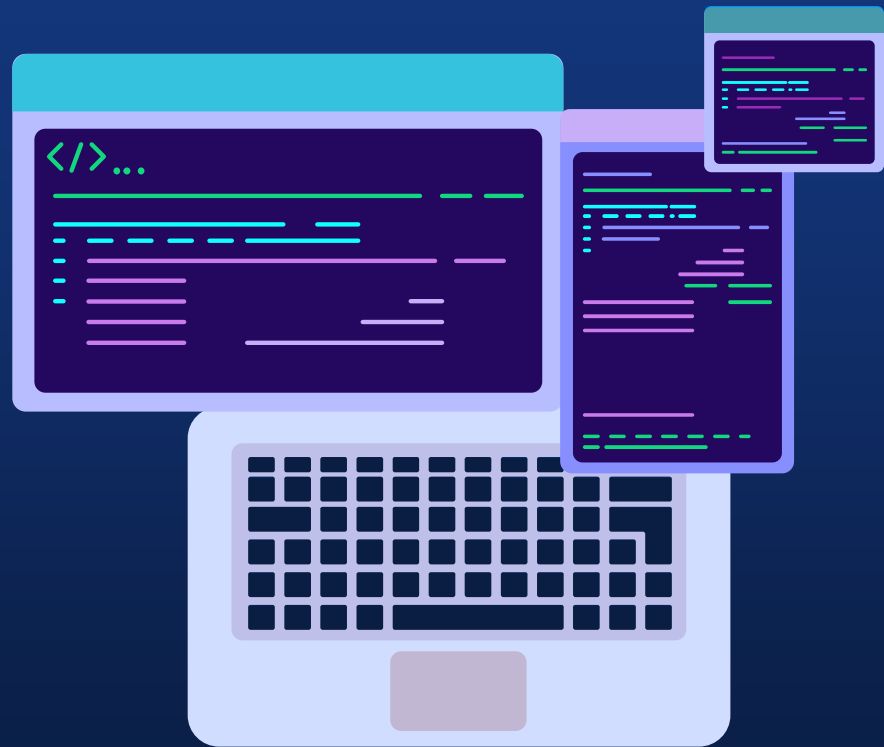


Circuitly

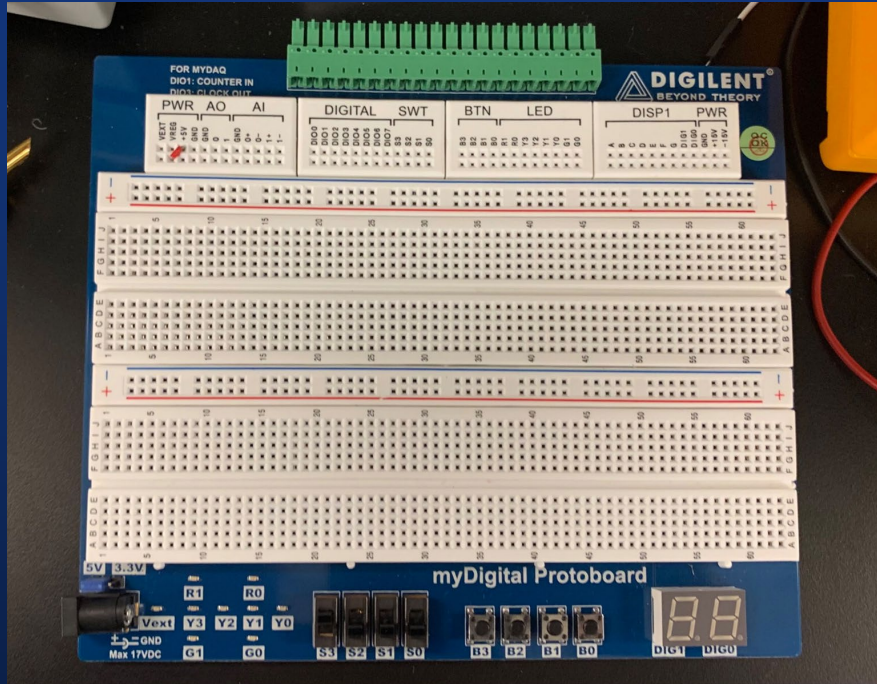
By Alexys Lee





OUTLINE

- WHAT IS CIRCUITLY?
- WHAT PROBLEM DOES CIRCUITLY SOLVE?
- CONSIDERATIONS
- ROADBLOCKS
- HOW I OVERCAME ROADBLOCKS
- THE FUTURE



WHAT IS CIRCUITLY

- Circuitly is meant to mimic the breadboards in the lab.
- This is not meant to be a replacement.

TRADITIONAL BREADBOARDS VS CIRCUITLY



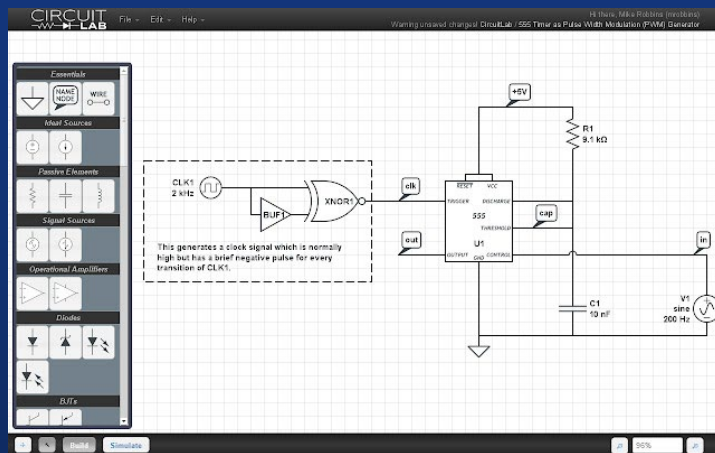
PROBLEM

Breadboards breakdown over time due to wear and tear, and can break due to user error



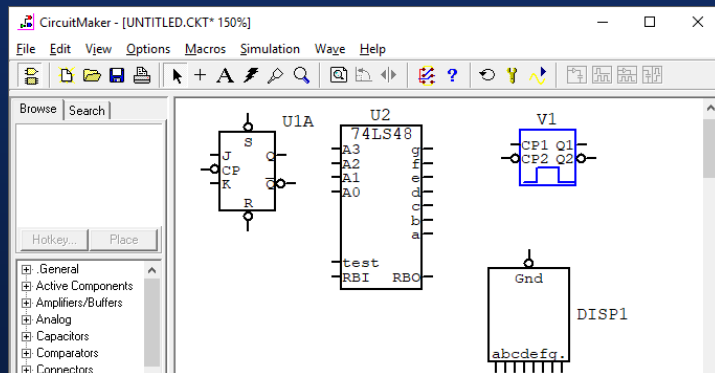
SOLUTION

Create a virtual breadboard that can be used in conjunction with physical breadboards



WHY NOT OTHER SOFTWARE?

While there are already similar solutions, they do not offer an experience of a breadboard.





THINGS THAT HAD TO BE CONSIDERED

LANGUAGE

I went in between some languages but settled on Java

USER INTERFACE

The main reason for choosing Java was for JavaFX

EVENT HANDLING

Event handling was a completely new skill



WIRE MANAGEMENT

By far the trickiest part of this whole project

STATE MANAGEMENT

Figure out how to keep track of all columns at all times

TRACK ALL EVENTS

Some events play off one another





MAJOR ROADBLOCKS

- Unable to get JavaFX running
- SceneBuilder ended up not being useful
- Every solved major problem resulted in a restart



WHAT I LEARNED FROM EACH ITERATION

FIRST ITERATION



BASICS IN UI

I got a decent grasp on how the JavaFX components work

SECOND ITERATION



EVENT HANDLING

This where I got a handle on how event handling is best used

THIRD ITERATION



A BETTER FOUNDATION

The current foundation of the project



HOW DID I OVERCOME ROADBLOCKS?

ORACLE DOCUMENTATION

Oracle provides documentation
over JavaFX

YOUTUBE

YouTube has tons of Java
tutorials. Alex Lee was one I
went back to often

STACK OVERFLOW

For common problems like how
to make a line follow your
mouse

A LOT OF PRINT STATEMENTS

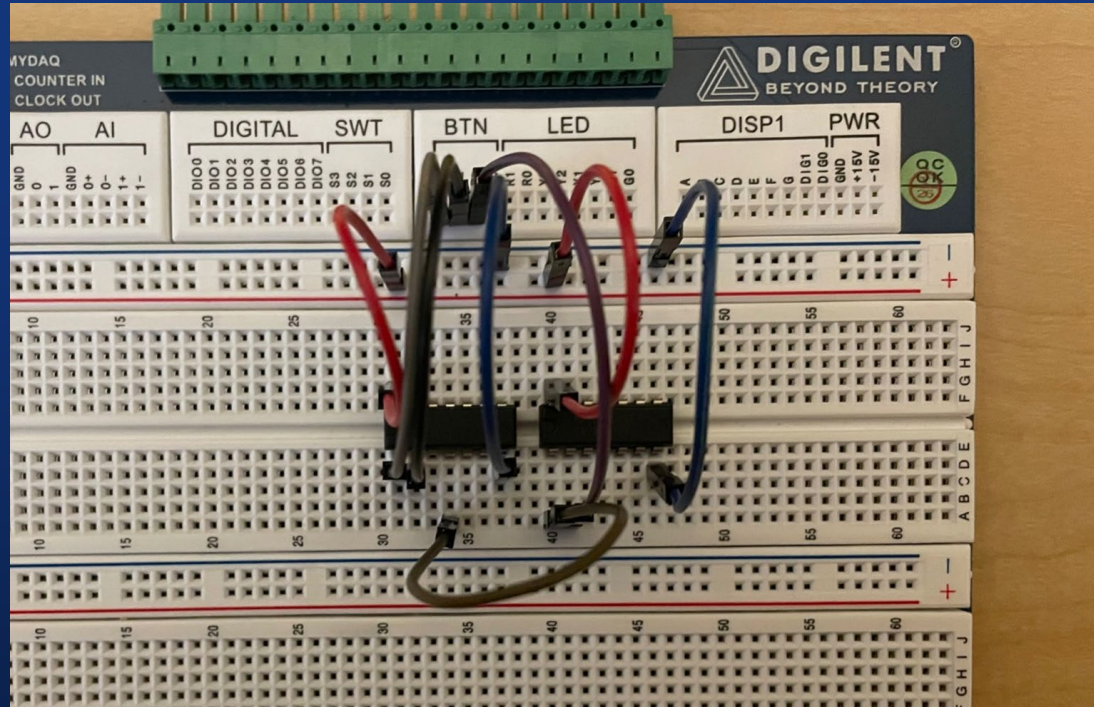
Any time I ran into a problem, I
would print out any information I
was working with



THE FUTURE

Given more time,
what would I do?

- Focus heavily on wire management
- This project lacks a nice layout
- Bring in aspects like timing diagrams, and truth tables



WE WILL RECREATE THIS CIRCUIT ON CIRCUITLY



QUESTIONS?