

APSC 1001

Thunkable App Development Environment – Handwash Timer

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Photo: Kartik Bulusu

Build a Handwash Timer - Motivation

Myriam Sidibe: The simple power of handwashing



Source:

https://www.ted.com/talks/myriam_sidibe_the_simple_power_of_hand_washing?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare

Centers for Disease Control and Prevention

Follow Five Steps to Wash Your Hands the Right Way

Washing your hands is easy, and it's one of the most effective ways to prevent the spread of germs. Clean hands can stop germs from spreading from one person to another and throughout an entire community—from your home and workplace to childcare facilities and hospitals.

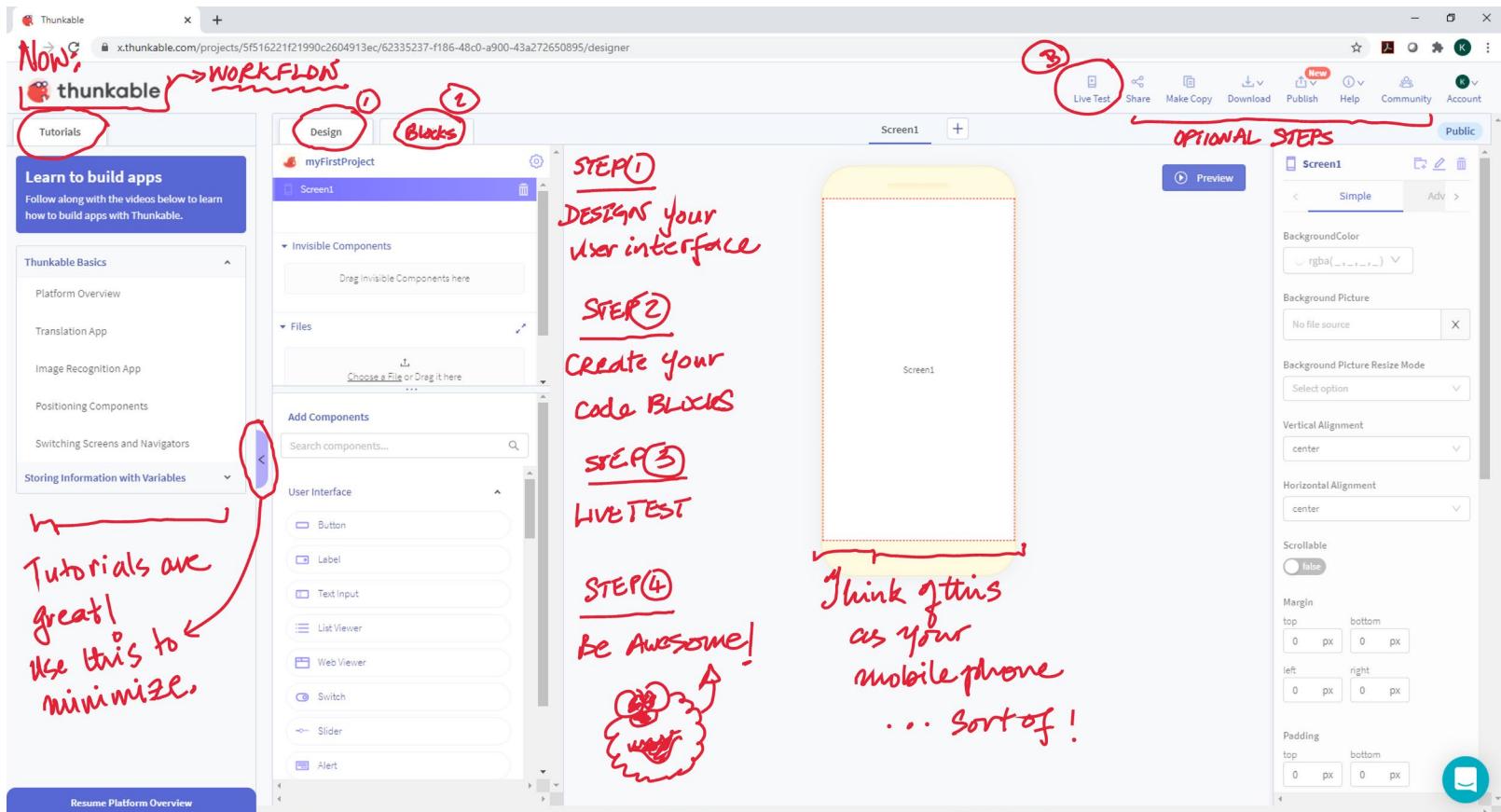
Follow these five steps every time.

1. **Wet** your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
2. **Lather** your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.
3. **Scrub** your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
4. **Rinse** your hands well under clean, running water.
5. **Dry** your hands using a clean towel or air dry them.

Source:

<https://www.cdc.gov/handwashing/when-how-handwashing.html>

Build a 20 second Handwash Timer - Goals



Goals:

- 1. Create a UI with**
 - i. Timer**
 - ii. Text_to_Speech**
 - iii. Image**
 - iv. Start Button**
 - v. Stop Button**
 - vi. Labels**
- 2. Create CODE BLOCKS for**
 - i. START Button**
 - ii. Slide Show Function**
 - iii. Count down timer**
 - iv. FINISH Button**
 - v. Label, Text and Speech**

Step 1: Create the User Interface (UI)

The screenshot shows the Thunkable app interface. On the left, the project tree for "Handwash Timer" shows "Screen1" with components "Label1", "Row_Image", "Image1", "Row_CountDown", "Label4", and "Label3_Count". Below it, the "User Interface" section lists "Button", "Label", "Text Input", and "List Viewer". The main workspace displays a smartphone-like screen titled "Handwash Timer" featuring a handwashing icon and the text "Created by Anagaja Design from Noun Project". A timer at the bottom shows "Countdown: 20 seconds" with a "START" button. The top navigation bar includes "Live Test", "Share", "Make Copy", "Download", "New", "Help", "Community", and "Account". To the right, the "Screen1" properties panel is open, showing settings for "BackgroundColor" (rgba(200, 177, 139, 1)), "Vertical Alignment" (center), and "Horizontal Alignment" (center). A preview button is also visible.

1. Create 5 Rows
2. Each row has an
 1. Image
 2. Button or
 3. Labels
3. Two rows are made invisible

GWU
Buff
Color:
 $R = 200$
 $G = 177$
 $B = 139$
 $A = 100$

GWU Blue
Color:
 $R = 0$
 $G = 64$
 $B = 101, A = 100$

Step 2: Create CODE BLOCKS



Design

Blocks

Control

Logic

Math

Text

Lists

Color

Device

Objects

Variables

Functions

Text_To_Speech1

Timer1

Label1

Image1

Row_Image

Label4

Label3_count

Label2

Row_CountDown

Button1_START

Row_START

Button2_FINISH

Row_FINISH

Label5_TargetReached

Row_TargetReached

Screen1

Any Component

when [Button1_START v Click v

do [in Timer1 v call Start v
from [Label3_count v set Text v to 20
from [Image1 v set Picture v to noun_Hand Wash_2291867_STEP2Lather.png v
DoSlideShow
from [Image1 v set Picture v to noun_dry your hand_3344664_STEP5DryYourHands.png v
wait 2 seconds]

Start Button Code Blocks

when [Timer1 v Fires v

do [from [Timer1 v set Enabled v to true v
from [Label3_count v set Text v to from [Label3_count v get Text v - 1 v
if from [Label3_count v get Text v = 0 v
do [from [Row_FINISH v set Visible v to true v
from [Label5_TargetReached v set Visible v to true v
from [Label5_TargetReached v set Text v to "Target handwash time reached"
from [Timer1 v set Enabled v to false v
in [Text_To_Speech1 v call Speak v
text "Target handwash time reached"
from [Image1 v set Picture v to noun_dry your hand_3344664_STEP5DryYourHands.png v
wait 2 seconds]

Timer Code Blocks

when [Button2_FINISH v Click v

do [from [Button2_FINISH v set Visible v to false v
from [Label5_TargetReached v set Text v to "Click on START to reset timer"
in [Text_To_Speech1 v call Speak v
text "Click on START to reset timer"
from [Label3_count v set Text v to 20

Finish Button Code Blocks

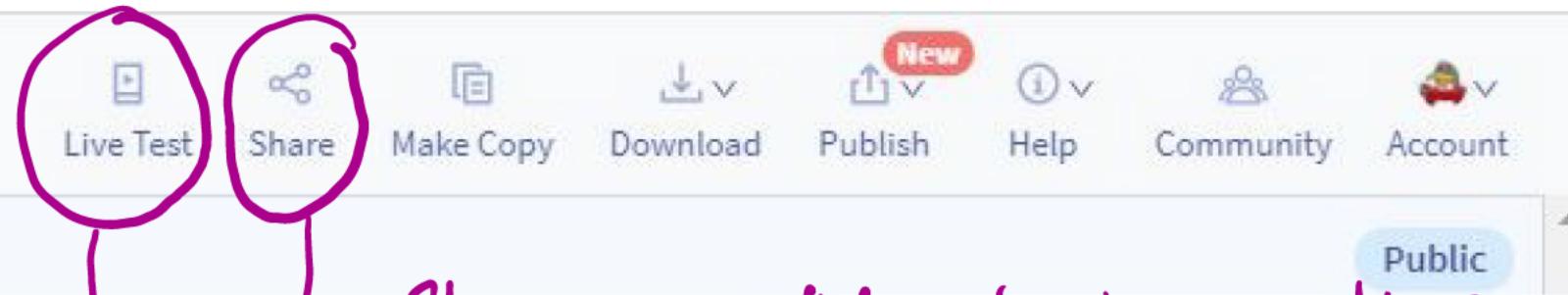
DoSlideShow

```
from [Image1 v set Picture v to noun_Hand Washing_3344658_STEP1Rinse.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Wash_2291867_STEP2Lather.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Washing_3344661_STEP3NailsPalms.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Washing_3344656_STEP3Fingers.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Washing_3344667_STEP3Thumbs.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Washing_3447148_STEP3BackofHands.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_Hand Washing_3344654_STEP3Scrub.png v  
wait 2 seconds  
from [Image1 v set Picture v to noun_washing hands_3364077_STEP4RinseAgain.png v  
wait 2 seconds
```

Slide Show Function



Step 3: Live Test



Share: 1. Will help in creating a shareable weblink
that you can use to submit your assignment
2 And share it with anyone who is awesome.

Live Test:

1. Will give you a clear and clean
working version of your APP and

2. Will test the same version
on Thunkable Live installed
on your mobile phone.