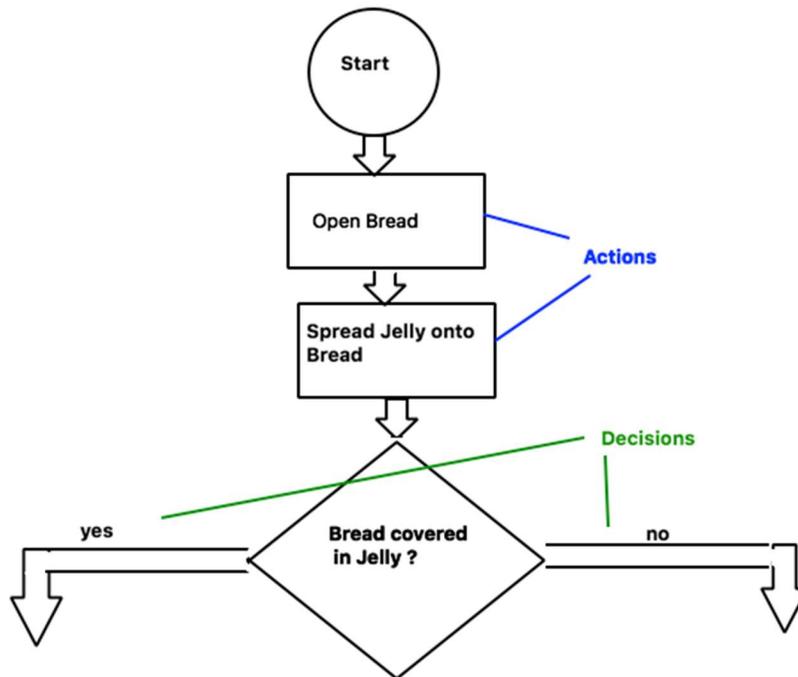
Like a wireframe, a flow chart is a map of what an app does. It is another tool to imagine the flow and function of an app.

### Step 2. Create a flow chart

To begin a flow chart activity, have participants map out all the actions their app will have from start to finish. Have them add in conditional blocks, where the app user's decision will change the flow of the app. Have them connect the yes and no ends of the conditional blocks to the correct state of the app.

A flow chart should be created before the code is written. It can help group together pieces of related code and simplify coding. It can also help reveal issues with the app (things you didn't consider) with the conditional blocks. As participants move forward with coding their app, the flow chart should serve as a "blueprint" version of the app so that participants can try to uncover all of the ways a user can interact with their app.

Example flow chart with labels - making a peanut butter and jelly sandwich:



#### Framing for slower-paced participants

To help participants understand conditional logic, it is great to get them building in the App Lab environment. Here is a great, simplified game to help them with this concept in Play Lab (a simpler version of App Lab):

Bee Conditionals - help the bee get honey:

<https://studio.code.org/s/course2/stage/13/puzzle/1>

#### Framing for faster-paced participants

It is important for advanced participants to get time to build in App Lab to let their knowledge frame what they build. Here is a course they can work through in App Lab if they want to understand Conditionals further.

<https://studio.code.org/s/course3/stage/7/puzzle/1>