

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

The image shows a screenshot of the Thunkable web application builder interface. The interface is annotated with red handwritten notes and circles. At the top left, there is a note "Now!" with an arrow pointing to the "WORKFLOWS" menu. Below that, "Tutorials" is circled, and a note says "Tutorials are great! Use this to minimize." with an arrow pointing to the "Learn to build apps" section. In the "Add Components" panel, "Button" is circled with a "1" and "Blocks" is circled with a "2". In the center, a mobile phone mockup is shown with a red box around it, and a note says "Think of this as your mobile phone ... sort of!". To the right of the mockup, there are four steps written in red: "STEP (1) DESIGN your user interface", "STEP (2) Create your code BLOCKS", "STEP (3) LIVE TEST", and "STEP (4) Be Awesome!". At the top right, "Live Test" is circled with a "3" and "OPTIONAL STEPS" is written in red. The interface also shows a "Preview" button and a "Public" button.

Step 1: Create the User Interface (UI)

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

thinkable

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

Start Button Code Blocks

```
when Button1_START Click
do
  in Timer1 call Start
  from Label3_count set Text to 20
  from Image1 set Picture to noun_Hand Wash_2291867_STEP2Lather.png
  DoSlideShow
  from Image1 set Picture to noun_dry your hand_3344664_STEP5DryYourHands.png
  wait 2 seconds
```

Timer Code Blocks

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

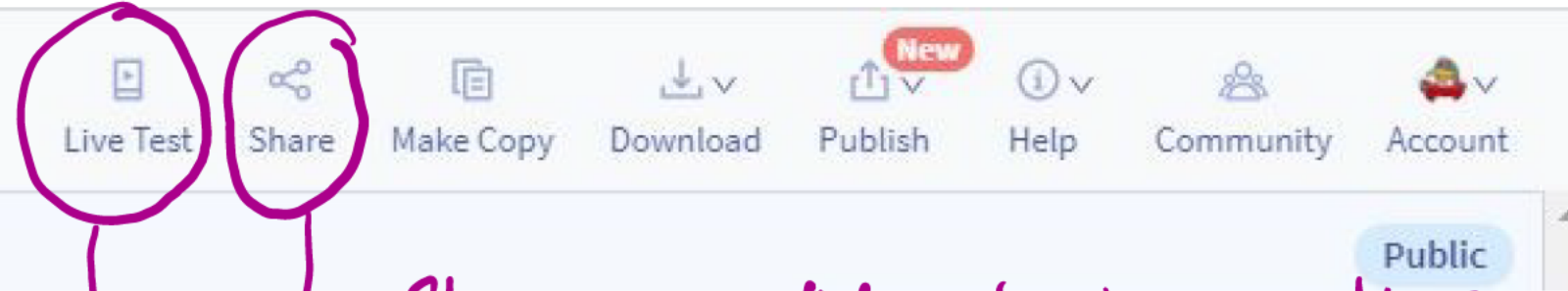
Finish Button Code Blocks

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

Slide Show Function

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

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.