App count down timer

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Possible user interactions (verbs)

1. User **selects** amount of time to count down
2. User **starts** count down by tapping button 'Start’
3. User **pauses** count down progress by tapping button 'Pause’
4. User **resets** count down by tapping button 'Reset’
5. User **stop alarming sound** by tapping button ‘Reset’

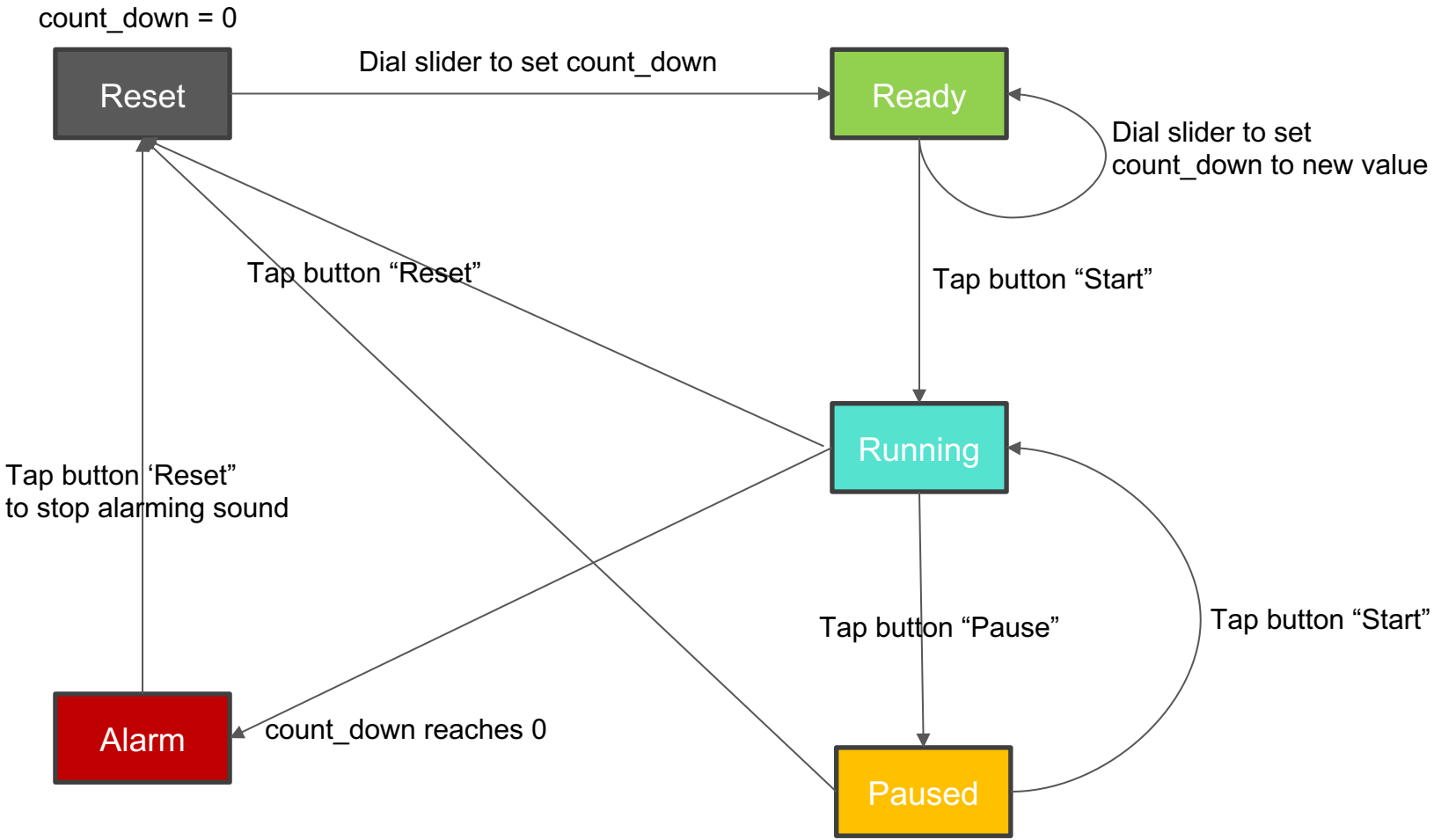
Variable to observe

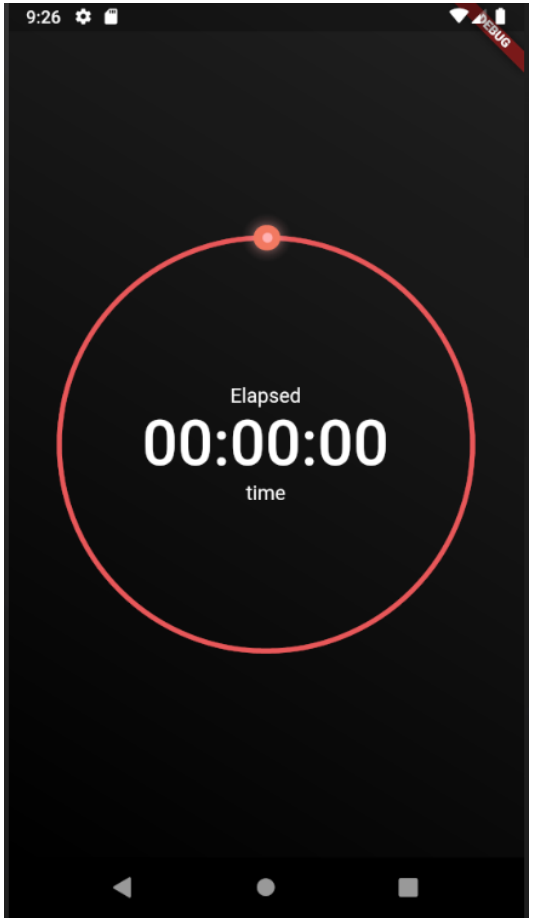
- State of app:
  1. Ready: when user dials the slider to set count_down value.
  2. Reset: App bootups or user just tap reset button count_down = 0
  3. Running: count_down will gradually decreases to zero.
  4. Paused: count_down temporarily stops.
  5. Alarm: count_down reaches to zero.

- count_down: number of seconds to count down to zero

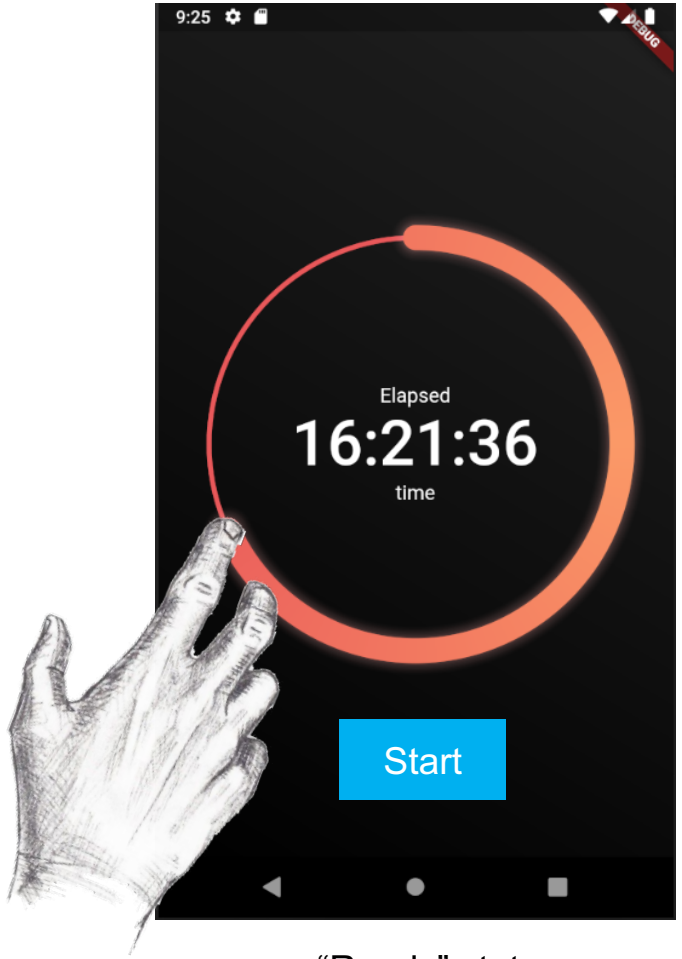
States of the app

State	Button 1	Button 2	User can
Reset			count_down = 0 Dial slider to set amount of count_down then transit to “Ready” state
Ready	Start		User still can dial slider to change count_down value Tap button “Start” to transit to “Running” state count_down > 0
Running	Pause	Reset	Slider is disabled, cannot dial Tap button “Pause” to transit to “Pause” state Tap button ”Reset” to transit to “Reset” state count_down decreases to 0
Paused	Start	Reset	Tap button “Start” to resume count down Tap button ”Reset” to transit to “Reset” state
Alarm		Reset	Tap button ”Reset” to transit to “Reset” state

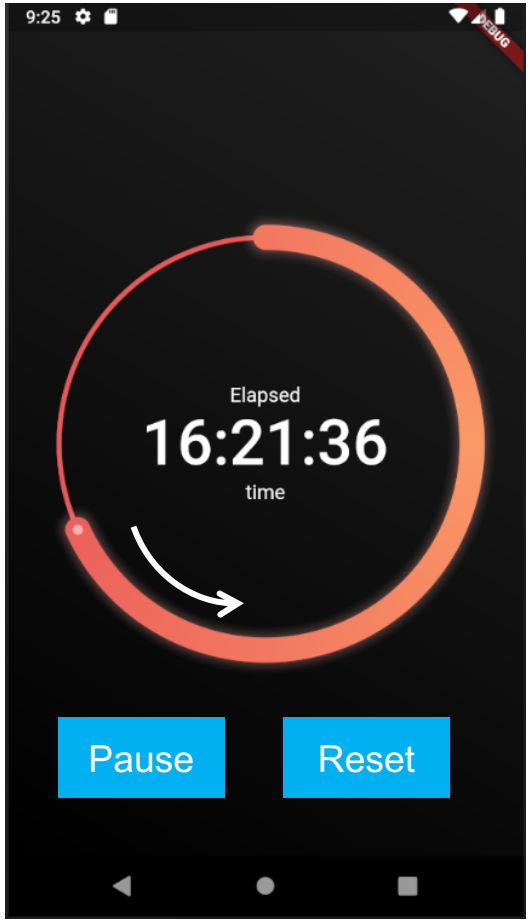

count_down = 0
Reset
Dial slider to set count_down
Ready
Dial slider to set
count_down to new value
Tap button “Reset”
Tap button “Start”
Running
Tap button ‘Reset”
to stop alarming sound
Tap button “Pause”
Tap button “Start”
Alarm
count_down reaches 0
Paused



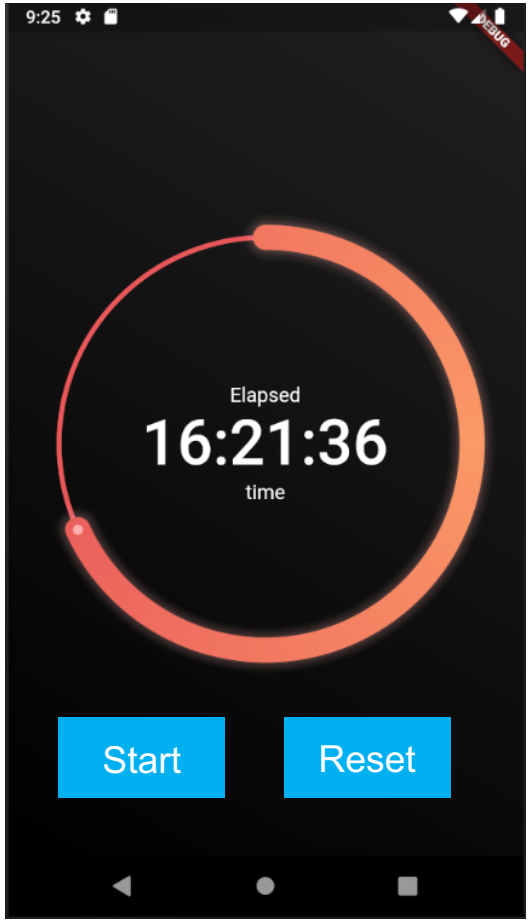
“Reset” state



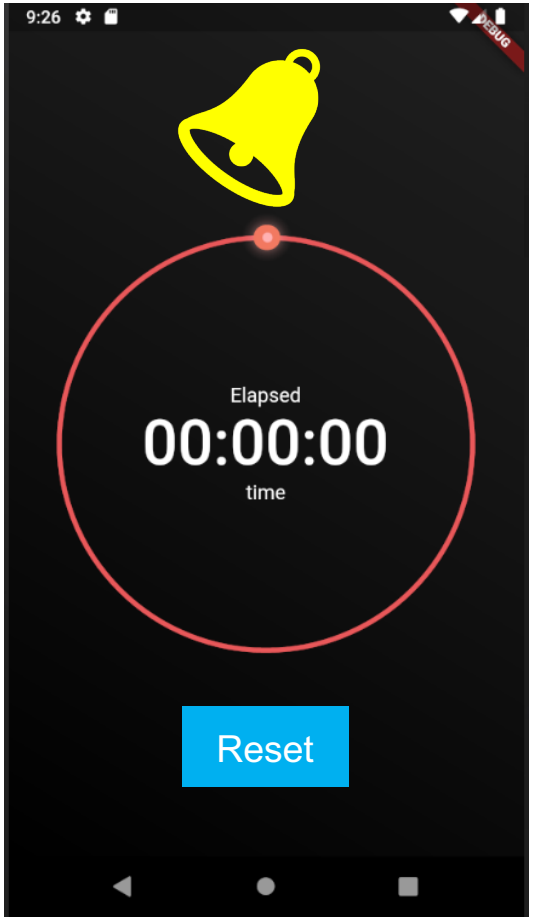
“Ready” state



“Running” state



“Paused” state



“Alarmed” state

Steps to do

Different app states approaches

- Custom stateful widget: Easy code, experiment but big mud, messy code
- BLOC: modify existing example app
- MOBX: let’s see if it easier

Exp 1: Circular slider

- Let’s extract code from sleek slider

Exp 2: AnimationController

- Digital Clock app demo

Exp 3: MobX

- We have two variables to observer:
  - state: [reset, ready, running, pause, alarm]
  - count_down
- To handle user interaction in on place, write logic function

```
on_Button_Press(which_button, current_state) {
}
```