Thunkable Recap

Hello Again!

It’s been a while!

We will do a quick recap of what we’ve covered so far to bring you up to speed.

Final Project

We are still going to be working on our final projects.

I am going to get you to share your final projects with me so I can look at them.

I will show you how to share your final projects at the end of this lecture.

Thunkable

- We are using this program to make apps.
- https://thunkable.com
- Use your CTYI account to log in.
- CTYI Google Account

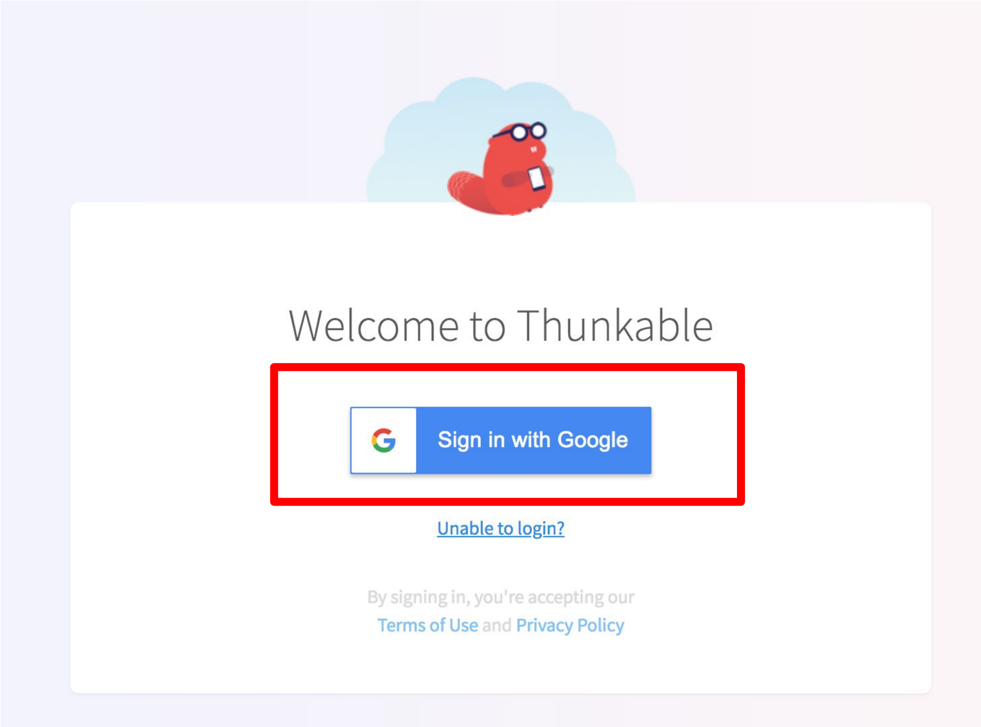
Your CTYI Google Account

The username is your first name, followed by a dot (.) followed by your last name, followed by @ctyi.org

The password for everyone is CTYI2020

thunkable x

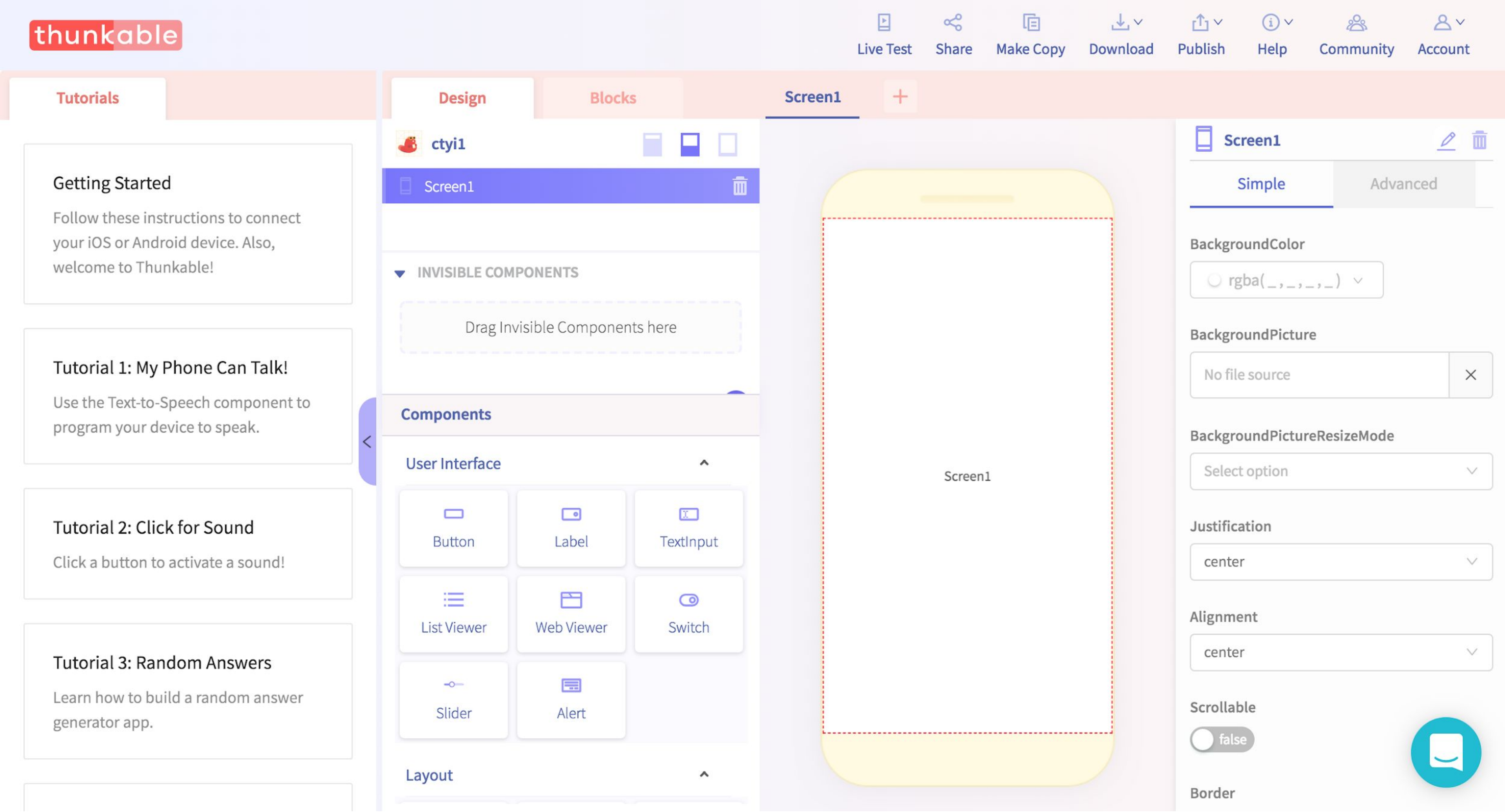
Make sure you click Sign in with Google



Welcome to Thunkable

Unable to login?

By signing in, you're accepting our Terms of Use and Privacy Policy



Getting Started

Follow these instructions to connect your iOS or Android device. Also, welcome to Thunkable!

Tutorial 1: My Phone Can Talk!

Use the Text-to-Speech component to program your device to speak.

Tutorial 2: Click for Sound

Click a button to activate a sound!

Tutorial 3: Random Answers

Learn how to build a random answer generator app.

Drag Invisible Components here

BackgroundColor: rgba(_ , _ , _ , _)

BackgroundPicture: No file source

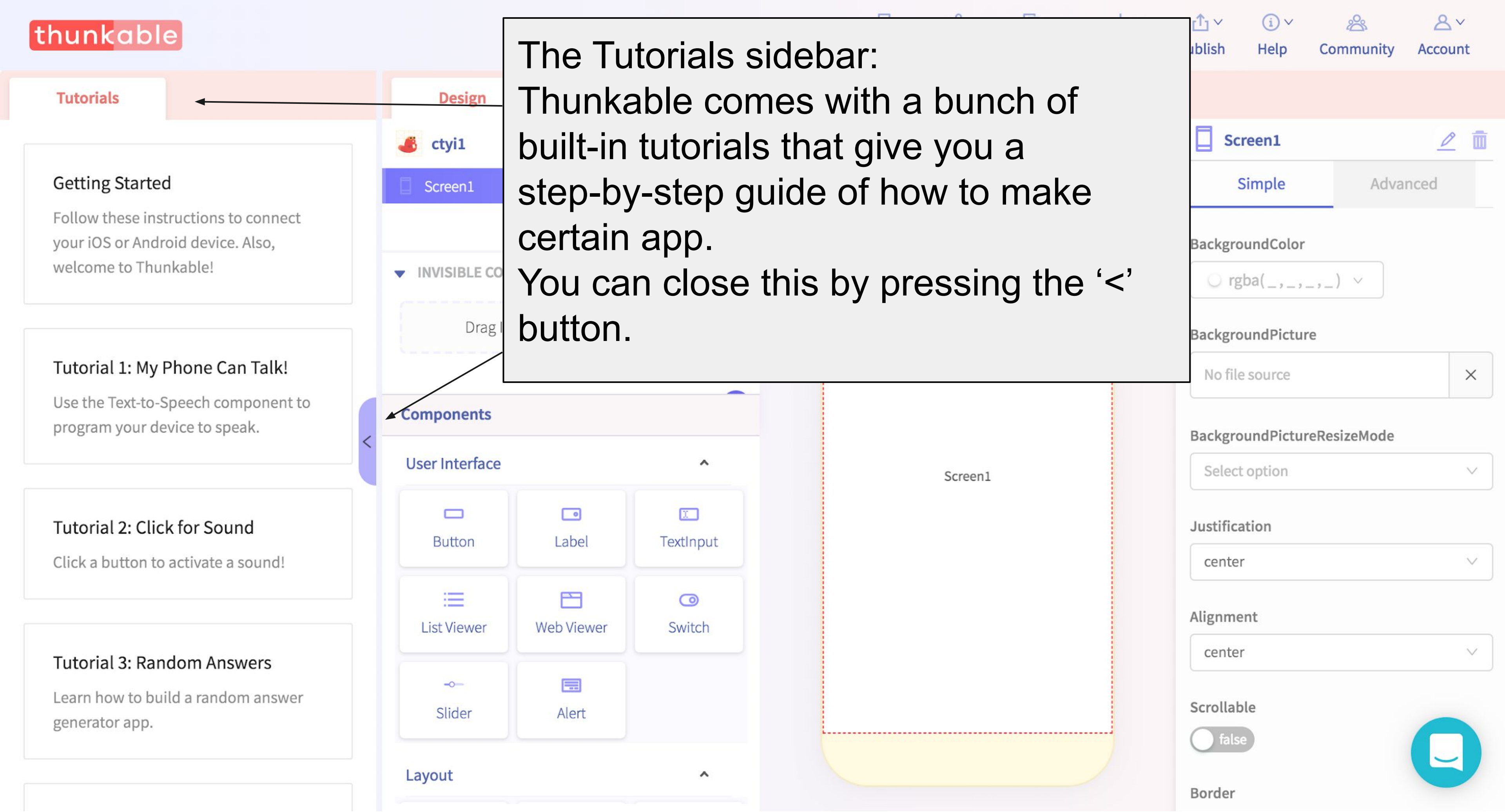
BackgroundPictureResizeMode: Select option

Justification: center

Alignment: center

Scrollable: false

Border



The Tutorials sidebar:
Thunkable comes with a bunch of built-in tutorials that give you a step-by-step guide of how to make certain app.
You can close this by pressing the ‘<’ button.

Getting Started

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Tutorial 2: Click for Sound

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Learn how to build a random answer generator app.

BackgroundColor: rgba(_,_,_,_)

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option

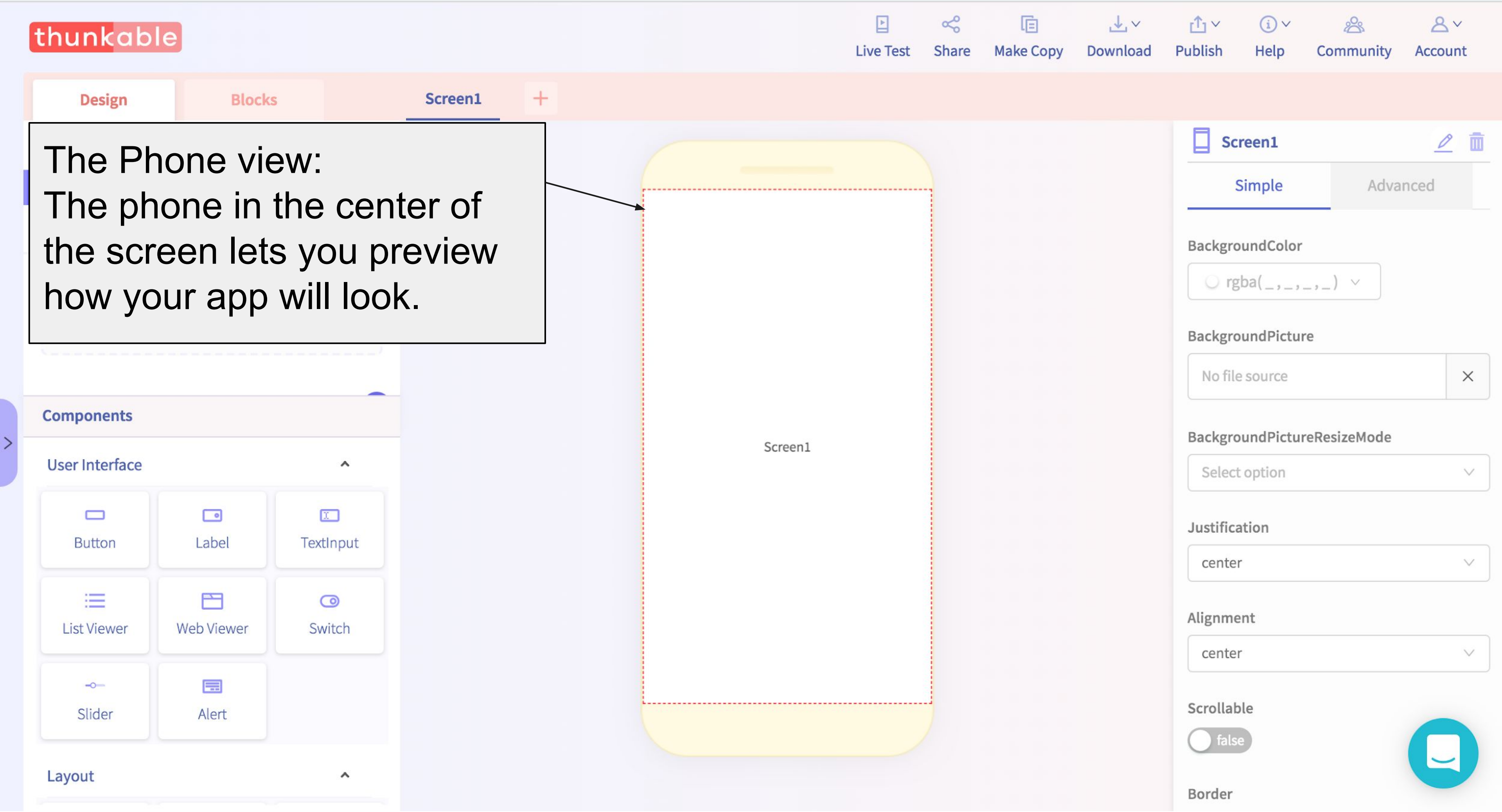
Justification: center

Alignment: center

Scrollable: false

Border

The Phone view:
The phone in the center of the screen lets you preview how your app will look.



BackgroundColor: rgba(_ , _ , _ , _)

BackgroundPicture: No file source

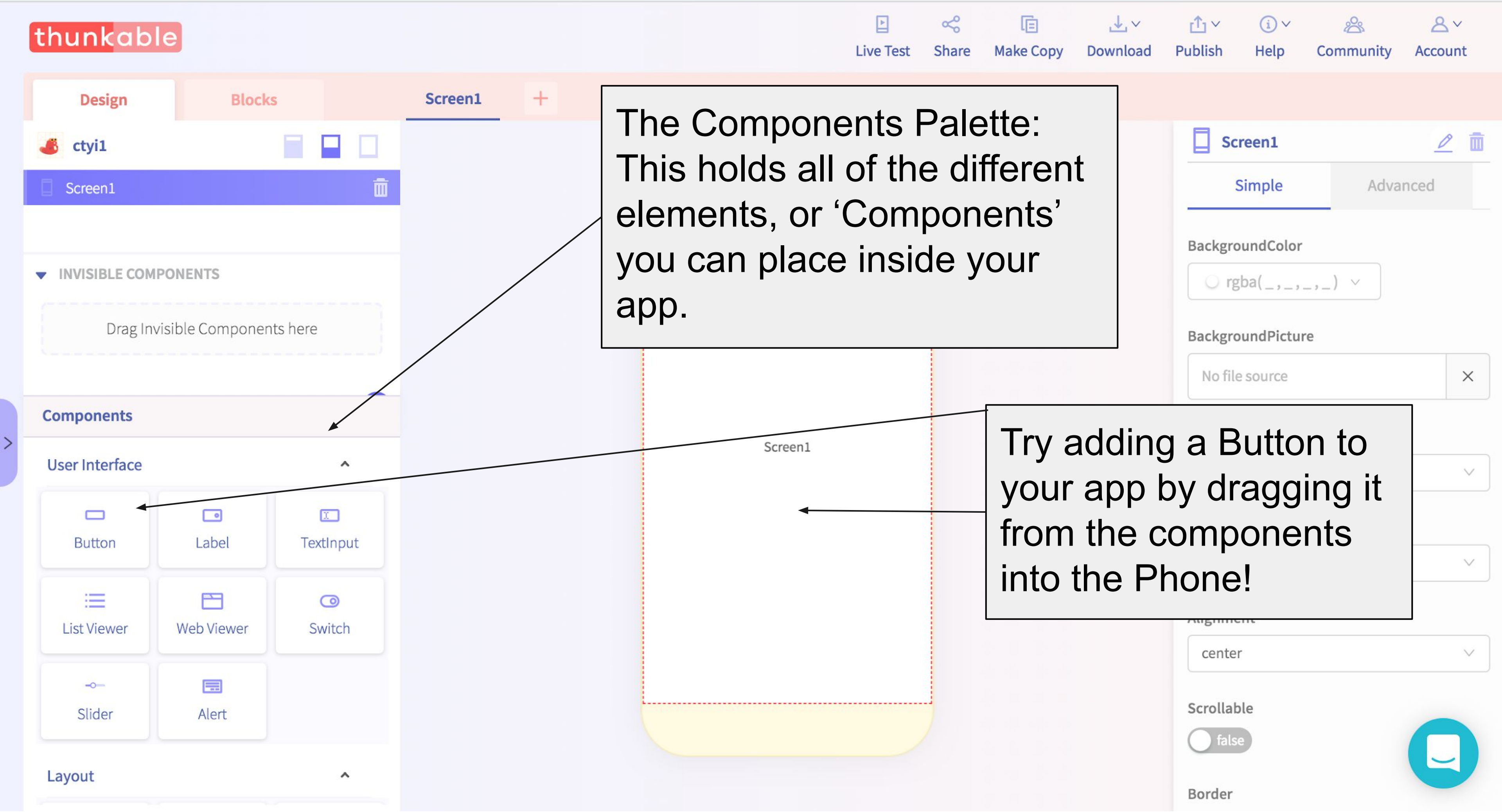
BackgroundPictureResizeMode: Select option

Justification: center

Alignment: center

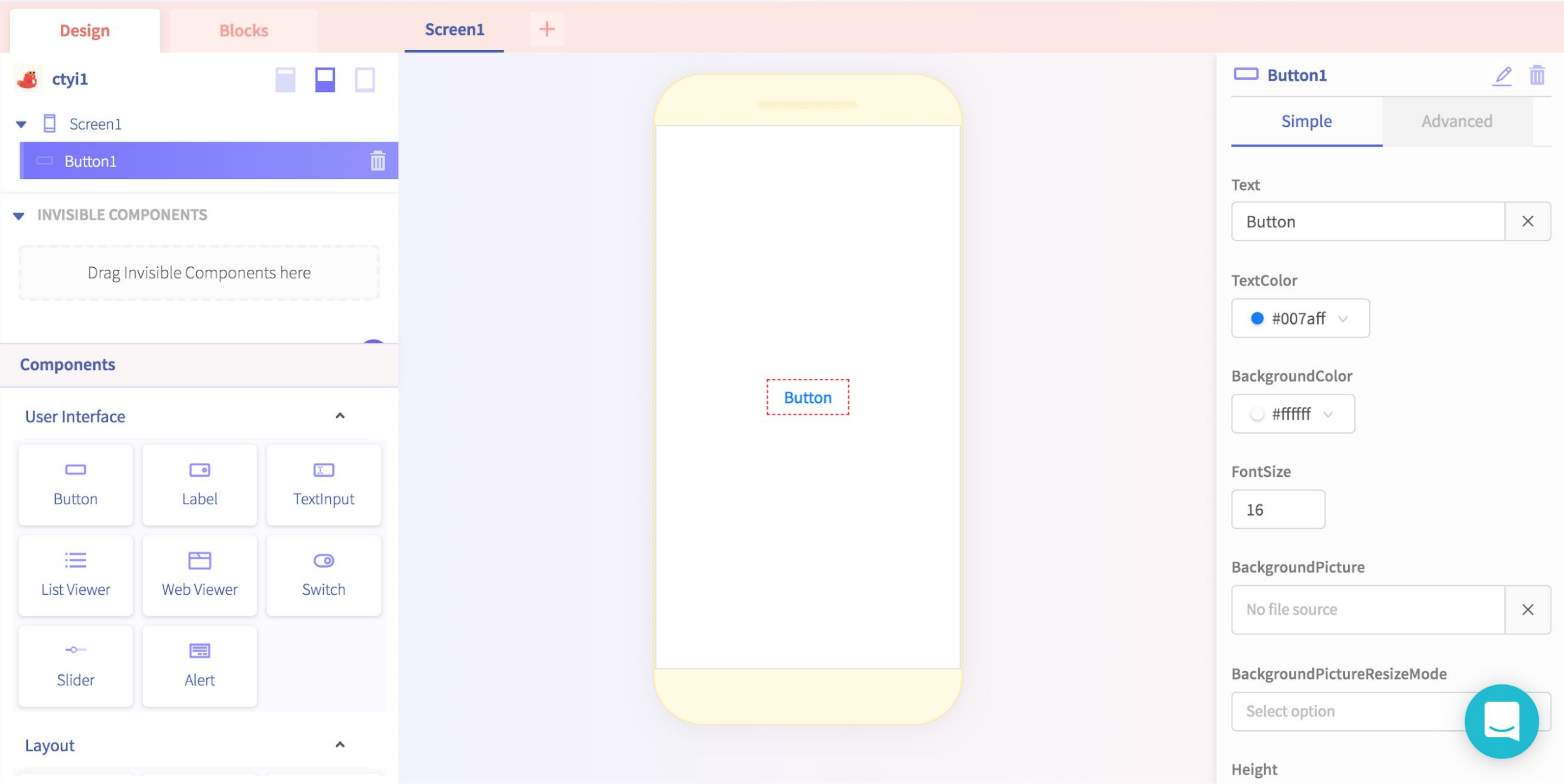
Scrollable: false

Border



The Components Palette: This holds all of the different elements, or 'Components' you can place inside your app.

Try adding a Button to your app by dragging it from the components into the Phone!



Text: Button

TextColor: #007aff

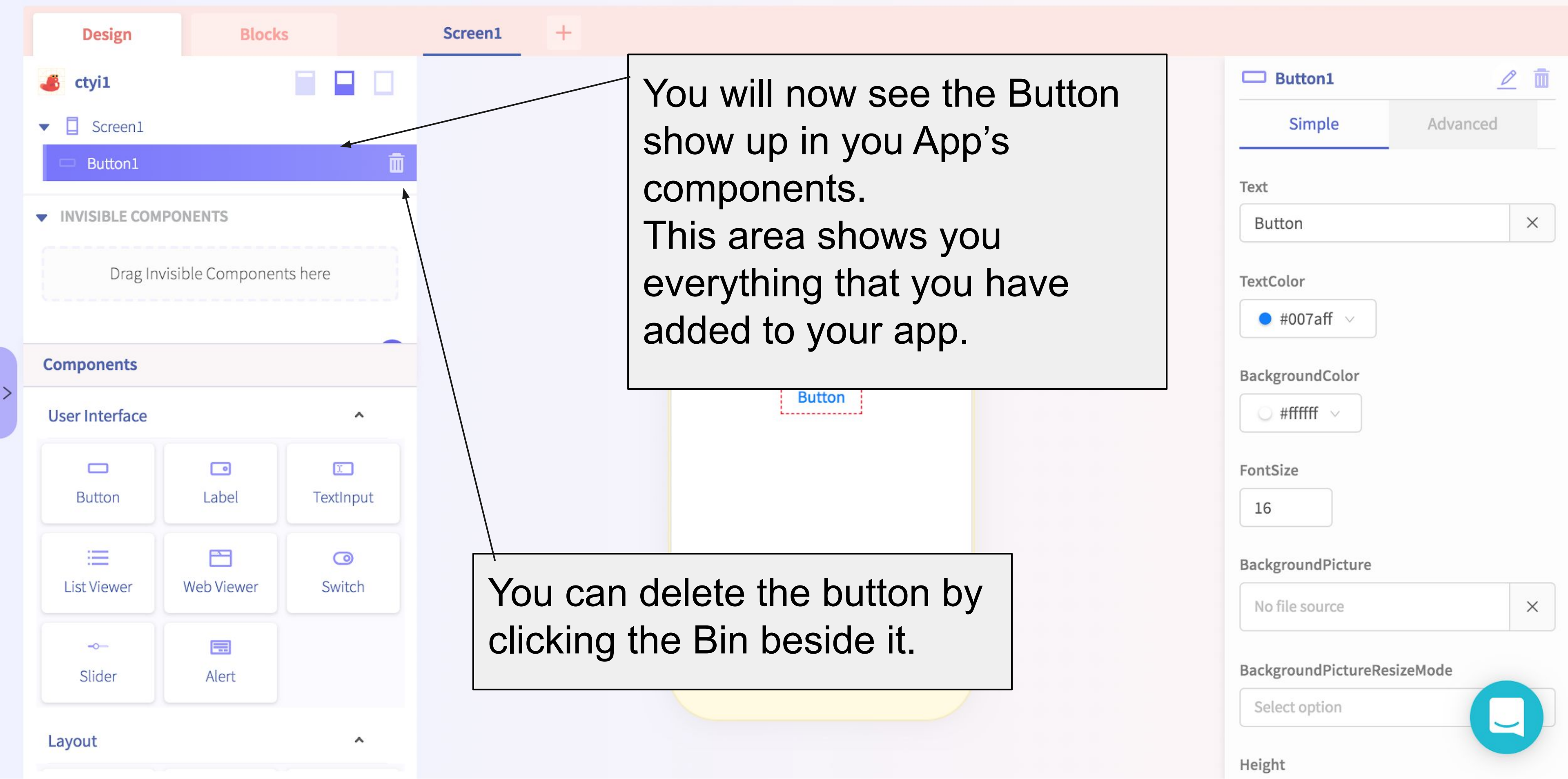
BackgroundColor: #ffffff

FontSize: 16

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option

Height



Text: Button

TextColor: #007aff

BackgroundColor: #ffffff

FontSize: 16

BackgroundPicture: No file source

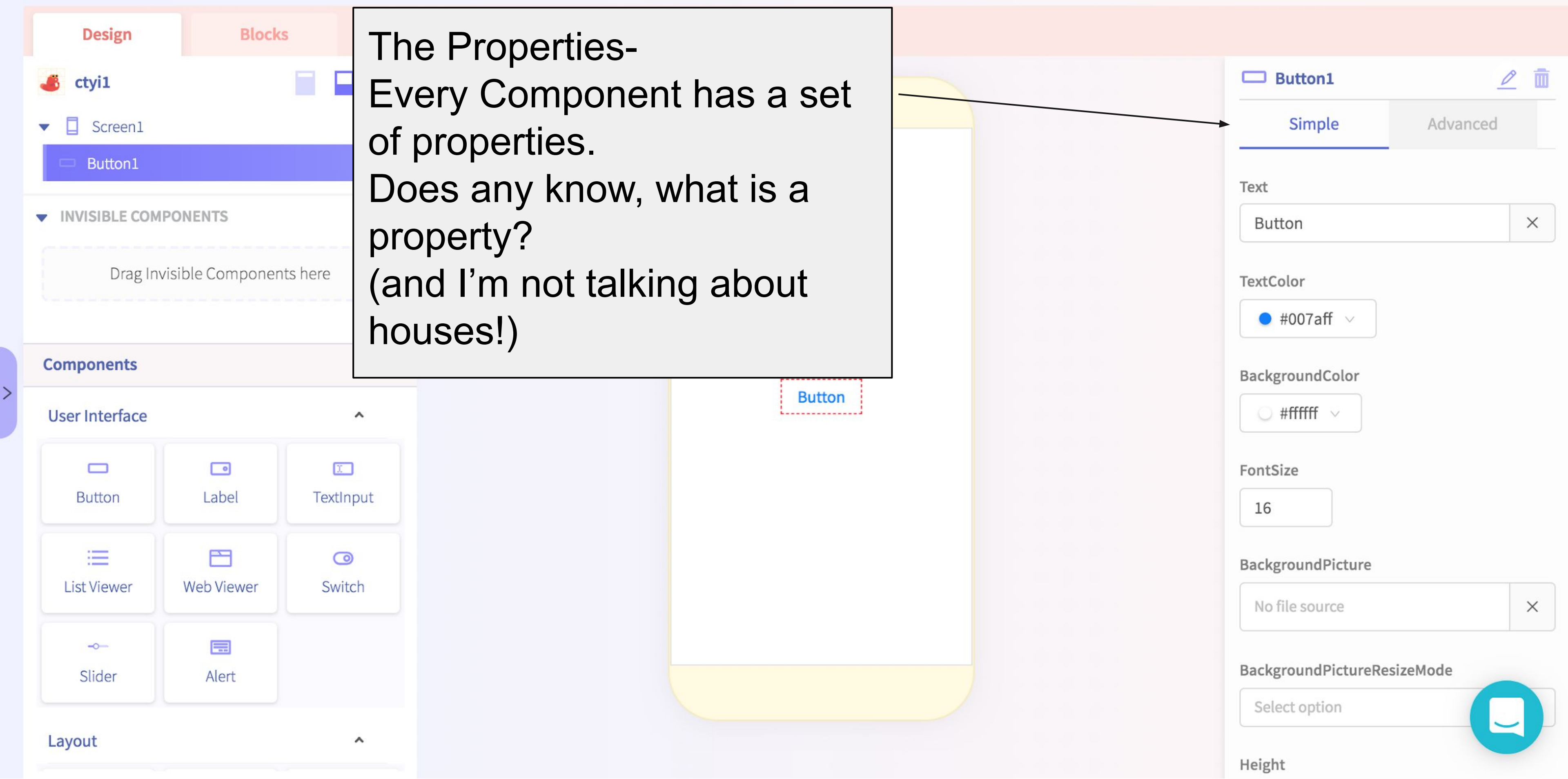
BackgroundPictureResizeMode: Select option

Height

You will now see the Button show up in you App’s components.
This area shows you everything that you have added to your app.

You can delete the button by clicking the Bin beside it.

The Properties-
Every Component has a set of properties.
Does any know, what is a property?
(and I’m not talking about houses!)



Text: Button

TextColor: #007aff

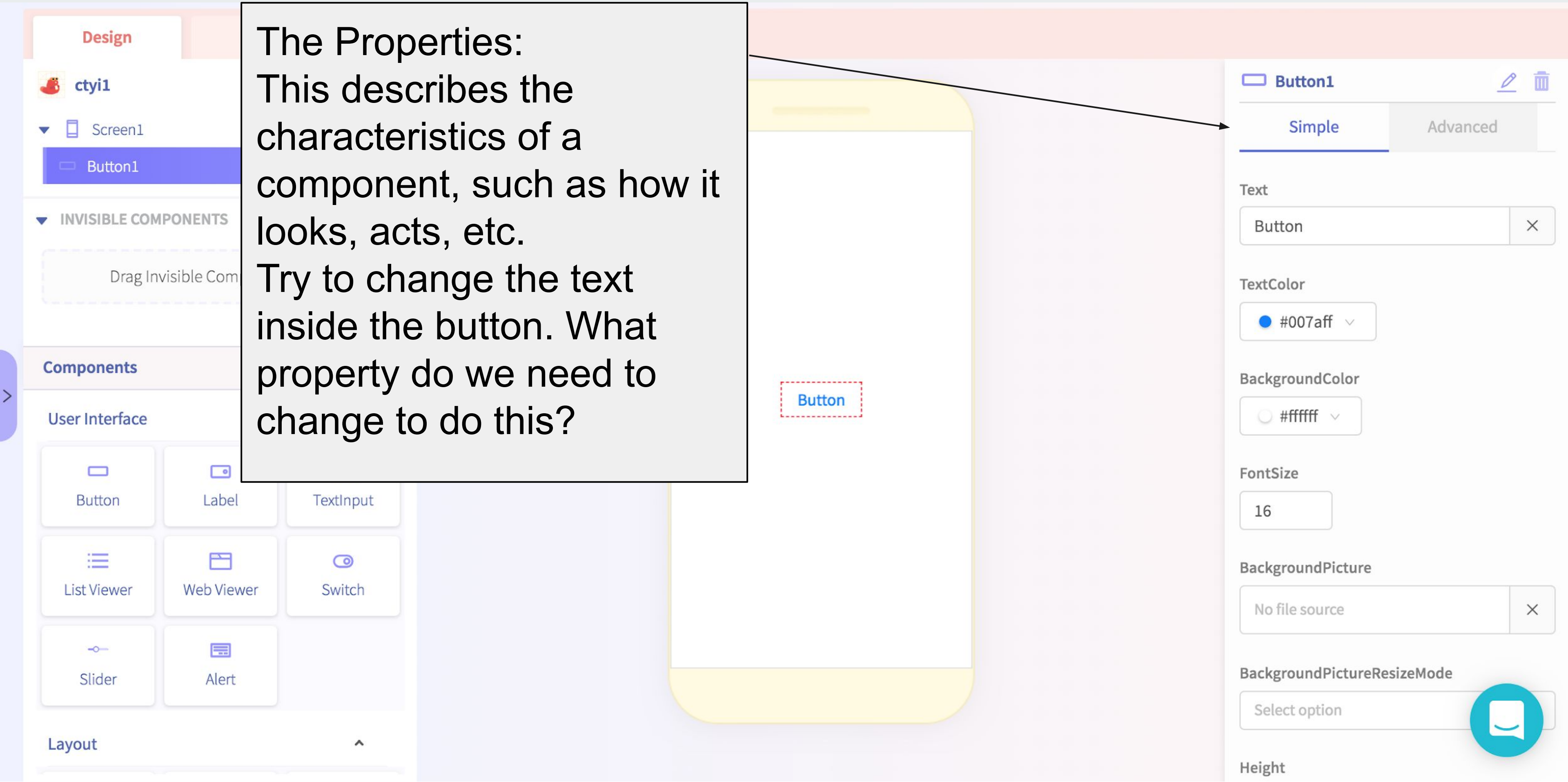
BackgroundColor: #ffffff

FontSize: 16

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option

Height



The Properties:
This describes the characteristics of a component, such as how it looks, acts, etc.
Try to change the text inside the button. What property do we need to change to do this?

Text: Button

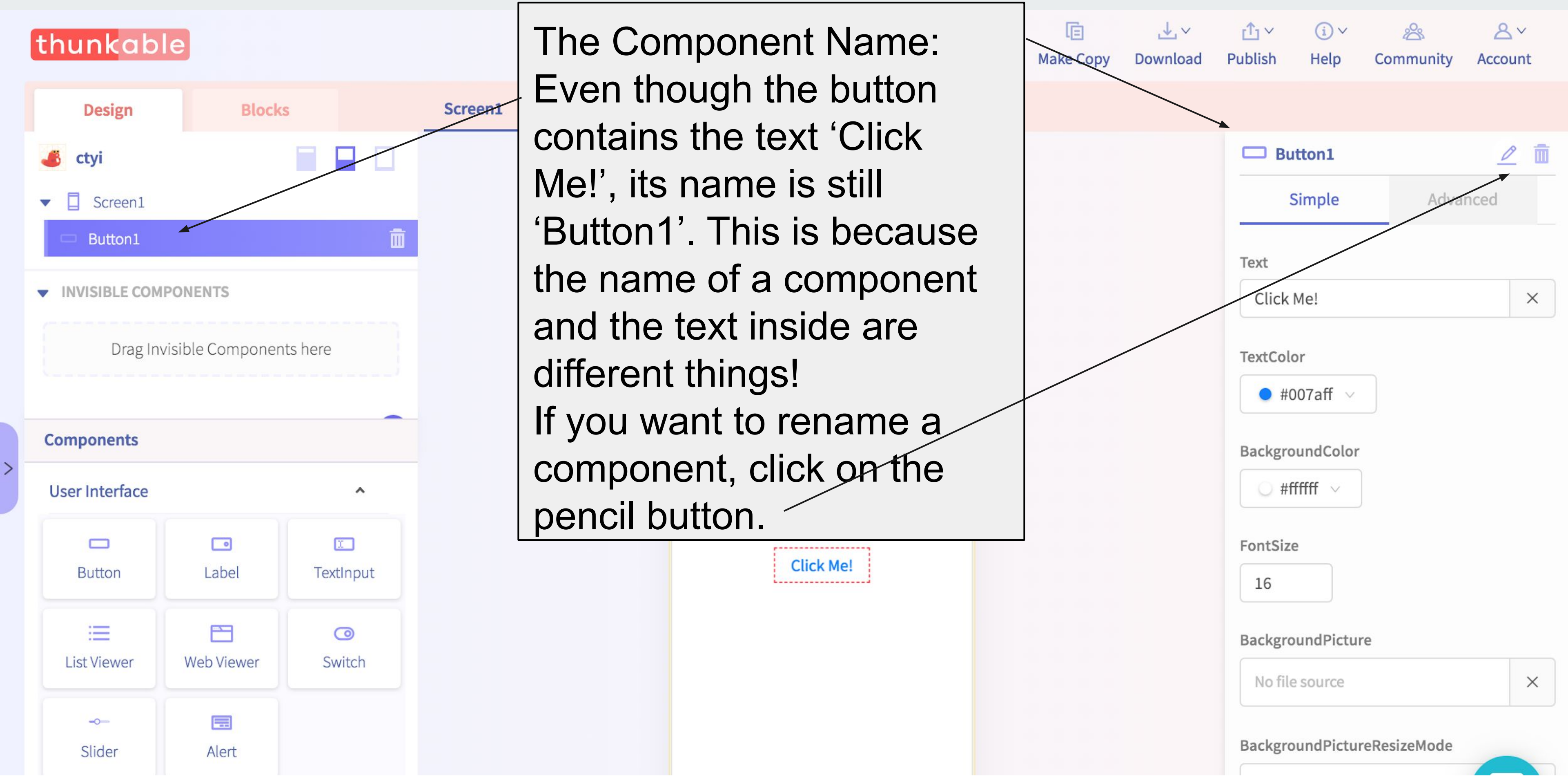
TextColor: #007aff

BackgroundColor: #ffffff

FontSize: 16

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option



Text: Click Me!

TextColor: #007aff

BackgroundColor: #ffffff

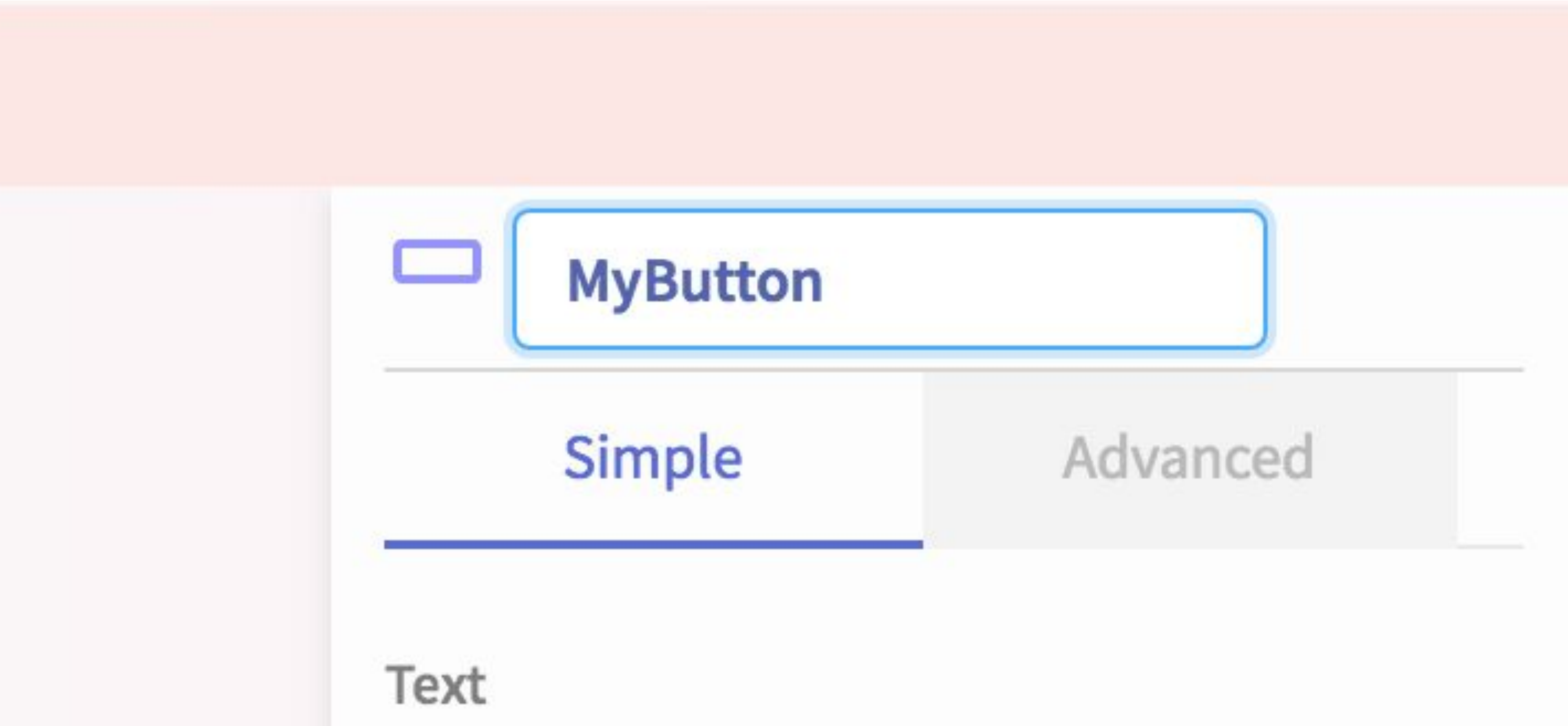
FontSize: 16

BackgroundPicture: No file source

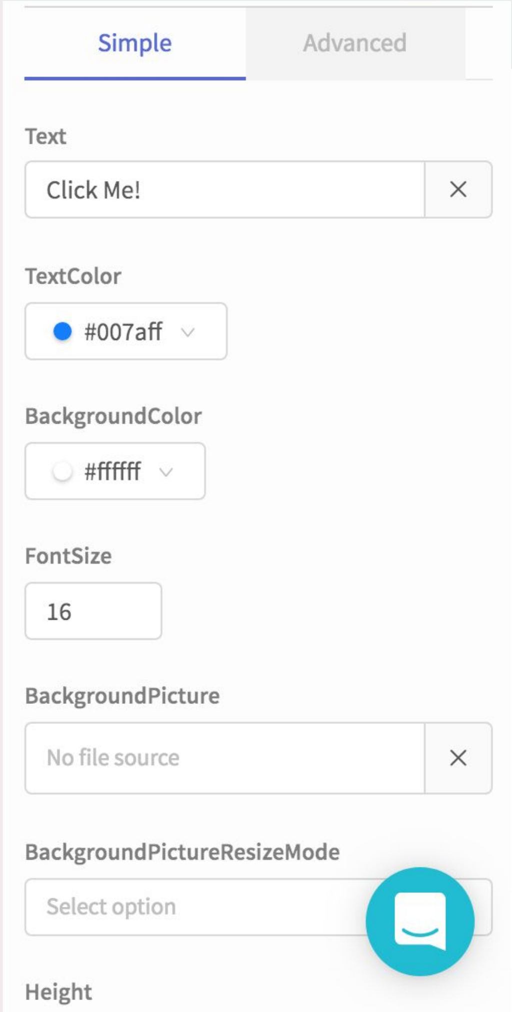
BackgroundPictureResizeMode

The Component Name: Even though the button contains the text ‘Click Me!’, its name is still ‘Button1’. This is because the name of a component and the text inside are different things!

If you want to rename a component, click on the pencil button.



MyButton



Text: Click Me!

TextColor: #007aff

BackgroundColor: #ffffff

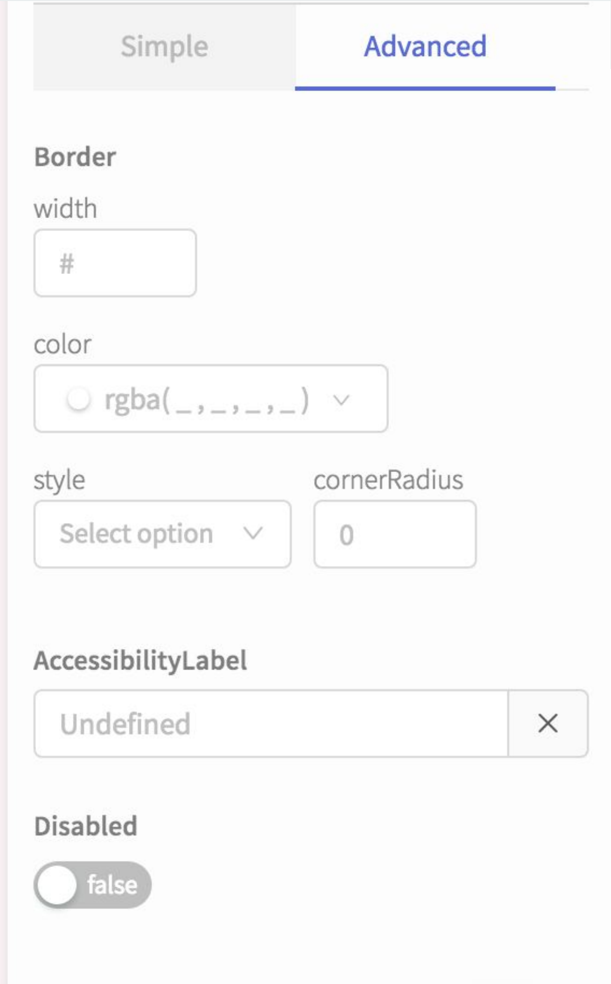
FontSize: 16

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option

Height

Simple and Advanced properties:
You can see that there are tabs for both Simple and Advanced properties. 99% of the time you'll be using Simple properties.



Border

width: #

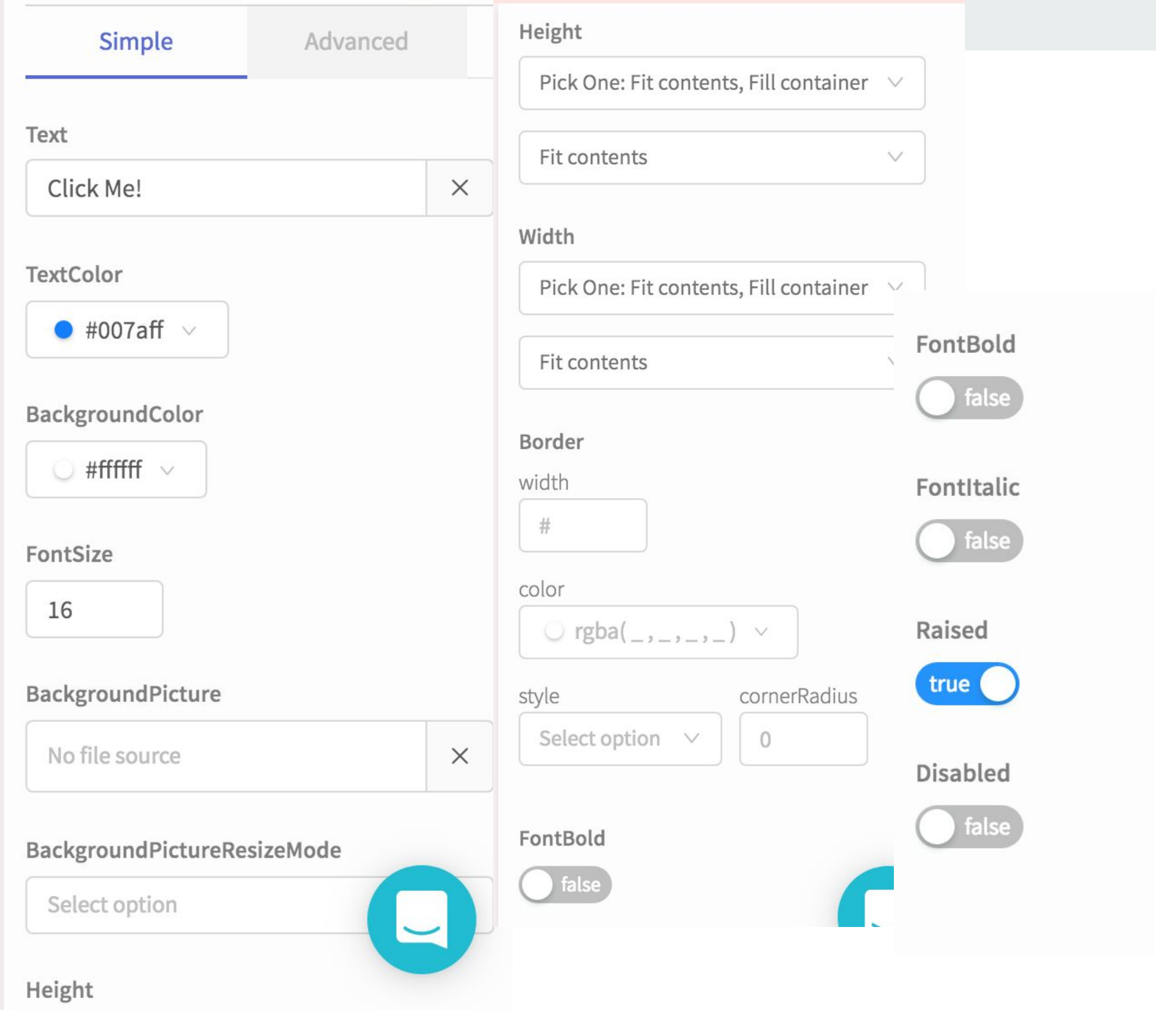
color: rgba(_,_,_,_)

style: Select option

cornerRadius: 0

AccessibilityLabel: Undefined

Disabled: false



Text: Click Me!

TextColor: ● #007aff

BackgroundColor: ○ #ffffff

FontSize: 16

BackgroundPicture: No file source

BackgroundPictureResizeMode: Select option

Height

Height: Pick One: Fit contents, Fill container

Fit contents

Width: Pick One: Fit contents, Fill container

Fit contents

Border

width: #

color: rgba(_,_,_,_)

style: Select option

cornerRadius: 0

FontBold: false

FontBold: false

FontItalic: false

Raised: true

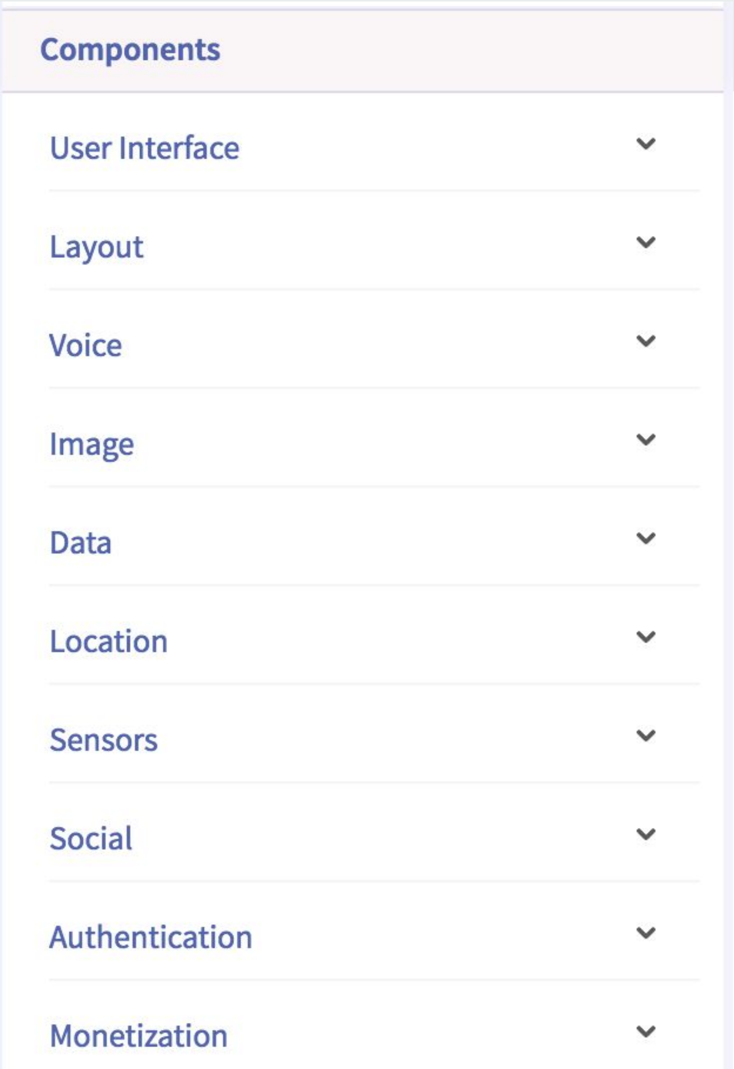
Disabled: false

Simple properties:
Scroll through the Simple properties and take a look at what you are able to change with the button.
Play around with these options.
Try to do this every time you use a component for the first time- it will help you see what you are able to do.

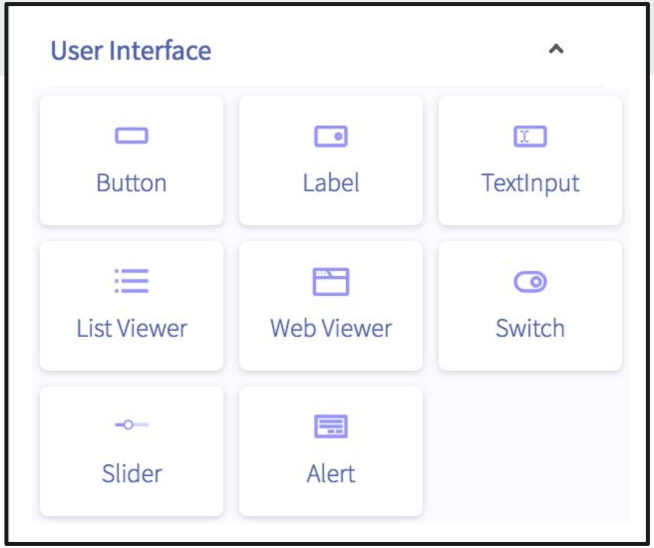
Components

We looked at the different components in Thunkable and how to use them.

Does anybody remember, what does ‘User Interface’ mean?



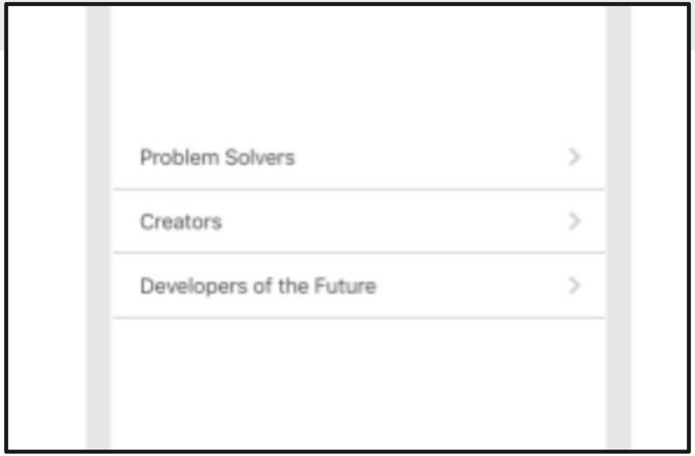
User Interface



- The user interface (UI) is like the stage of the play - everything the user is meant to see is part of the UI.
- Button: You can click this to make something happen.
- Label: Lets the app display text.
- TextInput: Lets the user input text into the app.

User Interface

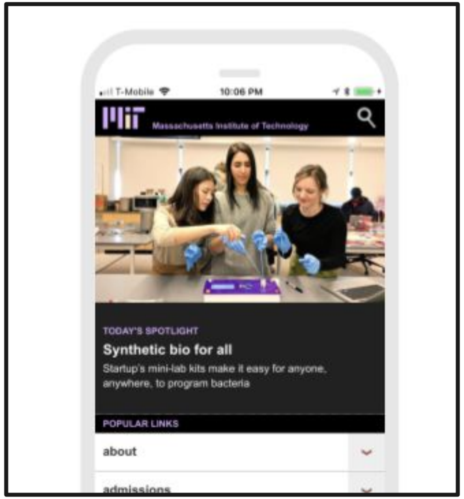
- ListViewer: Lets you show a list of items. The user can click on one of them to pick it.
- WebViewer: Lets you add a web browser into your app. This lets the user view websites and be able to click on different pages.



Problem Solvers

Creators

Developers of the Future



TODAY'S SPOTLIGHT

Synthetic bio for all

Startup's mini-lab kits make it easy for anyone, anywhere, to program bacteria

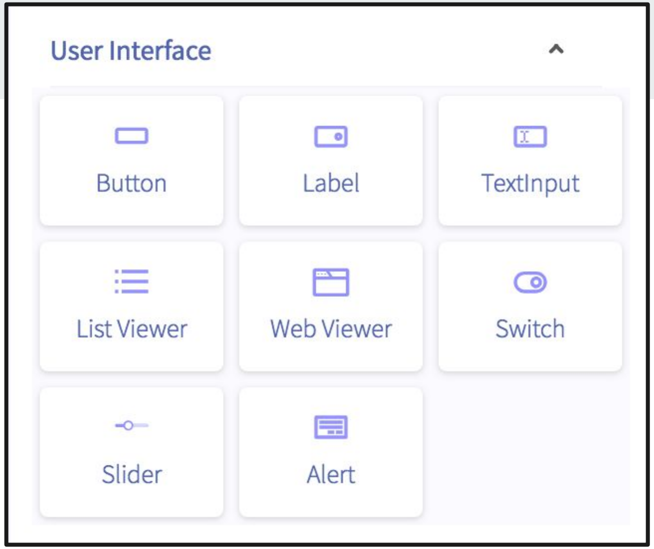
POPULAR LINKS

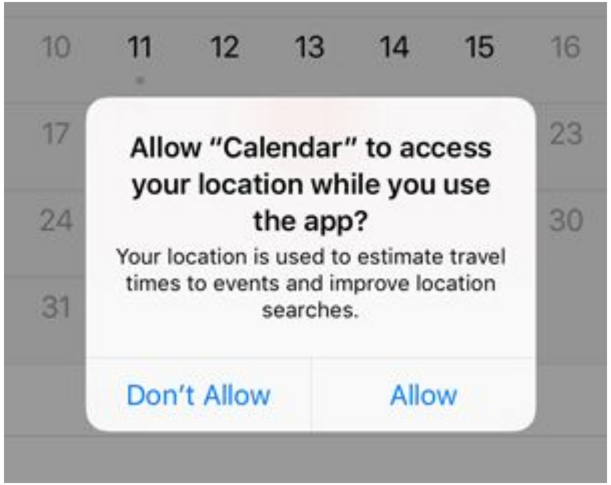
about

admissions

User Interface

- Switch: Lets the user choose from a yes/no option.
- Slider: Allows the user to select from a slider.
- Alert: Lets you display an alert to the user (pictured).



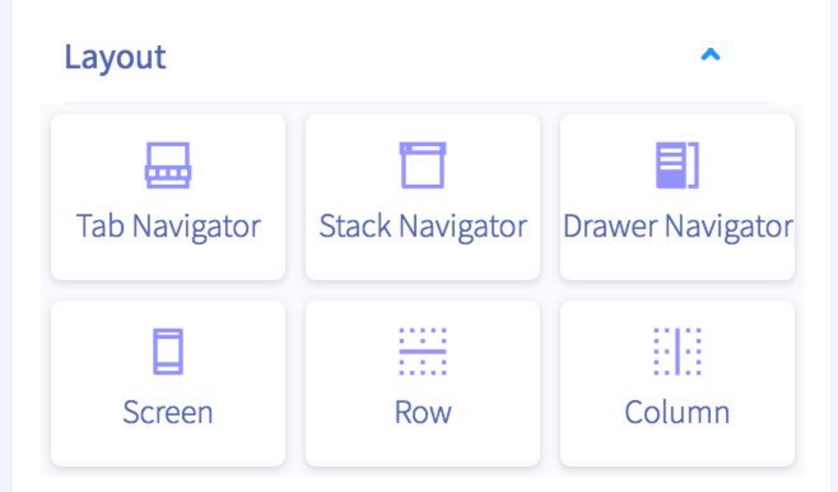


Allow "Calendar" to access your location while you use the app?

Your location is used to estimate travel times to events and improve location searches.

Layout

This contains components that will help you arrange you2 app in a more neat manner.



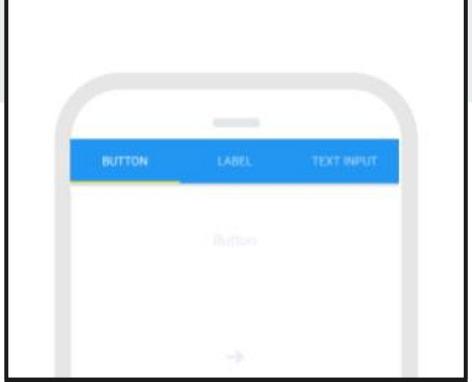
Layout

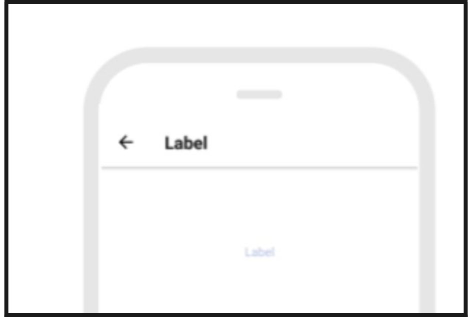
Navigators: These let you change how the user moves through your app.

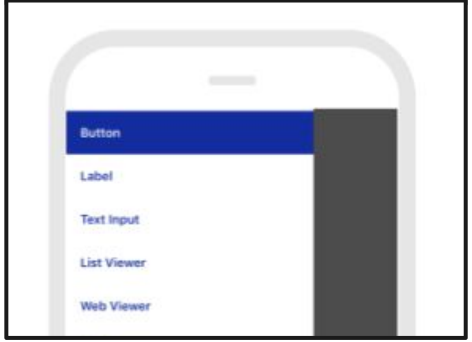
Tab Navigator: Lets you navigate the app using a tab on the top of the screen.

Stack Navigator: Lets you open each screen like a page on a stack of sheets

Drawer Navigator: Lets you open a drawer on the side of the screen where you can choose screens.

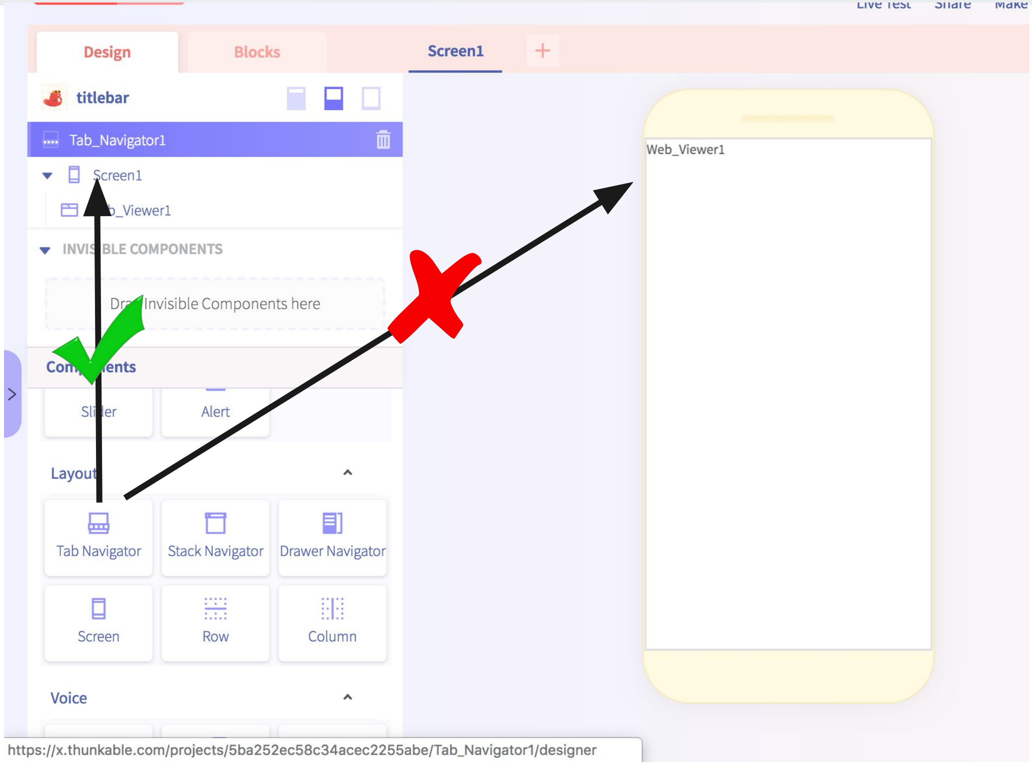






Layout

To add a navigator or Screen to your app, you have to drag it into the app components, not the phone preview.

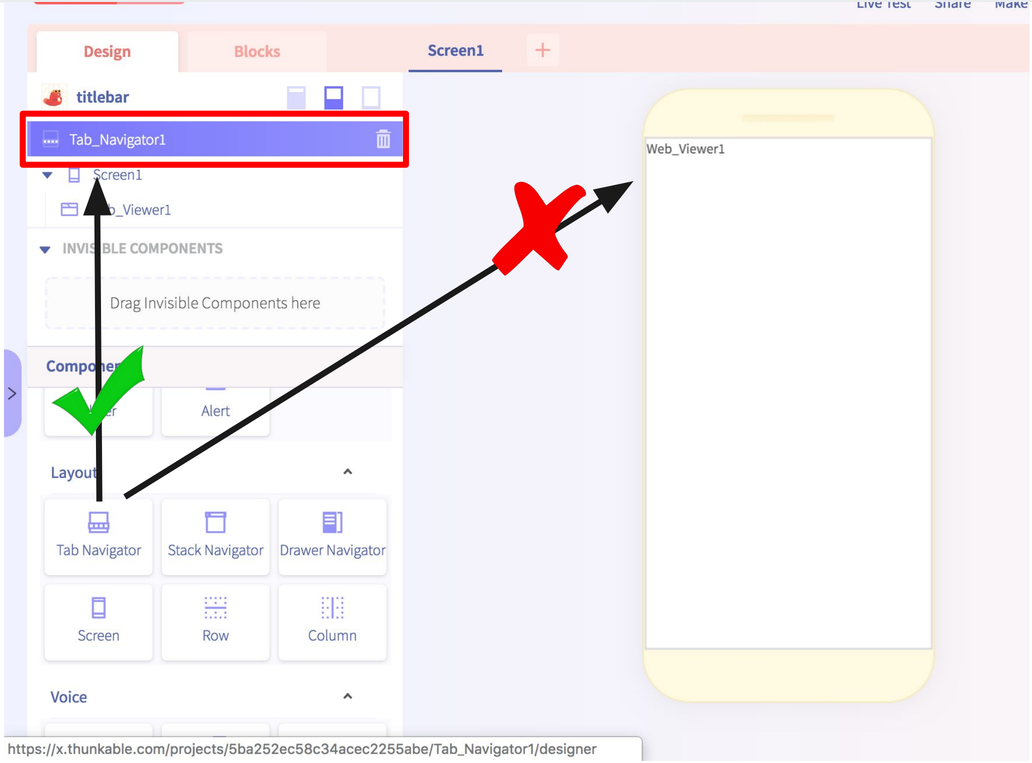


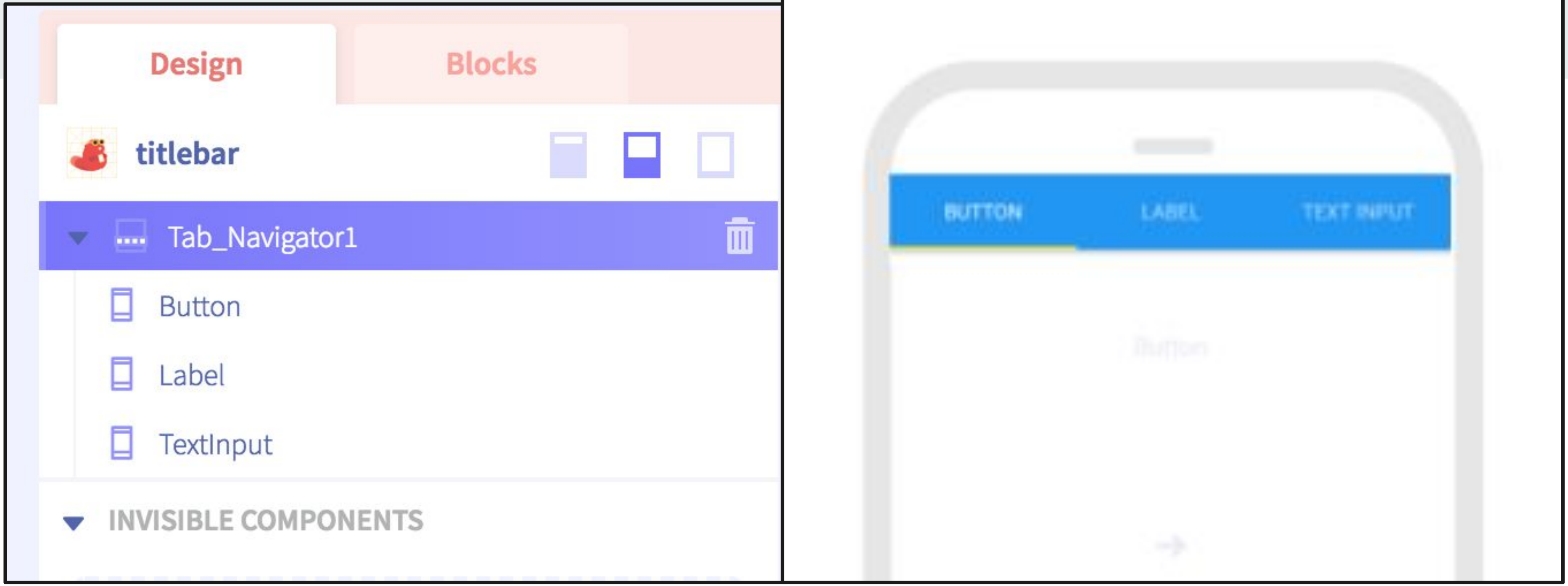
Layout

Screen: Each separate page of your app will be a separate Screen.

You use a navigator to get around the screens of your app.

Once you add a Navigator, you can add screens to it by dragging them into the navigator component in the components window (red box)



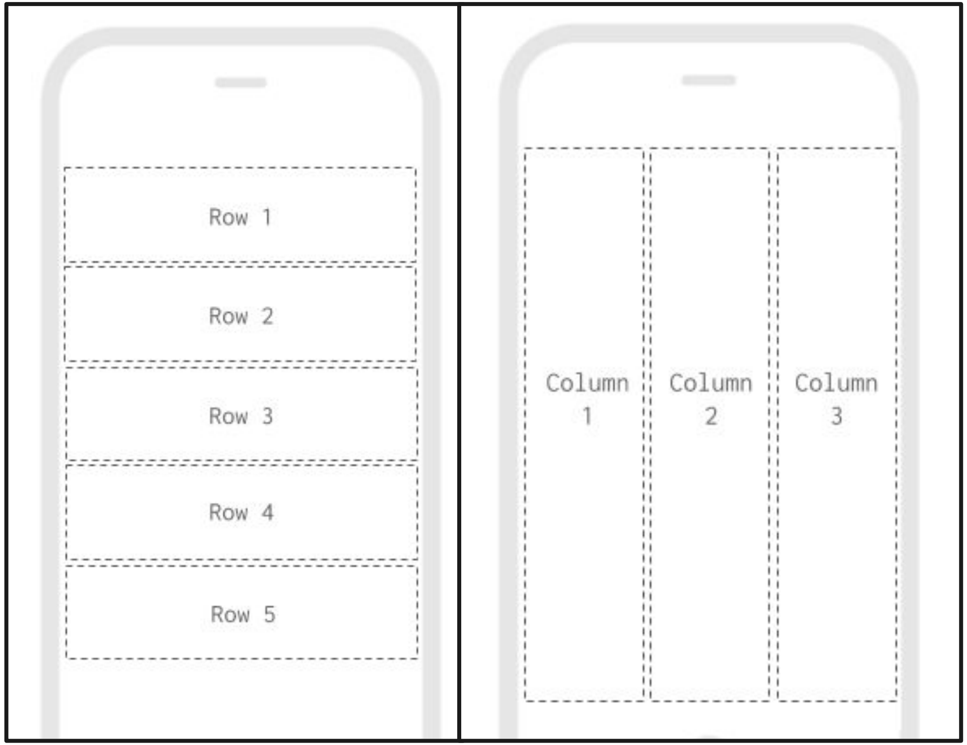


Tab Navigator in the App Components and on the phone. The name of each screen becomes the name written on each tab. Here there are three screens. Notice that each screen is set inside the Tab Navigator component.

Layout

Row: Lets you arrange a number of components in a row, one under the other.

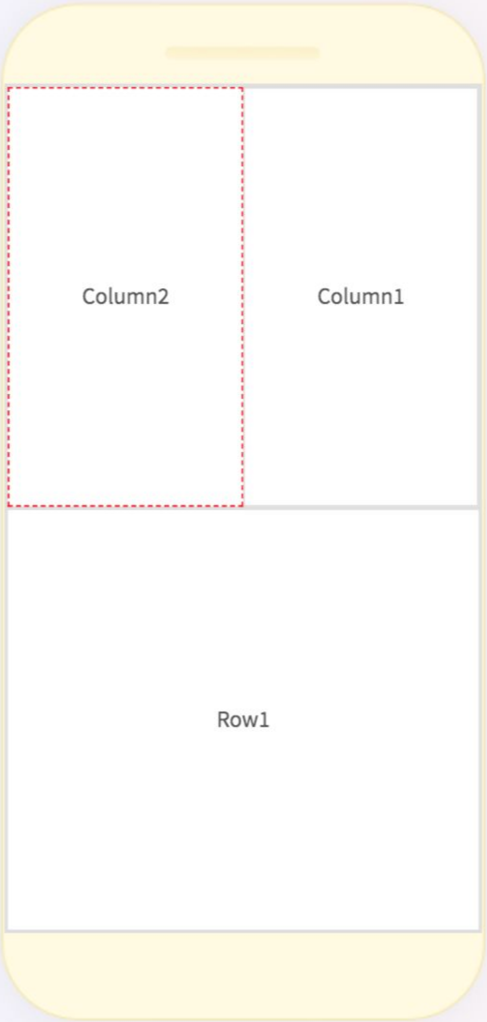
Column: Same thing, but lets you place components side-to-side instead.

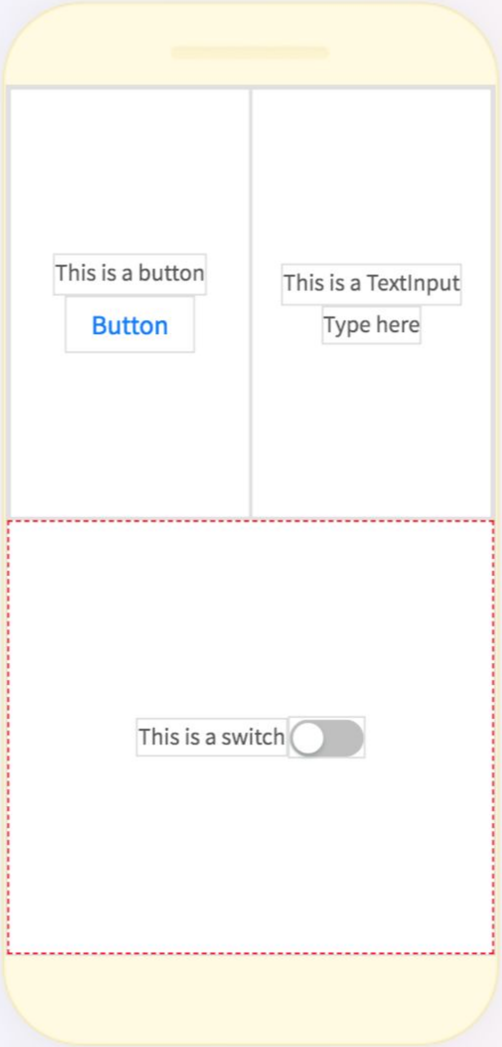


Layout

You can use Rows and Columns in interesting ways together.

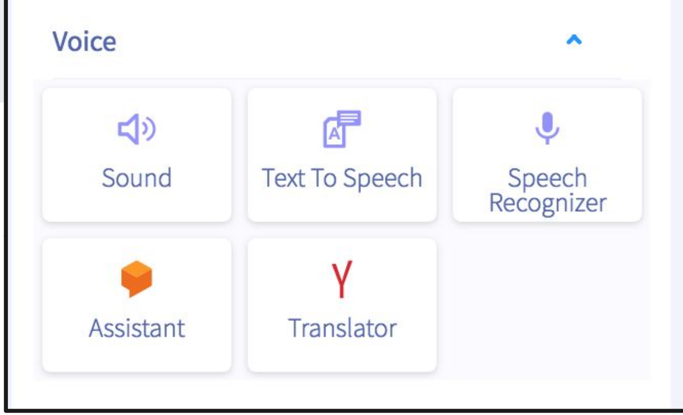
Experiment with adding Row and Column components and try adding other components within them.





Voice

This section lets you add sound or voice capabilitie



to your app.

Sound: Lets you play a sound file, such an MP3. Used for sound effects, music, etc.

Text To Speech: Makes the app read out some text.

Speech Recogniser: Allows the app to interpret the user's speech as text.

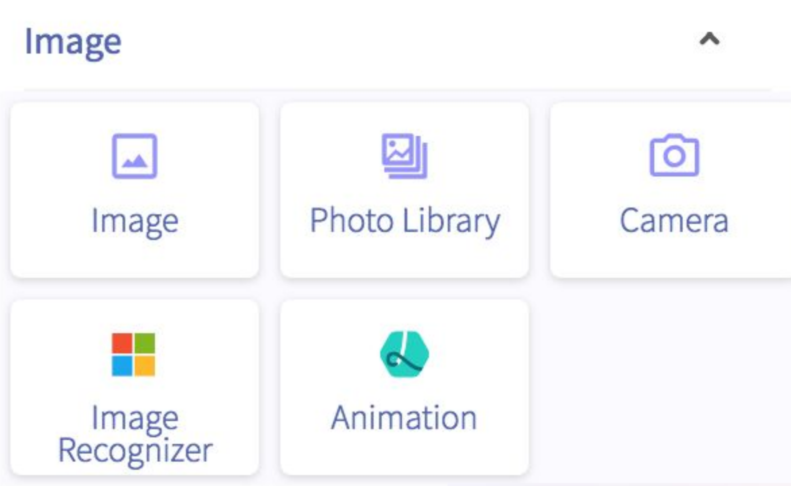
Assistant: Lets you use an electronic assistant (like Siri) in your app.

Translator: Lets you translate text from one language to another.

Image

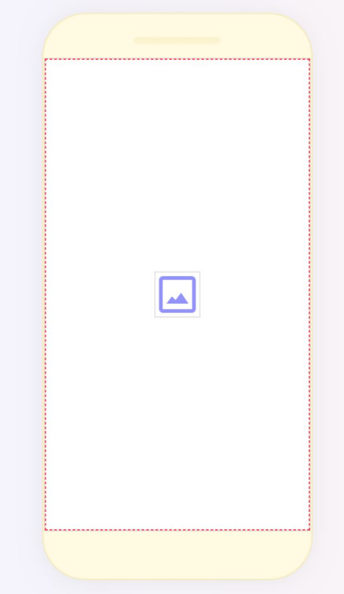
This lets the app display visuals and pictures

Image: Lets you add a picture into your app.



We will now use the image component.

Drag one into your phone. You will notice that you can see an icon with no actual picture. This is because we need to tell the phone which image file to display.



Open Google Chrome and find any picture from Google Images. Then, save it to your computer.

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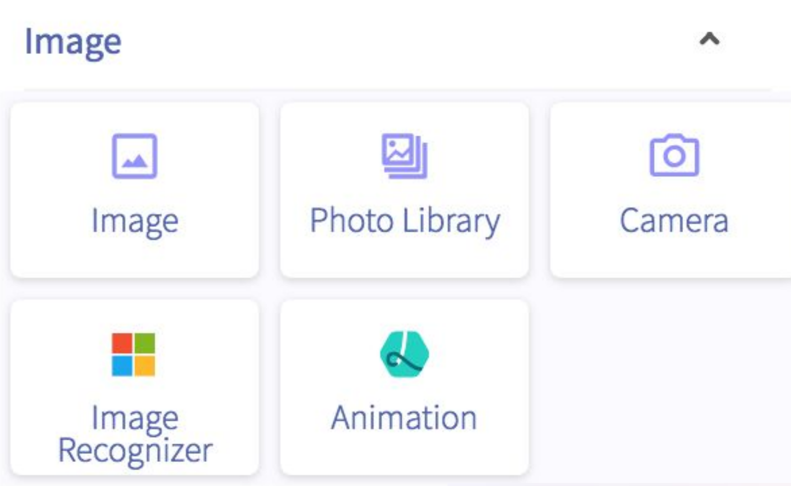
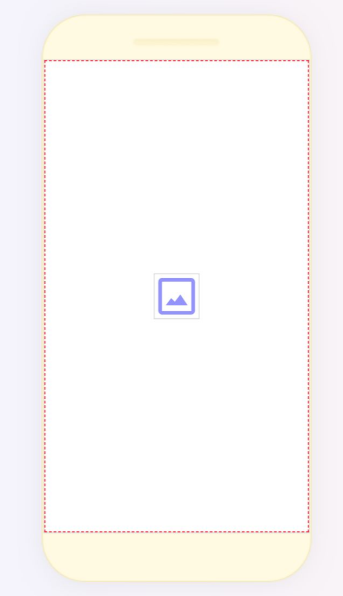


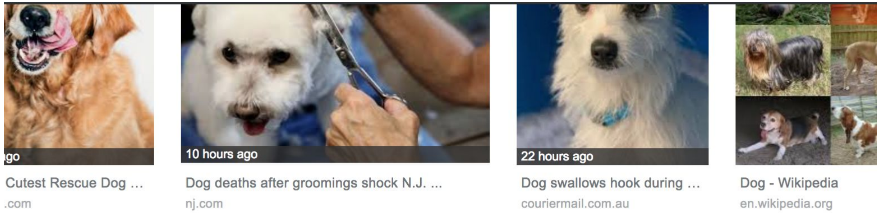


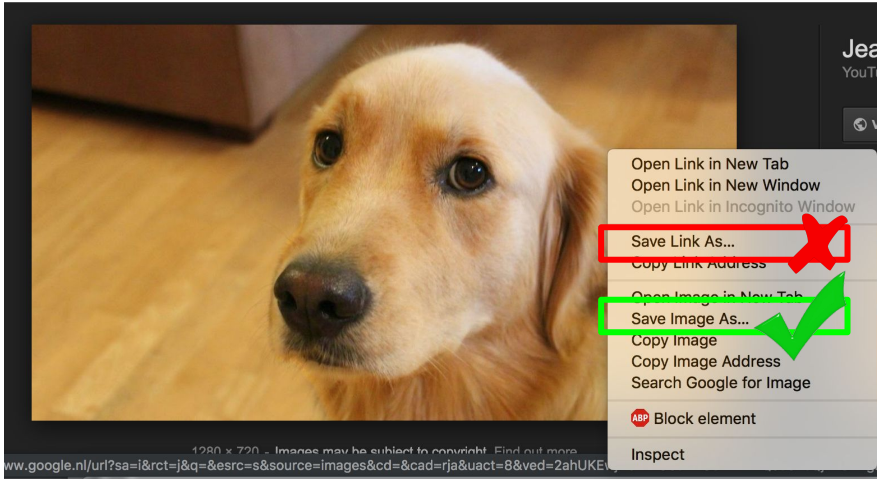
Image

To save a picture from Google Image, find the picture you want and click on it to make it bigger. If you save the small image (known as the thumbnail), the quality will not be good.

Right click on the picutre and select ‘Save Image As…’

Make sure you don’t select ‘Save Link As…’ as this will save the whole website.

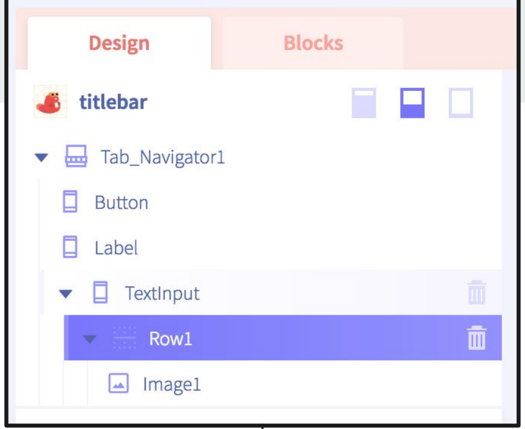




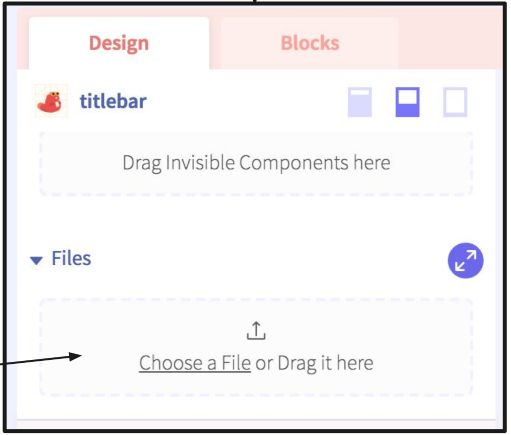
Image

To add the file you just saved to Thunkable, scroll the app components down until you see the Files area.

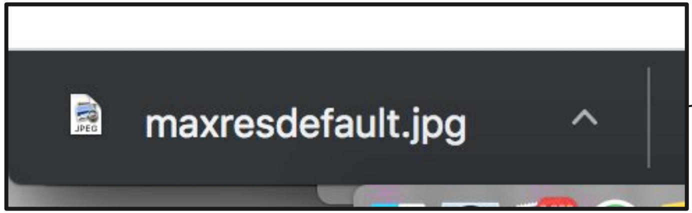
Here you can click ‘Choose a File’ and find your file where it was saved on the computer, or you can drag the file from the bottom right of the screen into the area.



Scroll Down

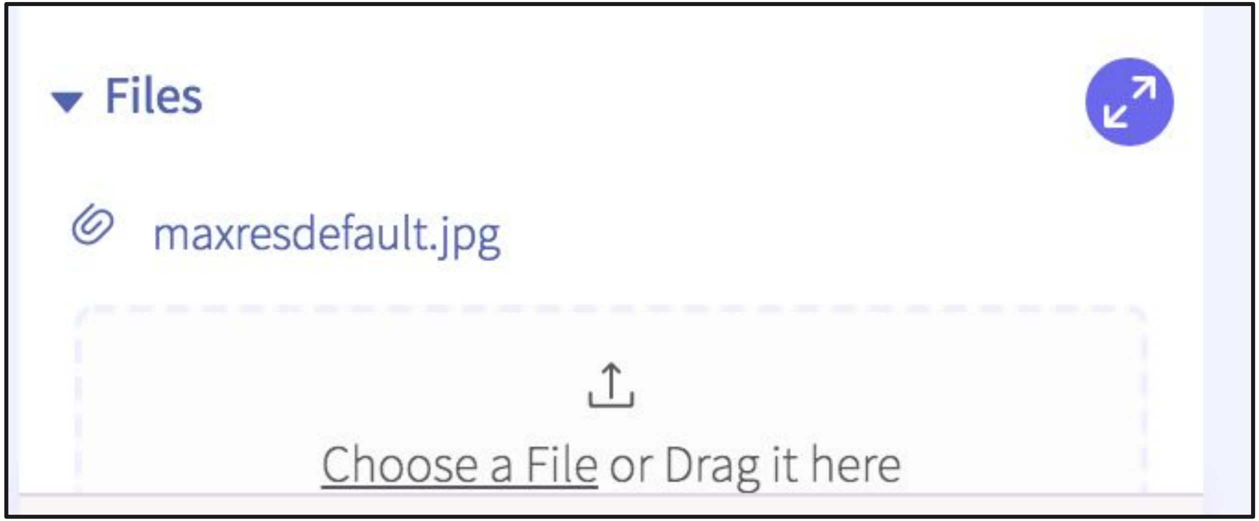


Drag This



Image

Once the image has been added from your computer to Thunkable, you will see its name in the Files list.



▾ Files

maxresdefault.jpg

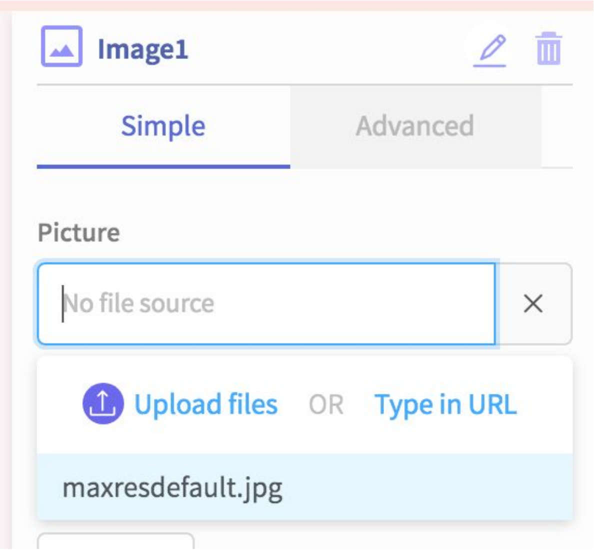
Choose a File or Drag it here

Image

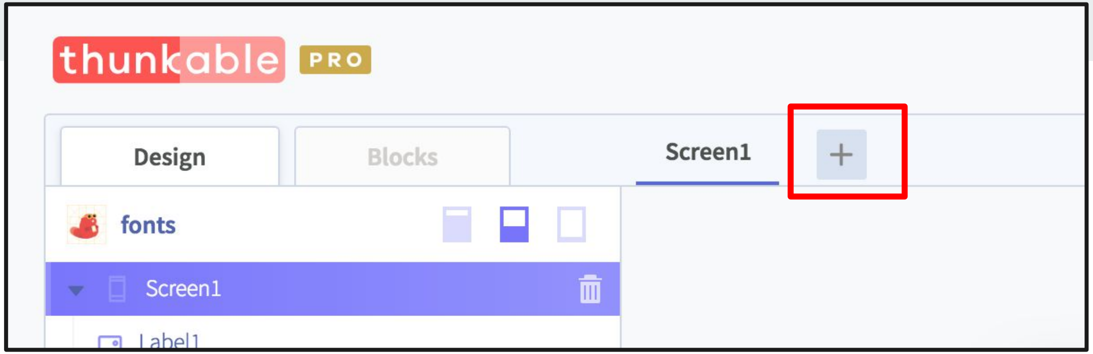
To actually attach the image file to the Image component, click on the image and find the Picture property.

Select the file you want to display from the dropdown menu and click it.

Adjust the Height and Width components if the image is the wrong size or stretched.

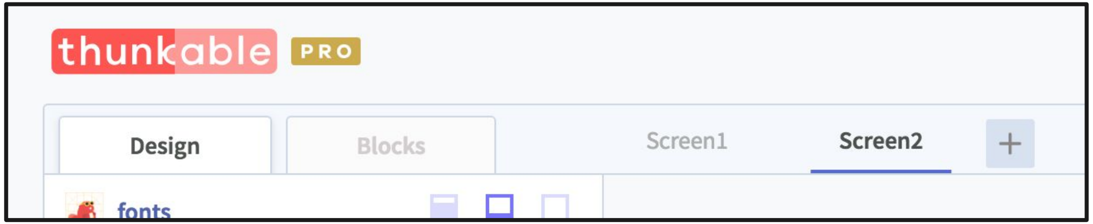


Screens

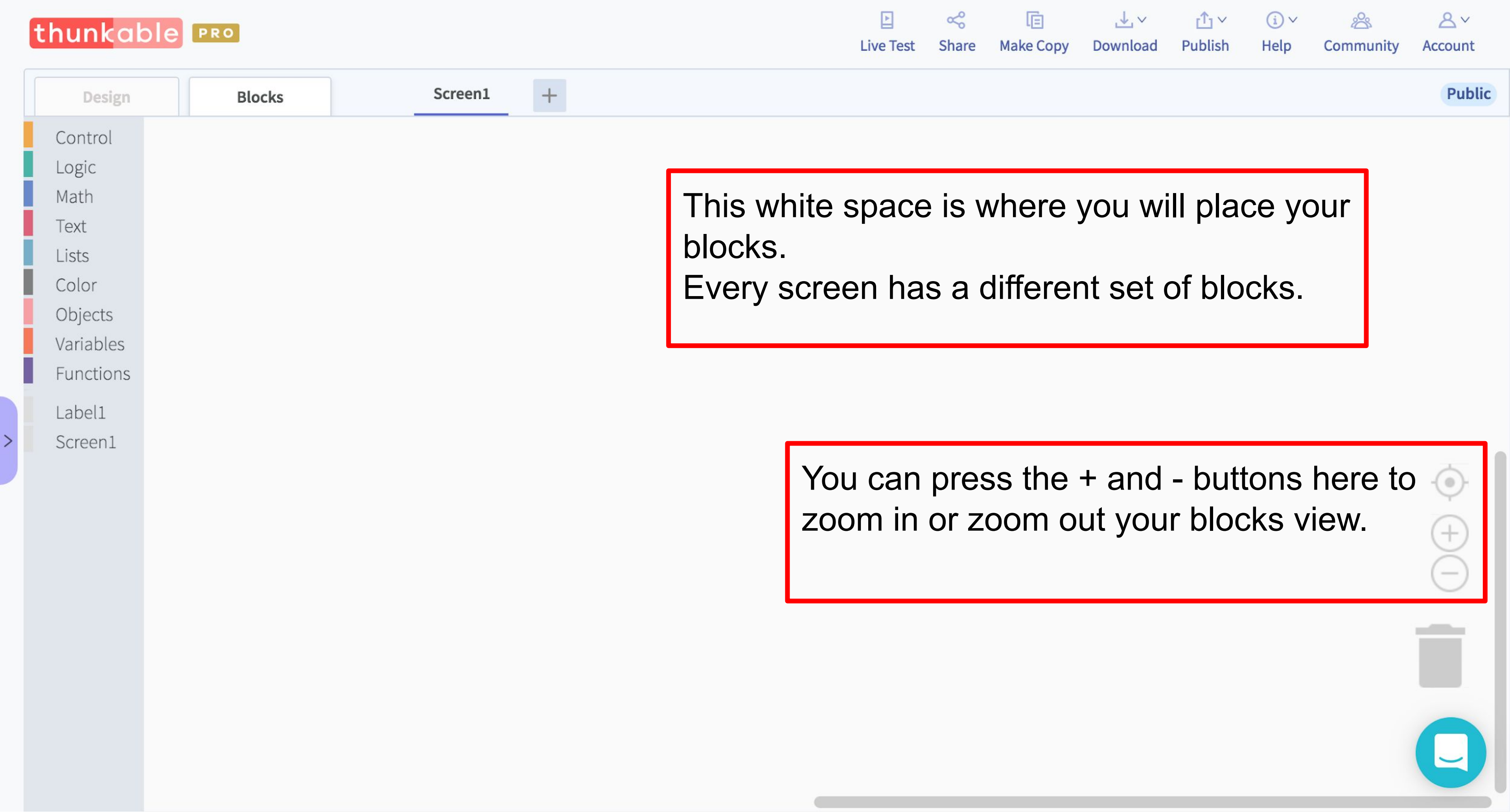


You can add multiple screens into your app by pressing the + button.

You can then switch between them by clicking on their name.

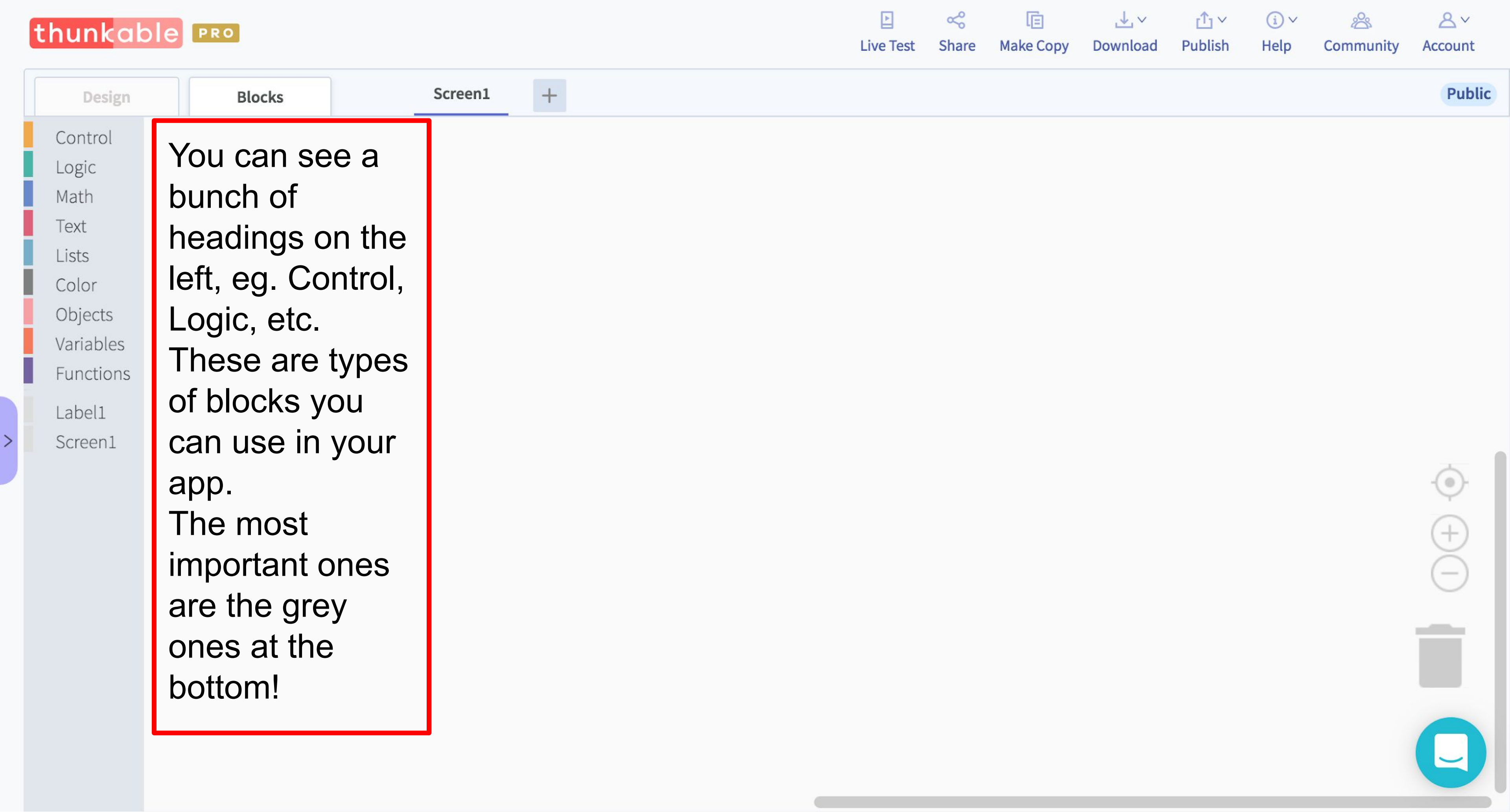


Blocks



This white space is where you will place your blocks.
Every screen has a different set of blocks.

You can press the + and - buttons here to zoom in or zoom out your blocks view.



You can see a bunch of headings on the left, eg. Control, Logic, etc.

These are types of blocks you can use in your app.

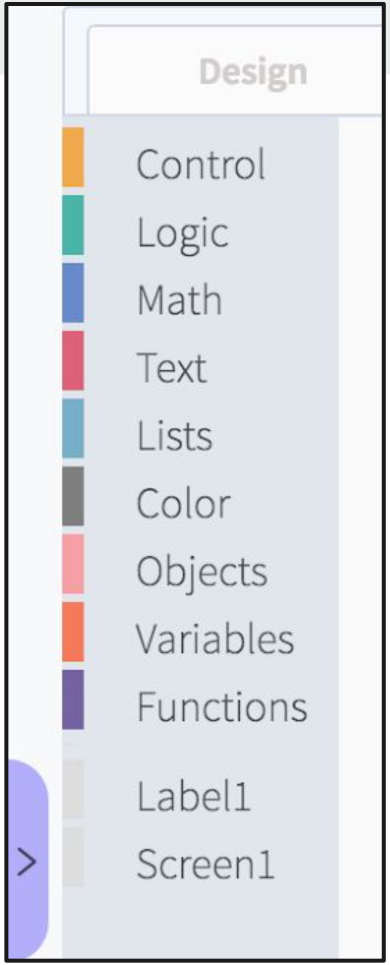
The most important ones are the grey ones at the bottom!

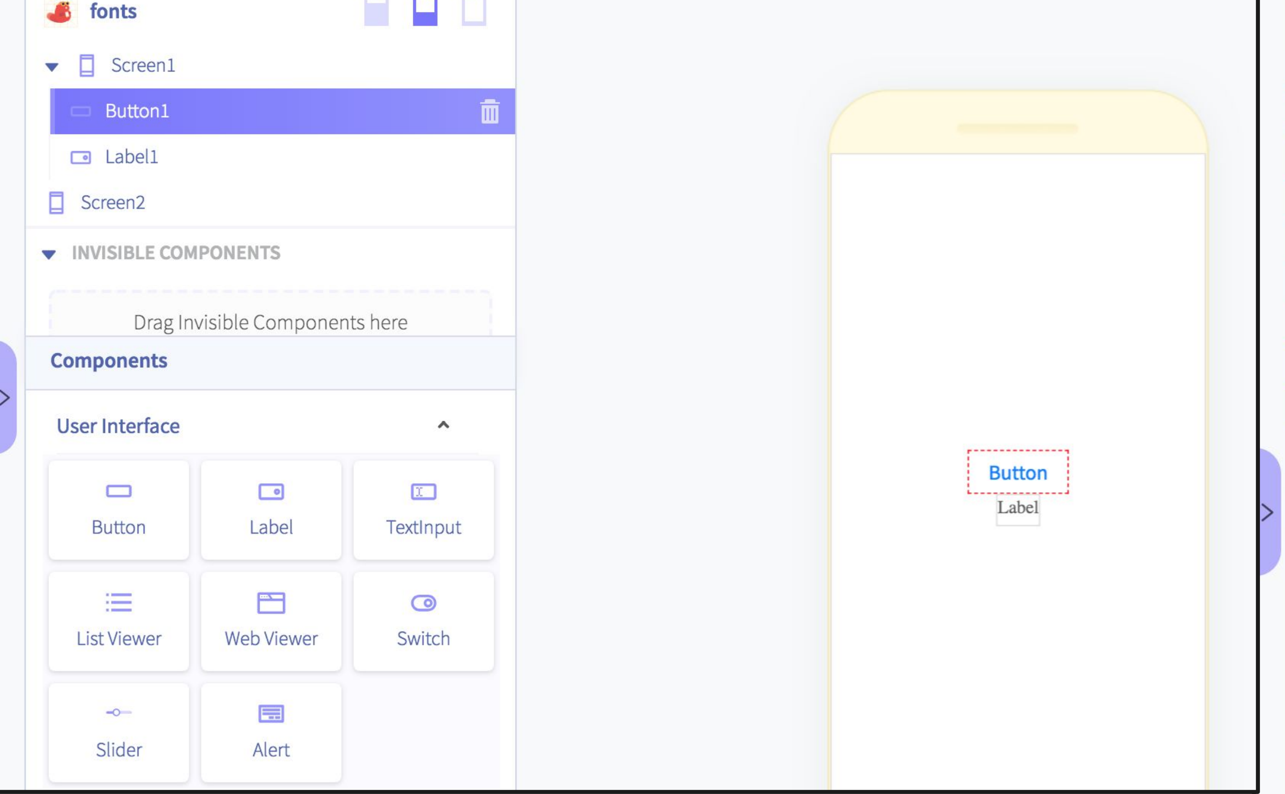
Blocks

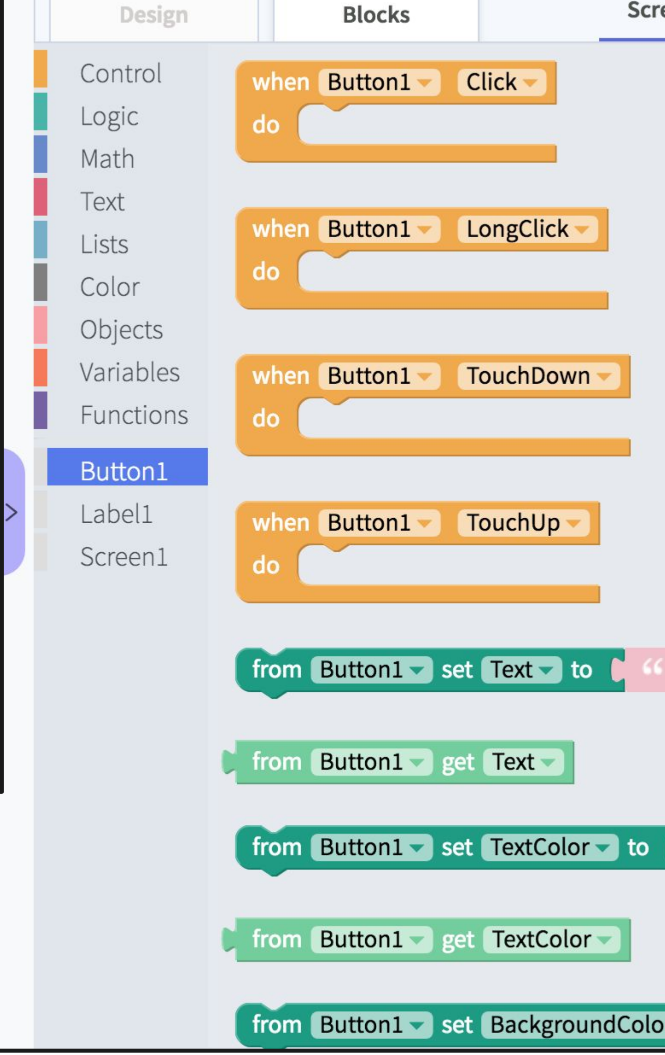
Those first sections are the default blocks. Ignore these for now. They are first but you won’t be using them the most.

The gray blocks at the bottom are for your components.

You will be using the gray ones the most.





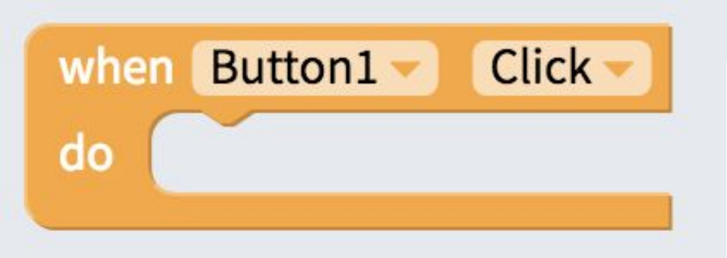


Notice that I have a Button and a Label in my app. You can see that there is a Button and a Label section in my Blocks view. There is a section for each component in your app.

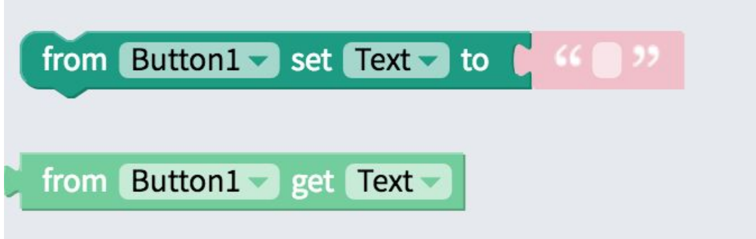
Block Colours

The Colours of the Blocks actually mean something. They give you a hint as to what the block is used for.

- Yellow: The block is an ‘Event Listener’.
- Green: The block is a property.
- Purple: The block is a function.

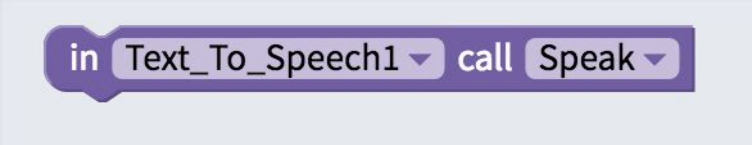


when Button1 Click
do



from Button1 set Text to “ ”

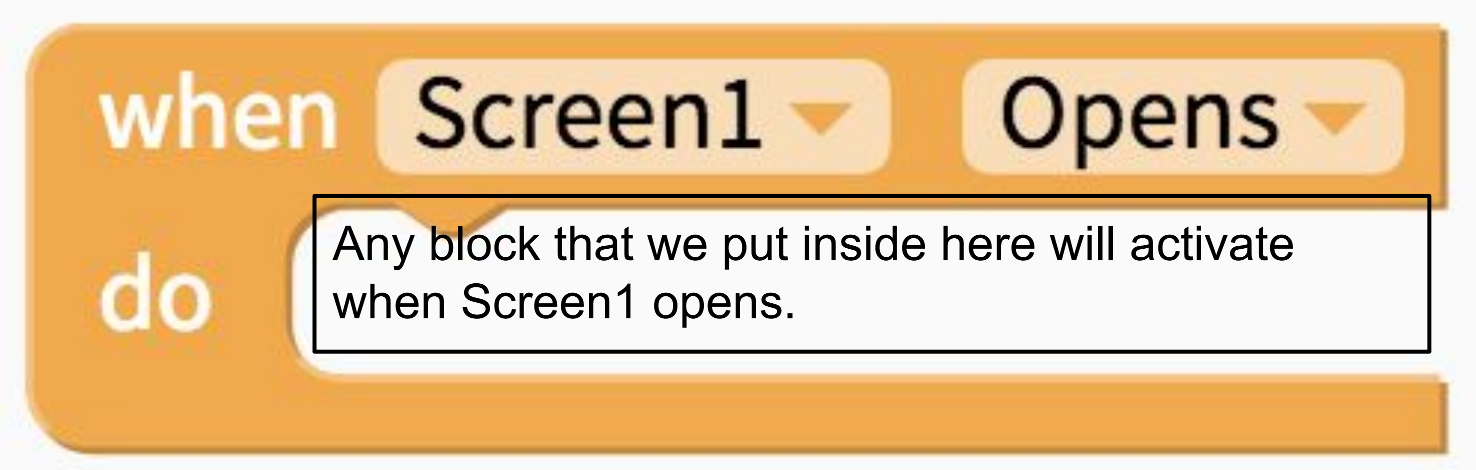
from Button1 get Text



in Text_To_Speech1 call Speak

Yellow Blocks - Event Listeners

You always need an Event Listener when you want some kind of action to occur in your app - the Event Listener is what determines when the action occurs.



Any block that we put inside here will activate when Screen1 opens.

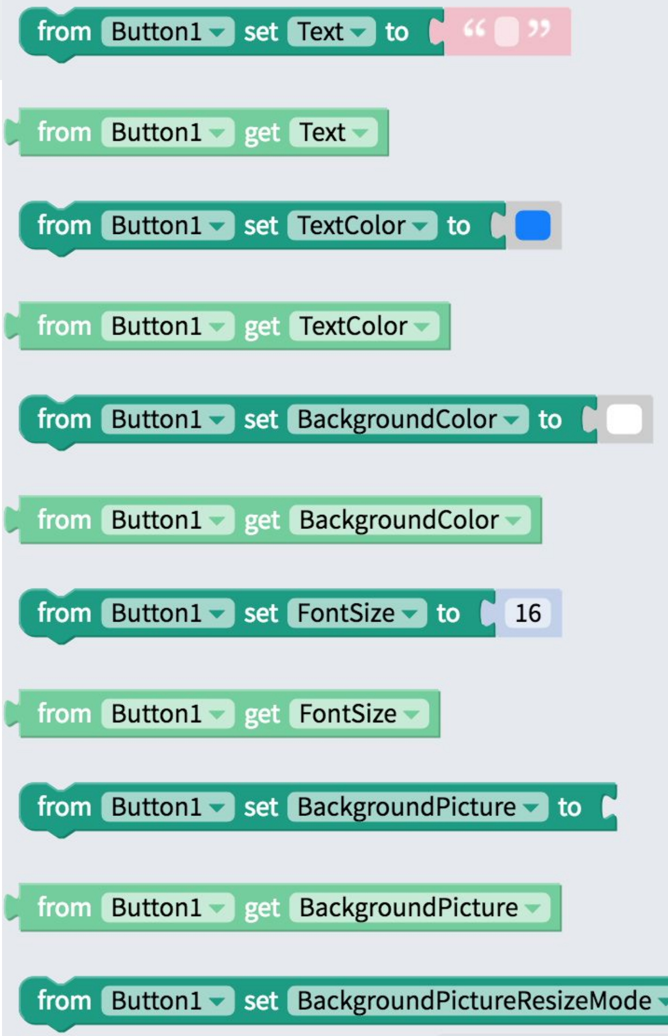
Green Blocks - Properties

There are two types of green blocks: Set and Get.

What is the difference?

SET lets you change a property.

GET only lets you see the property.

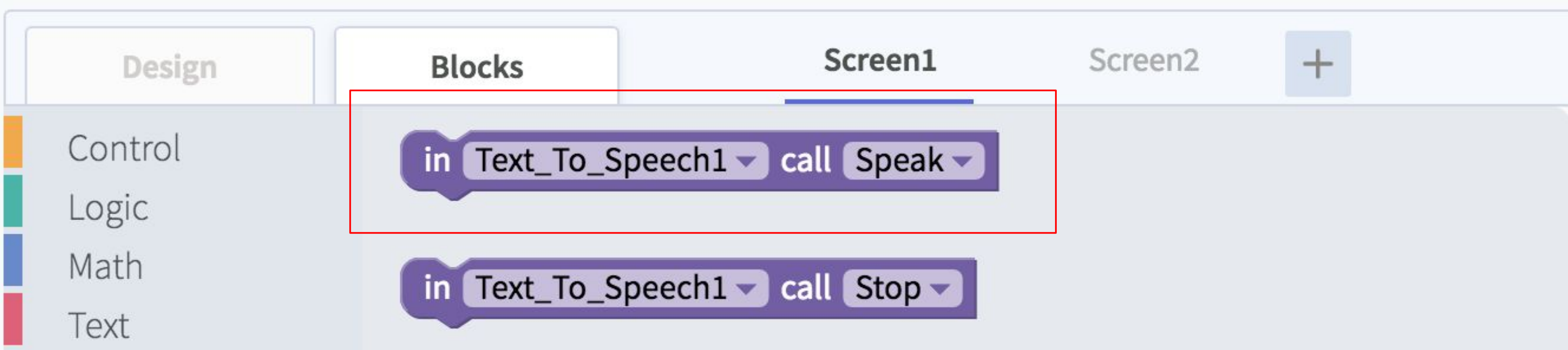


```
from Button1 set Text to “ ”
from Button1 get Text
from Button1 set TextColor to
from Button1 get TextColor
from Button1 set BackgroundColor to
from Button1 get BackgroundColor
from Button1 set FontSize to 16
from Button1 get FontSize
from Button1 set BackgroundPicture to
from Button1 get BackgroundPicture
from Button1 set BackgroundPictureResizeMode
```

Purple Blocks - Functions

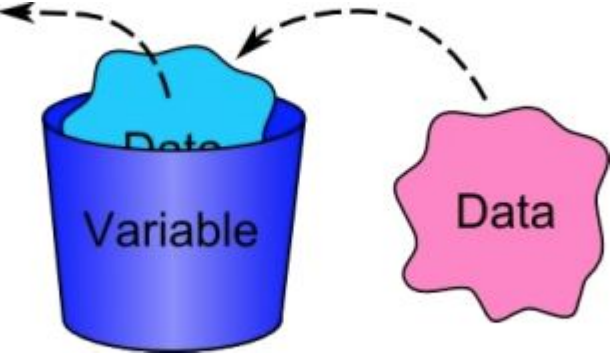
Functions are like a set of instructions, but combined into one command.

Try adding this block into your app



Variables

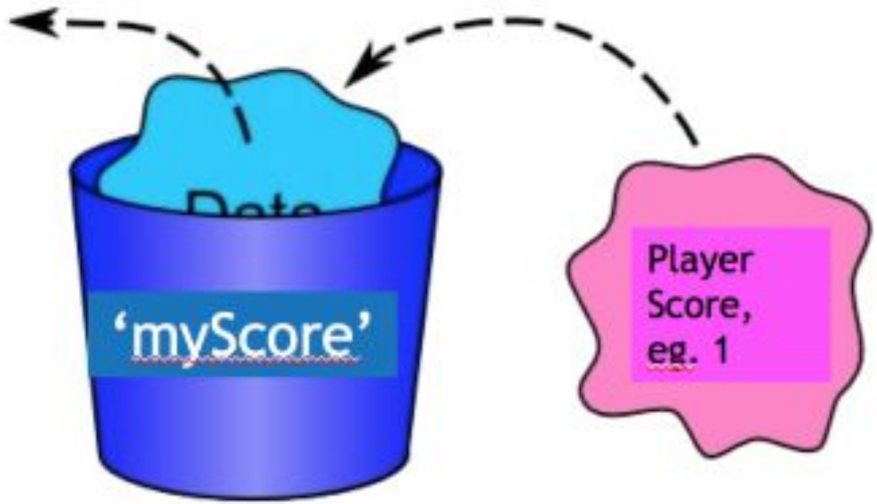
Variables



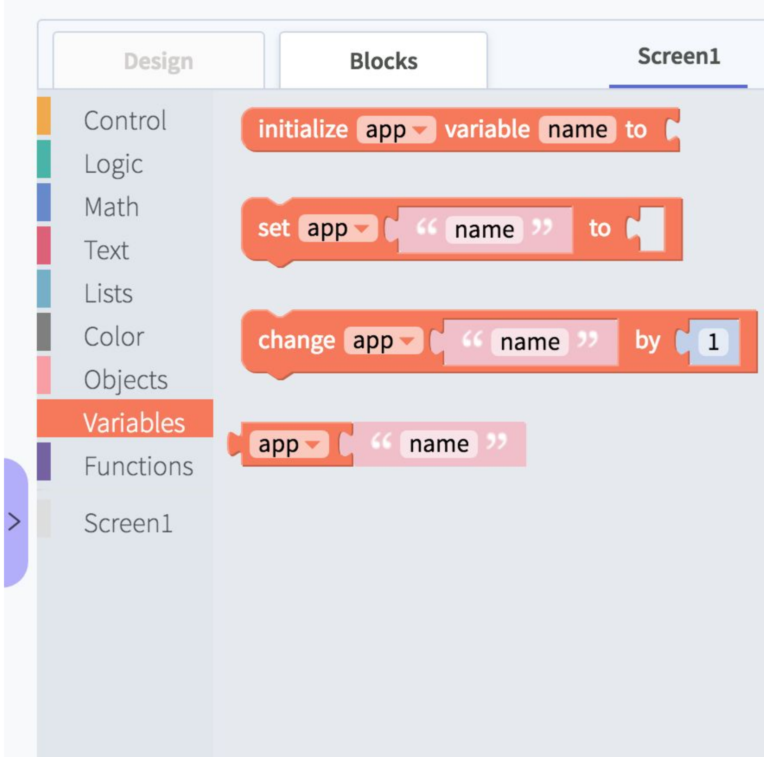
This is like a box that stores information. The information can be a number, a word, a sentence, anything.

The most important thing is that it can CHANGE. This is vital for keeping track of score, position of character, anything that CHANGES.

This is an example of a variable called ‘myScore’

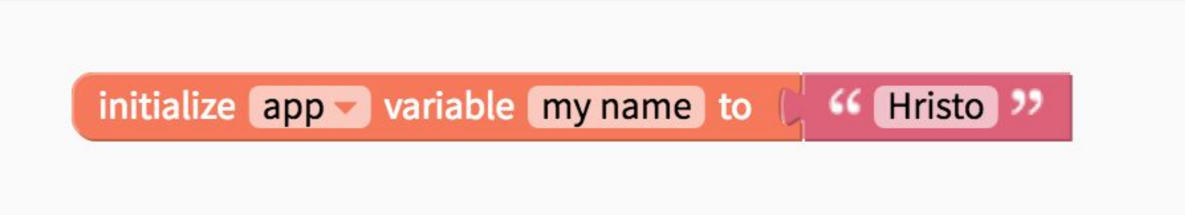


Variables in Thunkable



```
initialize app variable name to
set app " name " to
change app " name " by 1
app " name "
```

Click on the ‘Variables’ drawer in Thunkable to see the Variables blocks.



```
initialize app variable my name to “ Hristo ”
```

Creating a variable

Use the ‘initalize’ block to create a new variable.

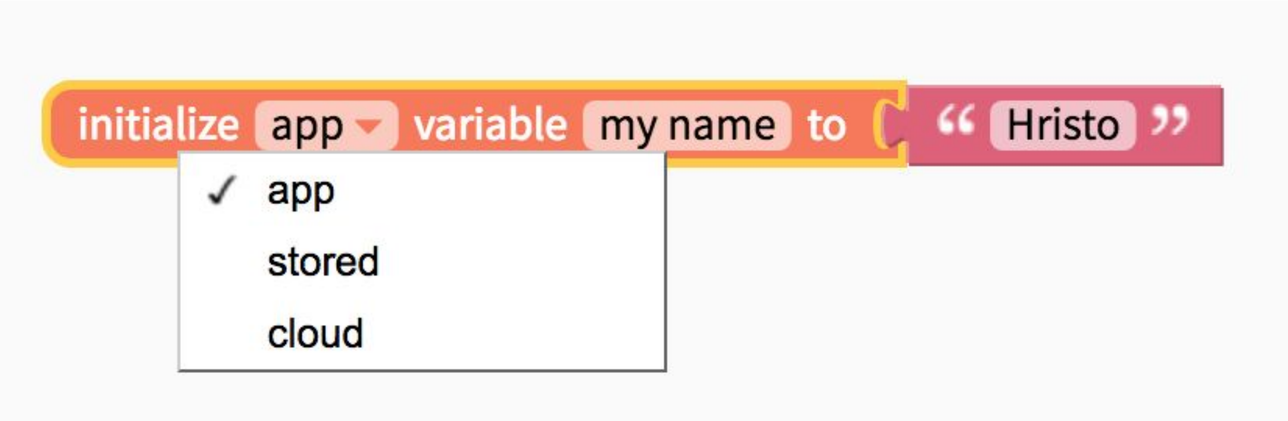
Here I’ve created a variable called ‘my name’. I’ve made it equal to ‘Hristo’.

I’ve created a box labelled ‘my name’ and put ‘Hristo’ inside it.

‘App’ variables

These are stored directly in the app’s files.

Not good for really big variables (such as lists) as it will make the app take up a lot of space.

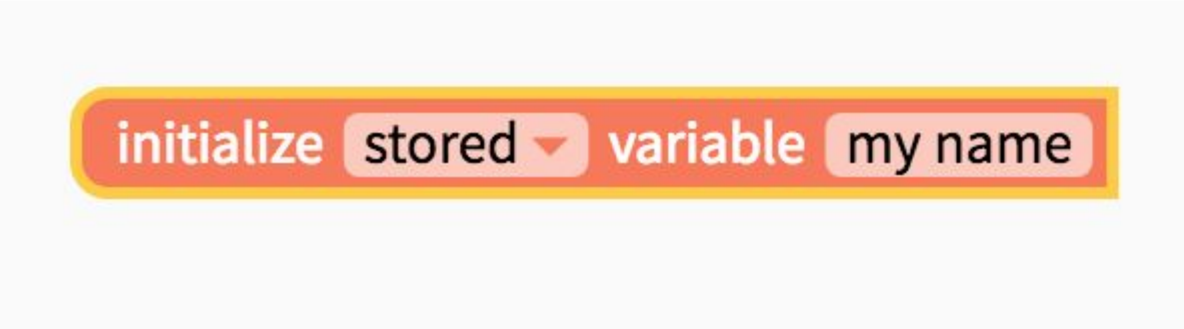


initialize app variable my name to “ Hristo ”

‘Stored’ variables

These are stored directly in phone’s database.

Better than ‘app’ for big variables.

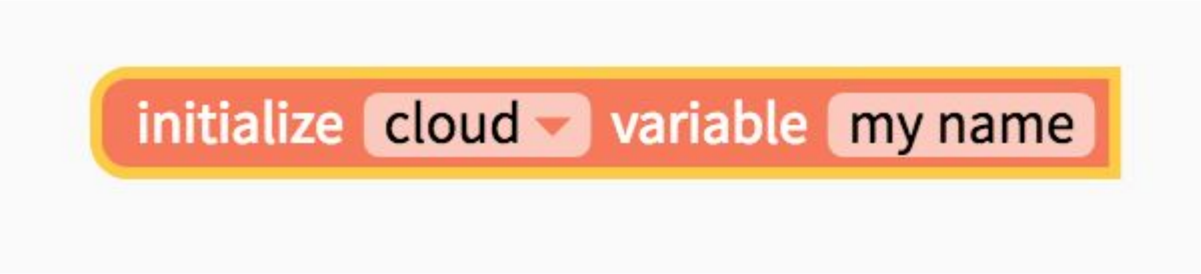


initialize stored ▾ variable my name

‘cloud’ variables

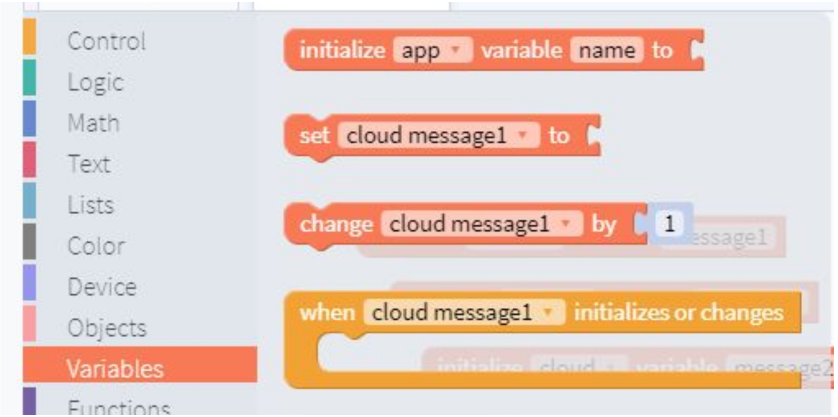
These are stored on the internet.

It lets you access the same variable on multiple different phones.



```
initialize cloud ▾ variable my name
```

Changing variables



```
initialize app variable name to
set cloud message1 to
change cloud message1 by 1
when cloud message1 initializes or changes
```

‘Set’ lets you change the variable to a specific value.

‘Change’ lets you increase or decrease the variable by a certain number (only works if the variable contains a number!)

There is also an Event Listener which activates when the variable changes.

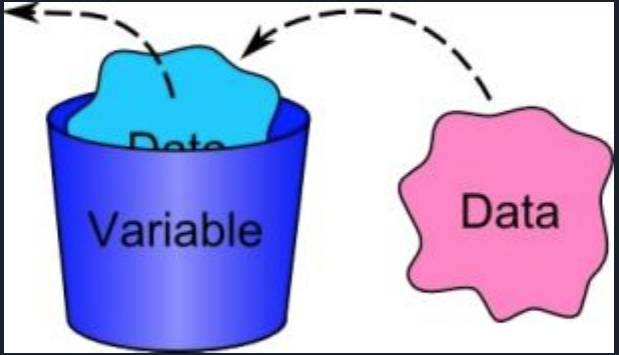
Lists in Thunkable

Lists

Lists are a very important part of making apps.

We’ve learned how to create Variables.

These allow you to store just one piece of information.

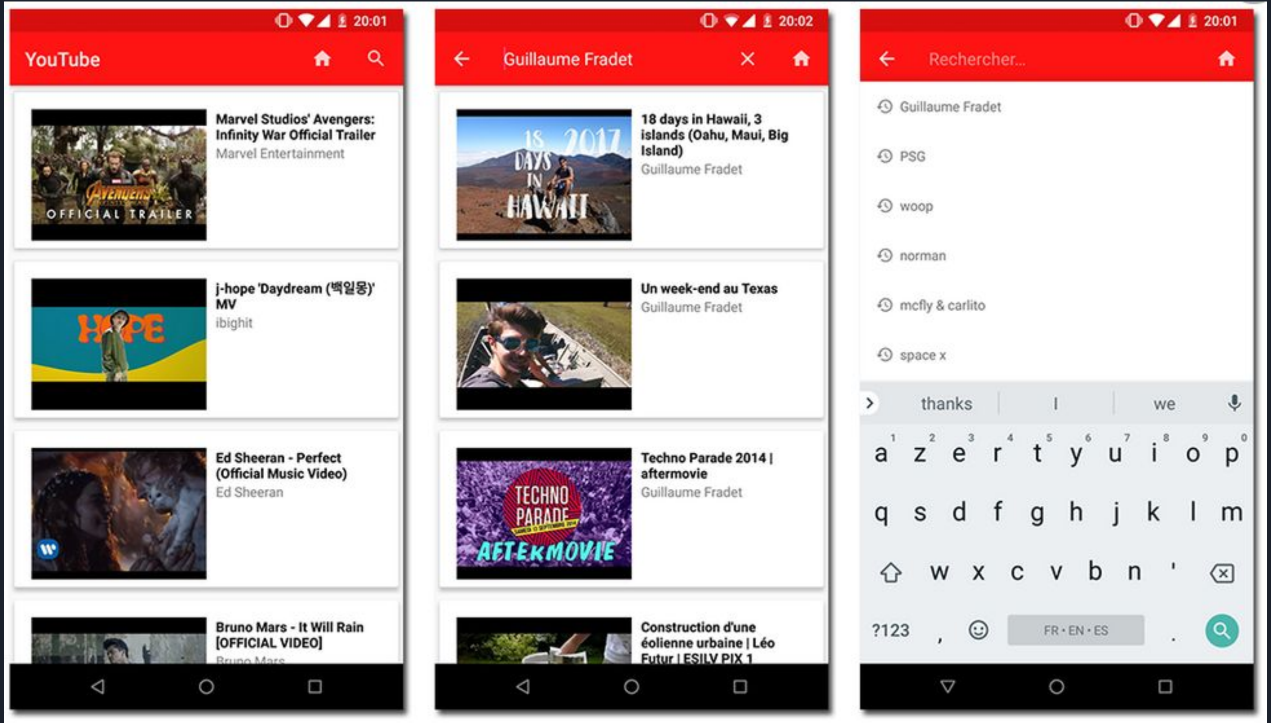


Lists

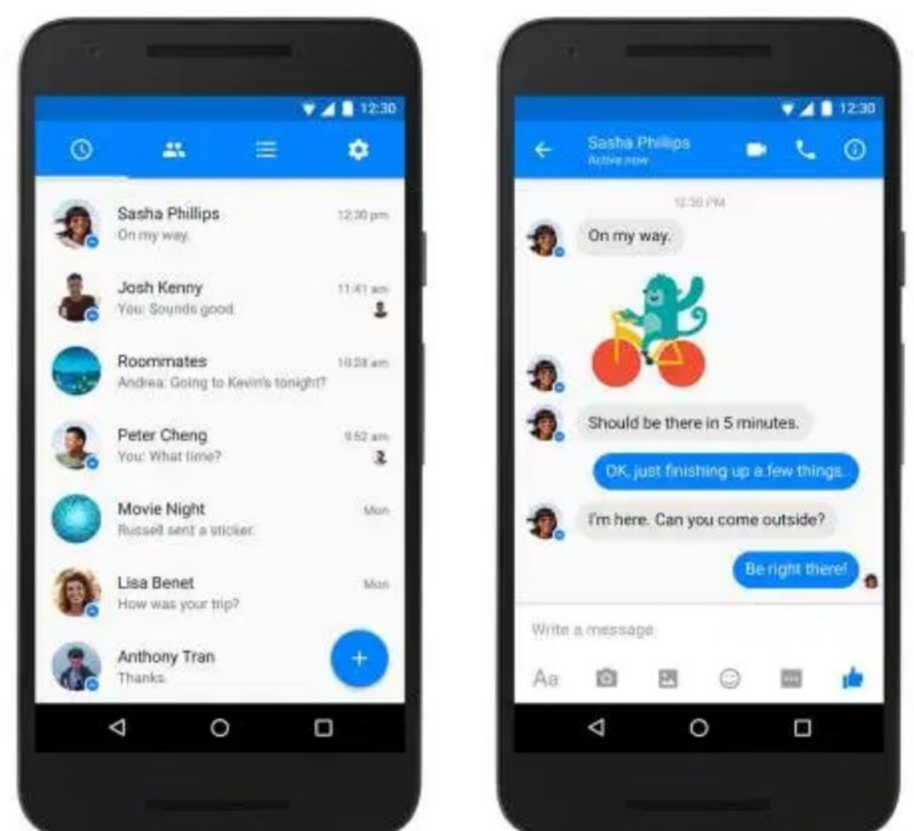
However, you will often need to store LISTS of information.

Can you think of any apps that may need to use lists?

The Youtube App


20:01
YouTube
Marvel Studios' Avengers: Infinity War Official Trailer
Marvel Entertainment
j-hope 'Daydream (백일몽)' MV
ibighit
Ed Sheeran - Perfect (Official Music Video)
Ed Sheeran
Bruno Mars - It Will Rain [OFFICIAL VIDEO]
Bruno Mars
20:02
Guillaume Fradet
18 days in Hawaii, 3 islands (Oahu, Maui, Big Island)
Guillaume Fradet
Un week-end au Texas
Guillaume Fradet
Techno Parade 2014 | aftermovie
Guillaume Fradet
Construction d'une éolienne urbaine | Léo Futur | ESILV PIX 1
20:01
Rechercher...
Guillaume Fradet
PSG
woop
norman
mcfly & carlito
space x
thanks
I
we
a z e r t y u i o p
q s d f g h j k l m
w x c v b n '
?123
,
FR · EN · ES
.

Messenger Apps



12:30

Sasha Phillips 12:30 pm
On my way.

Josh Kenny 11:41 am
You: Sounds good.

Roommates 10:28 am
Andrea: Going to Kevin's tonight?

Peter Cheng 9:52 am
You: What time?

Movie Night Mon
Russell sent a sticker.

Lisa Benet Mon
How was your trip?

Anthony Tran
Thanks.

12:30

Sasha Phillips
Active now

12:30 PM

On my way.

Should be there in 5 minutes.

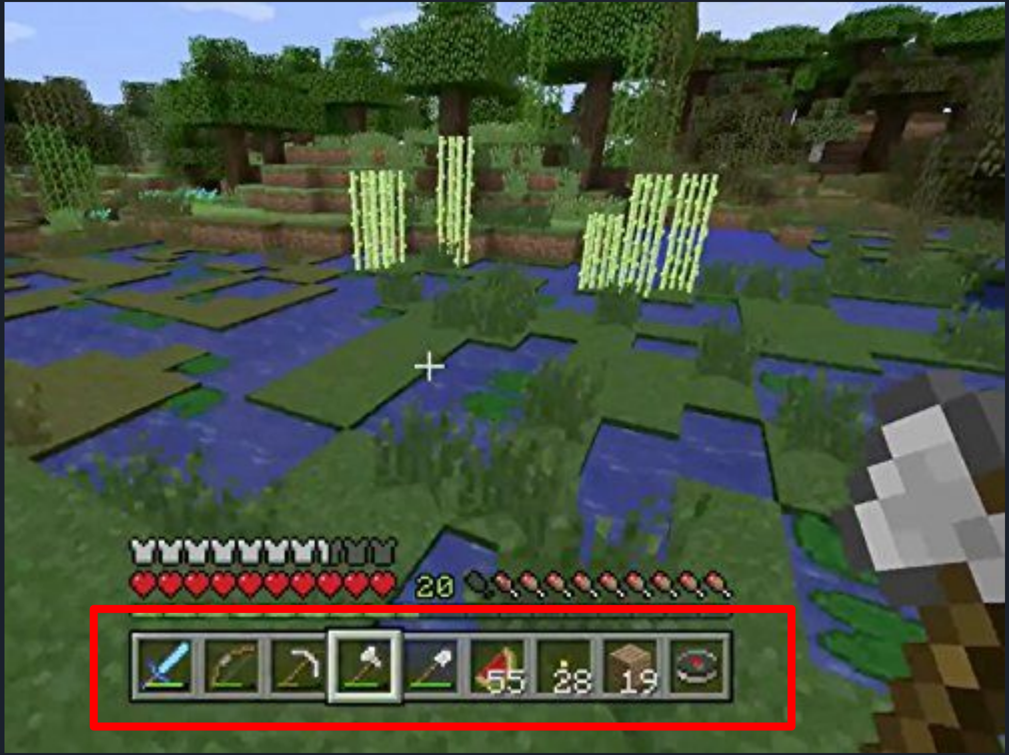
OK, just finishing up a few things.

I'm here. Can you come outside?

Be right there!

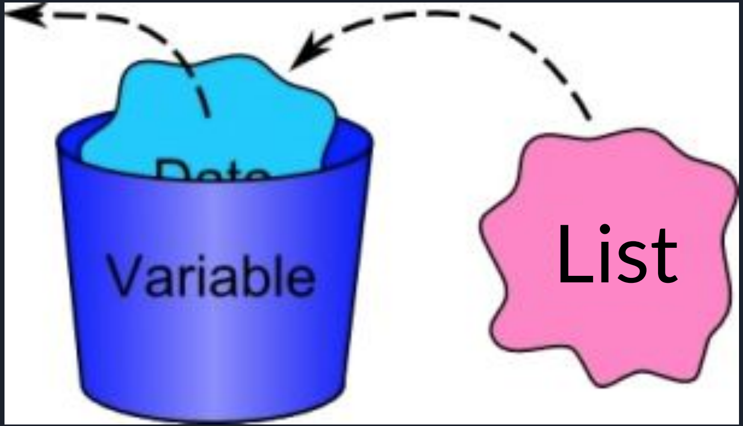
Write a message

Video Games

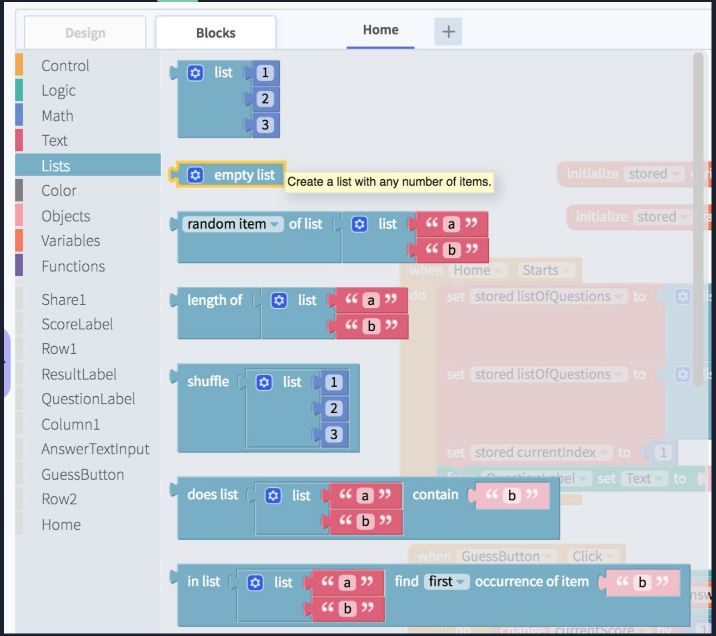


Lists

Lists are like variables where instead of just one piece of information, we have a whole list of information inside the bucket.



Lists



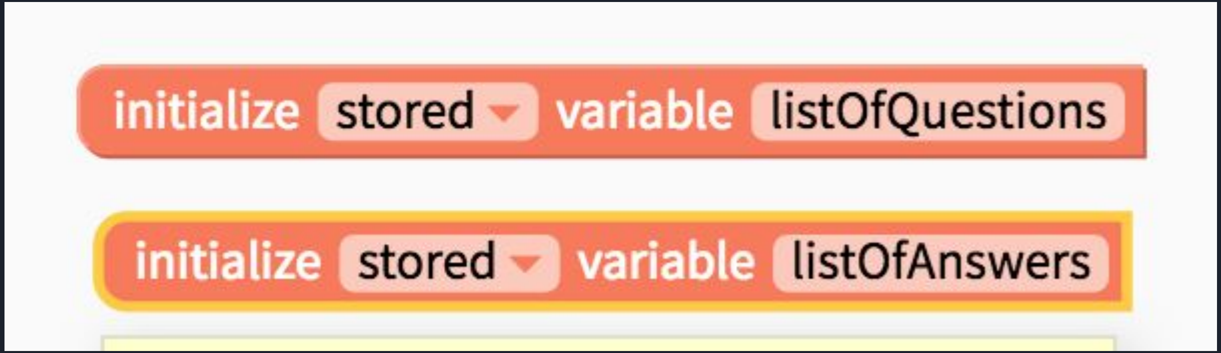
Create a list with any number of items.

The List-related blocks in Thunkable can be found in the blue ‘Lists’ drawer.

Making Lists

You can make a list the same way you would any other variable.

Use the ‘initialize’ block in the Variables drawer/

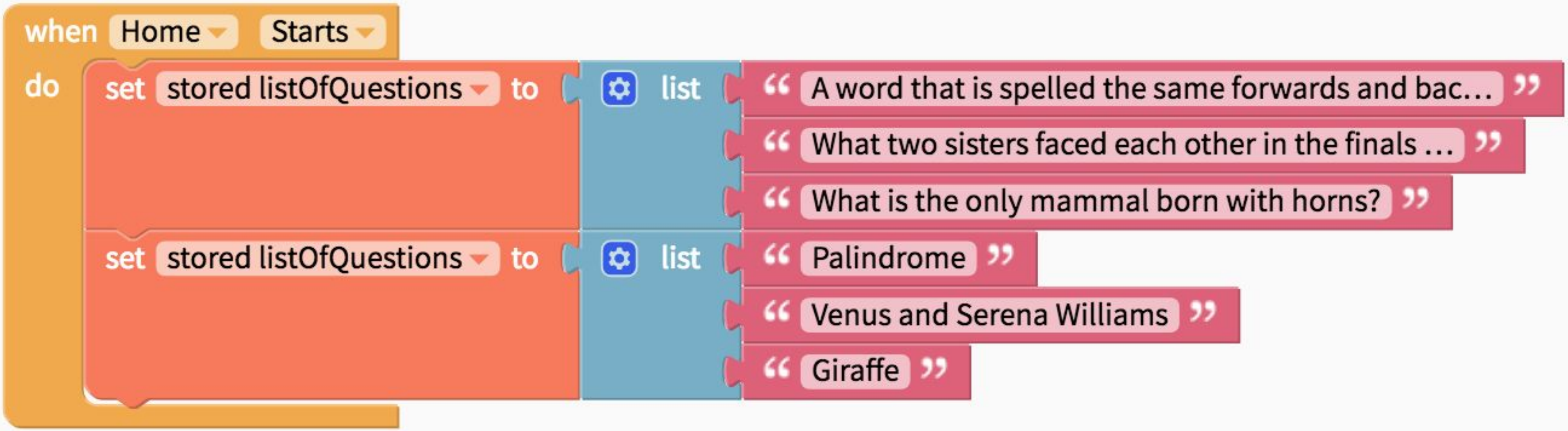


initialize stored variable listOfQuestions

initialize stored variable listOfAnswers

Filling Up Your Lists

When you’ve made your List Variables, you need to actually fill them up.



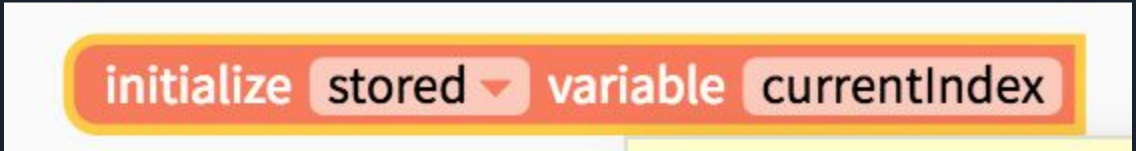
```
when Home Starts
do  set stored listOfQuestions to list “ A word that is spelled the same forwards and bac… ”
                                       “ What two sisters faced each other in the finals … ”
                                       “ What is the only mammal born with horns? ”
    set stored listOfQuestions to list “ Palindrome ”
                                       “ Venus and Serena Williams ”
                                       “ Giraffe ”
```

List Indexes

How do we know at what position we currently are in the list?

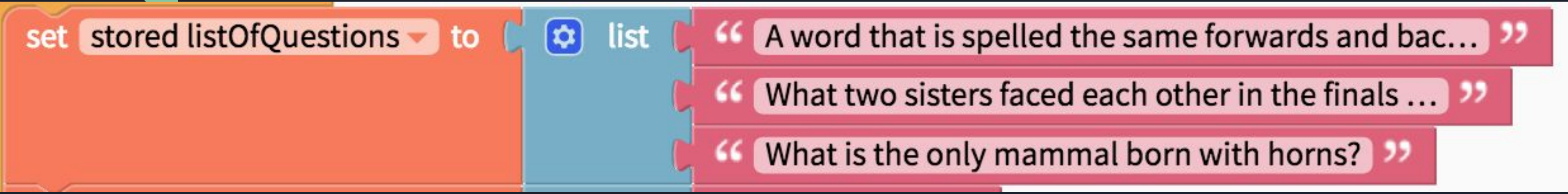
We use what’s called an ‘Index’ variable.

This is like a counter that tells you where you are currently in your list.



```
initialize stored variable currentIndex
```

List Indexes

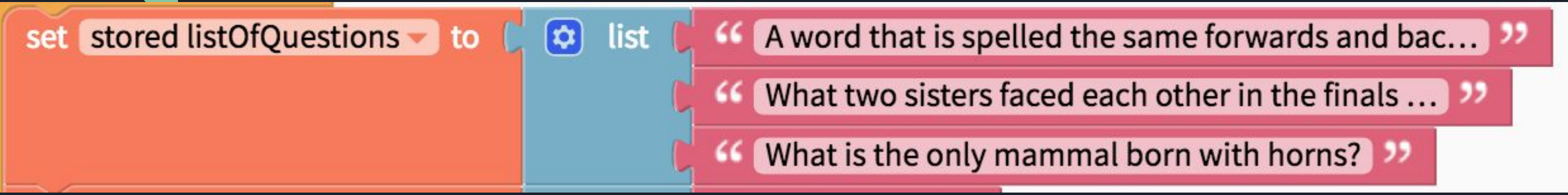


```
set stored listOfQuestions to list "A word that is spelled the same forwards and bac..."
                                   "What two sisters faced each other in the finals ..."
                                   "What is the only mammal born with horns?"
```

In this list, what is the index of the first question?

What about the third question?

List Indexes



set stored listOfQuestions to list

“ A word that is spelled the same forwards and bac... ”

“ What two sisters faced each other in the finals ... ”

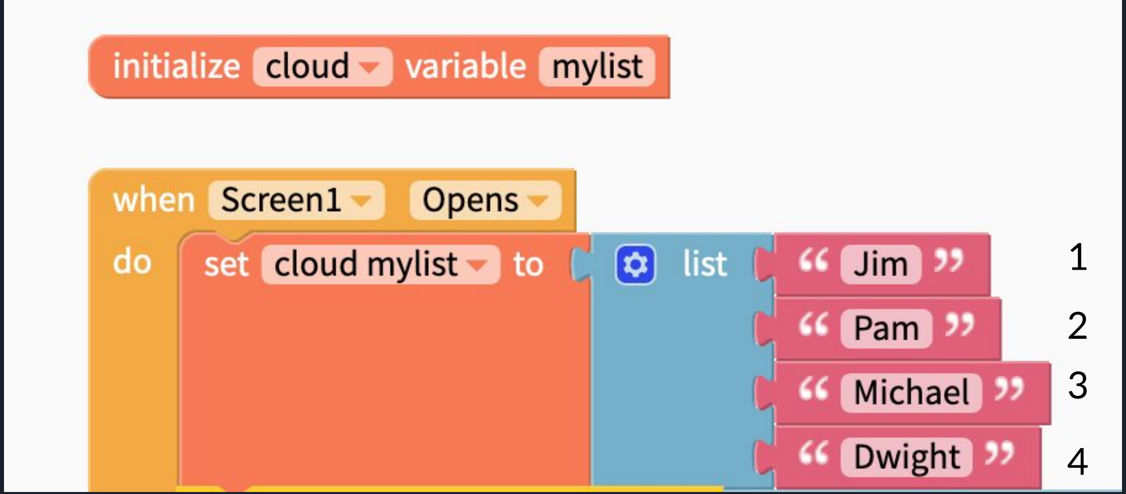
“ What is the only mammal born with horns? ”

The index of the first question is 1.

The index of the third question is 3.

List Indexes

Here is a list with four names, and the indexes.



```
initialize cloud variable mylist

when Screen1 Opens
do  set cloud mylist to  list  " Jim "        1
                               " Pam "        2
                               " Michael "    3
                               " Dwight "     4
```

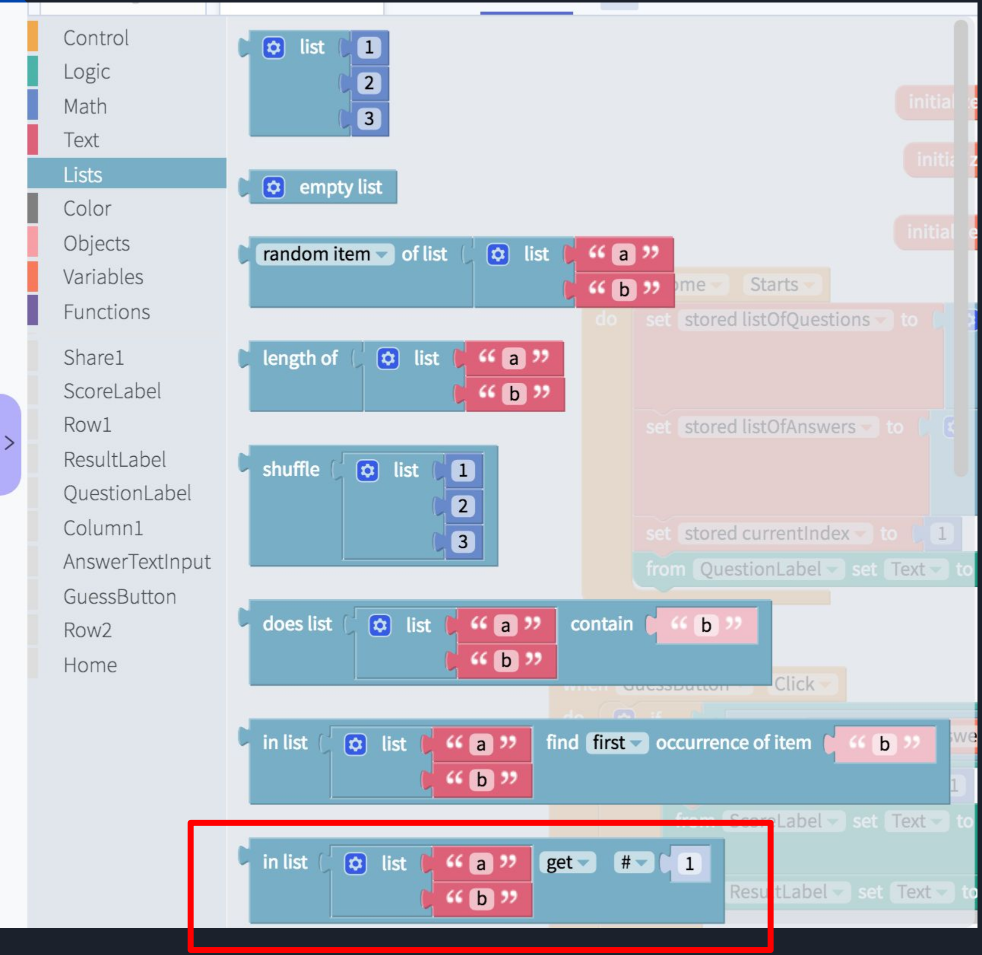
Getting something from a list at a certain Index

Say we want to get the Item in a List at the position of the index.

For instance, if we want the first, second, third, etc. item.

If our index is one, we will get the first item, if it is two, we will get the second item, etc.

How do we do this?

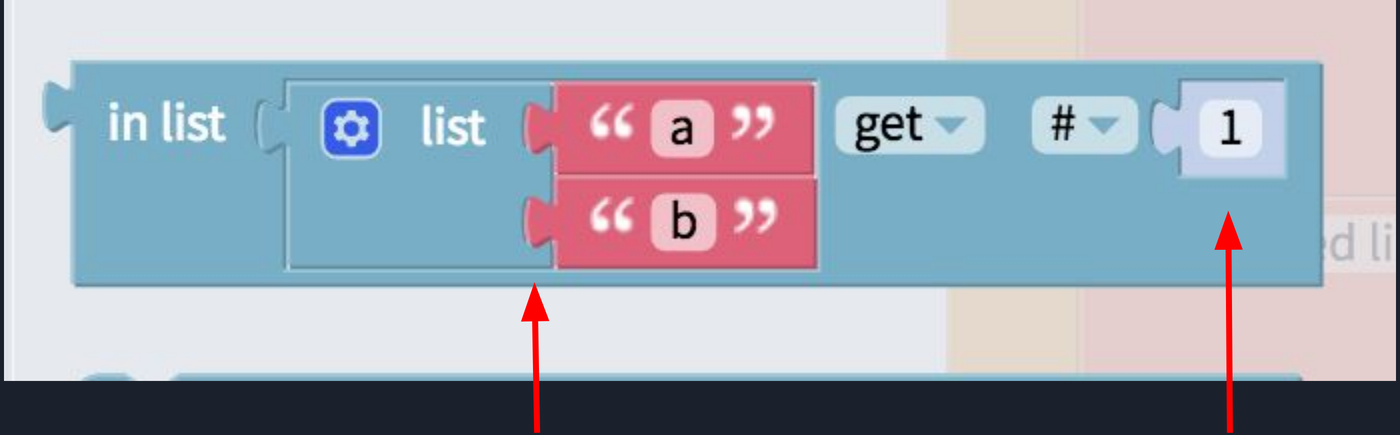


Getting the List Value at a Certain Index

The block we need is:

'In list __ get #'

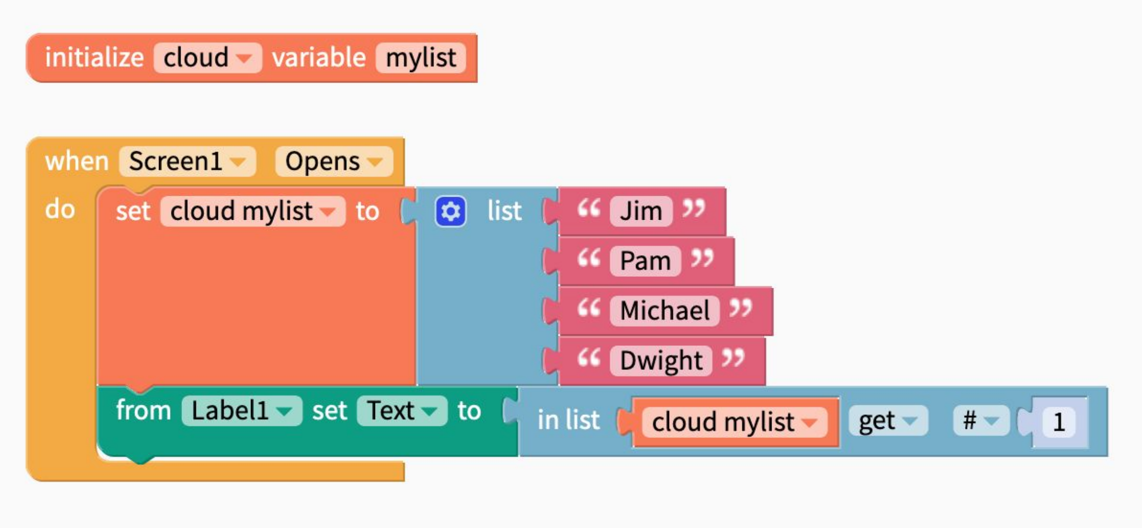
Getting the List Value at a Certain Index



The List Variable goes here.

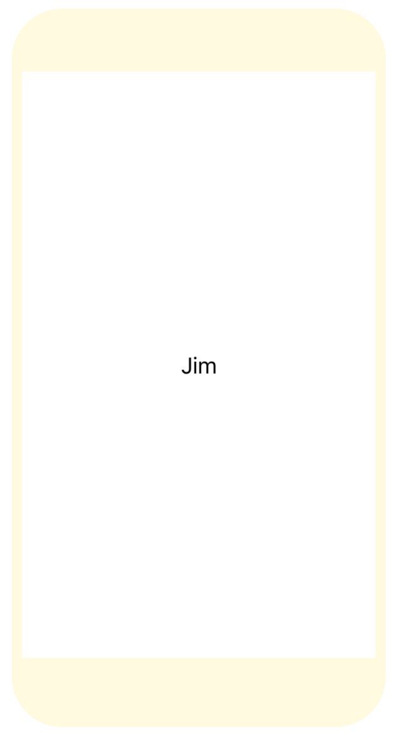
List Index Variable goes here.

Getting the first item from a list and putting it in a label



```
initialize cloud variable mylist

when Screen1 Opens
do  set cloud mylist to  list  " Jim "
                               " Pam "
                               " Michael "
                               " Dwight "
    from Label1 set Text to  in list  cloud mylist  get  #  1
```



Jim

For next time...

I want you to work on your final project.

You can find many tutorials online:

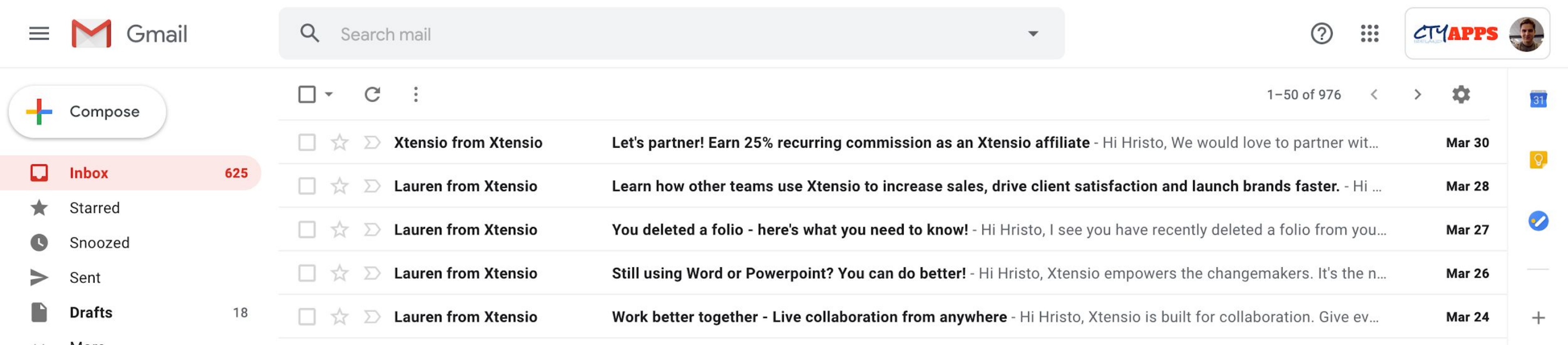
https://community.thunkable.com/c/thunkable-cross-tutorials

https://www.youtube.com/channel/UCHDDjy-6nbgwdrJpSZIfCOA/videos

Sharing a Project

You will email me your project so I can check it.

Go to https://mail.google.com and sign in to your CTYI account.



Xtensio from Xtensio — Let's partner! Earn 25% recurring commission as an Xtensio affiliate - Hi Hristo, We would love to partner wit... — Mar 30

Lauren from Xtensio — Learn how other teams use Xtensio to increase sales, drive client satisfaction and launch brands faster. - Hi ... — Mar 28

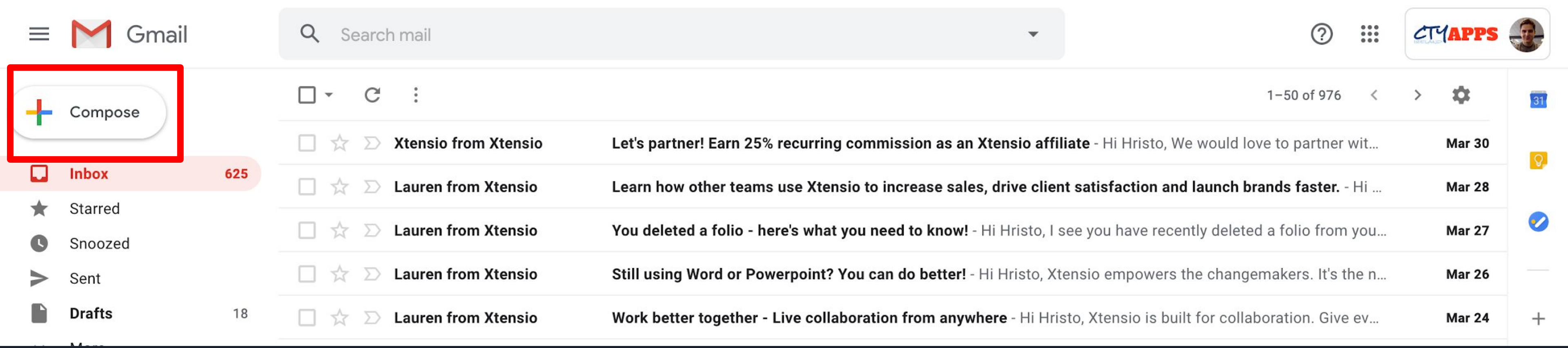
Lauren from Xtensio — You deleted a folio - here's what you need to know! - Hi Hristo, I see you have recently deleted a folio from you... — Mar 27

Lauren from Xtensio — Still using Word or Powerpoint? You can do better! - Hi Hristo, Xtensio empowers the changemakers. It's the n... — Mar 26

Lauren from Xtensio — Work better together - Live collaboration from anywhere - Hi Hristo, Xtensio is built for collaboration. Give ev... — Mar 24

Sharing a Project

Click on Compose.



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Lauren from Xtensio	**Learn how other teams use Xtensio to increase sales, drive client satisfaction and launch brands faster.** - Hi ...	Mar 28
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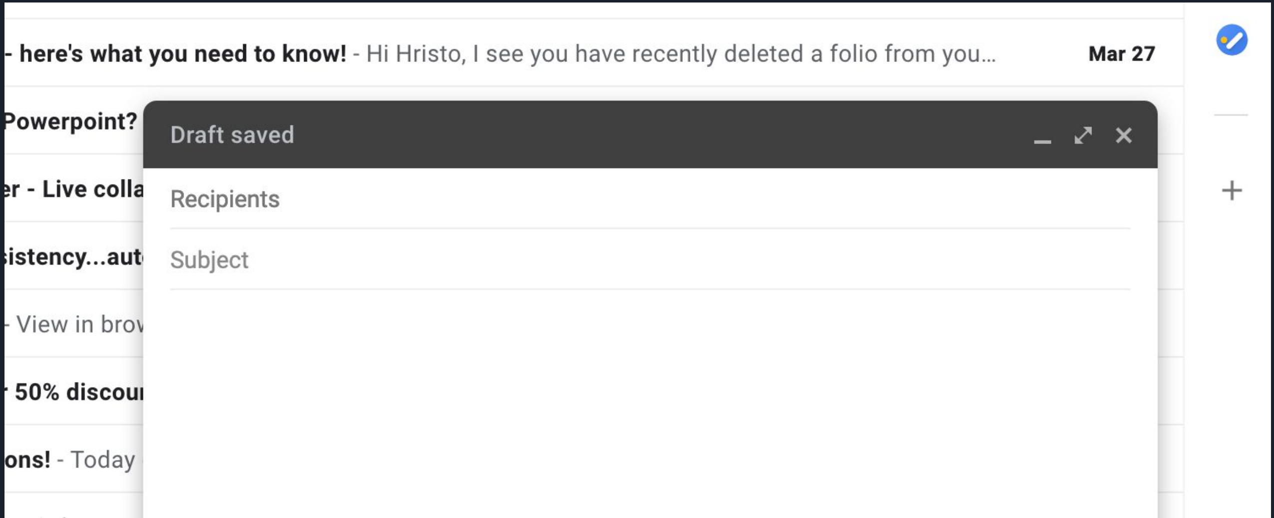
Lauren from Xtensio	**Work better together - Live collaboration from anywhere** - Hi Hristo, Xtensio is built for collaboration. Give ev...	Mar 24

Sharing a Project

Click on Compose.

In ‘Recipients’, type my email: hristo.stoev.staff@ctyi.org



- here's what you need to know! - Hi Hristo, I see you have recently deleted a folio from you... Mar 27

Powerpoint?

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- View in brov

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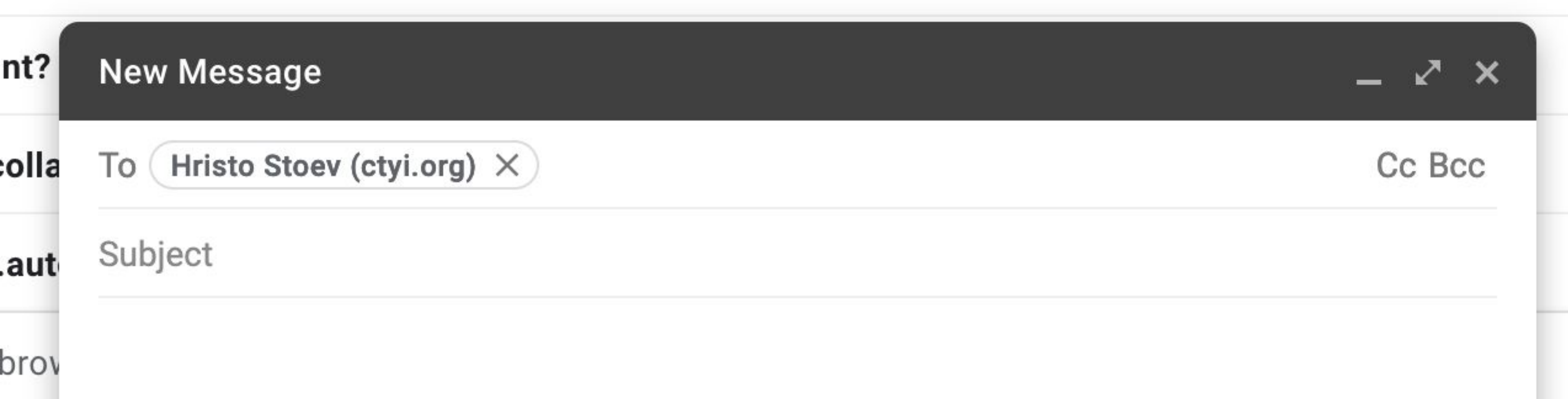
ons! - Today



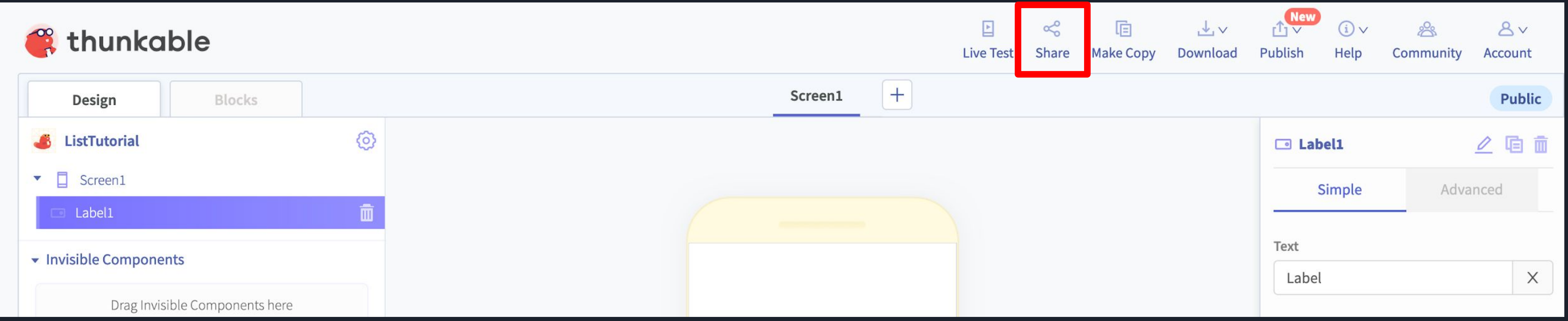
New Message

To Hristo Stoev (ctyi.org)

Sharing your Thunkable Project

Back in Thunkable, open the project you want to share.

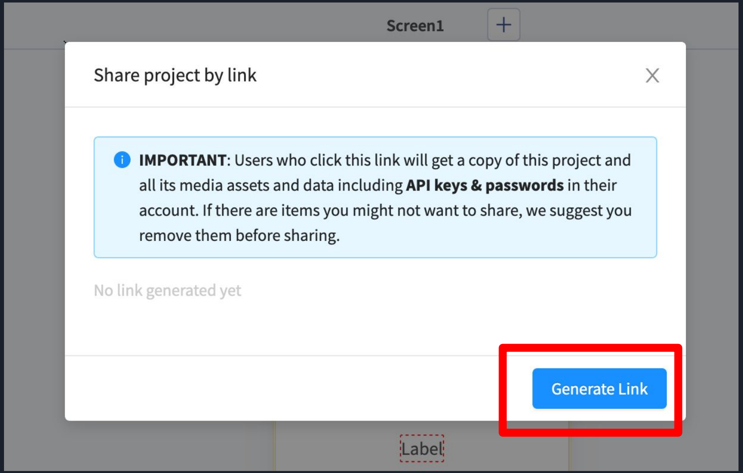
Click on Share.



Sharing your Thunkable Project

Click on ‘Generate Link’

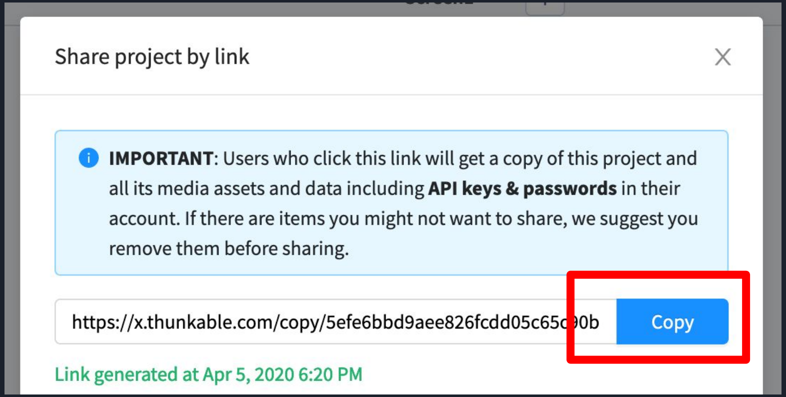
Then click on ‘Copy’



Share project by link

IMPORTANT: Users who click this link will get a copy of this project and all its media assets and data including **API keys & passwords** in their account. If there are items you might not want to share, we suggest you remove them before sharing.

No link generated yet



Share project by link

IMPORTANT: Users who click this link will get a copy of this project and all its media assets and data including **API keys & passwords** in their account. If there are items you might not want to share, we suggest you remove them before sharing.

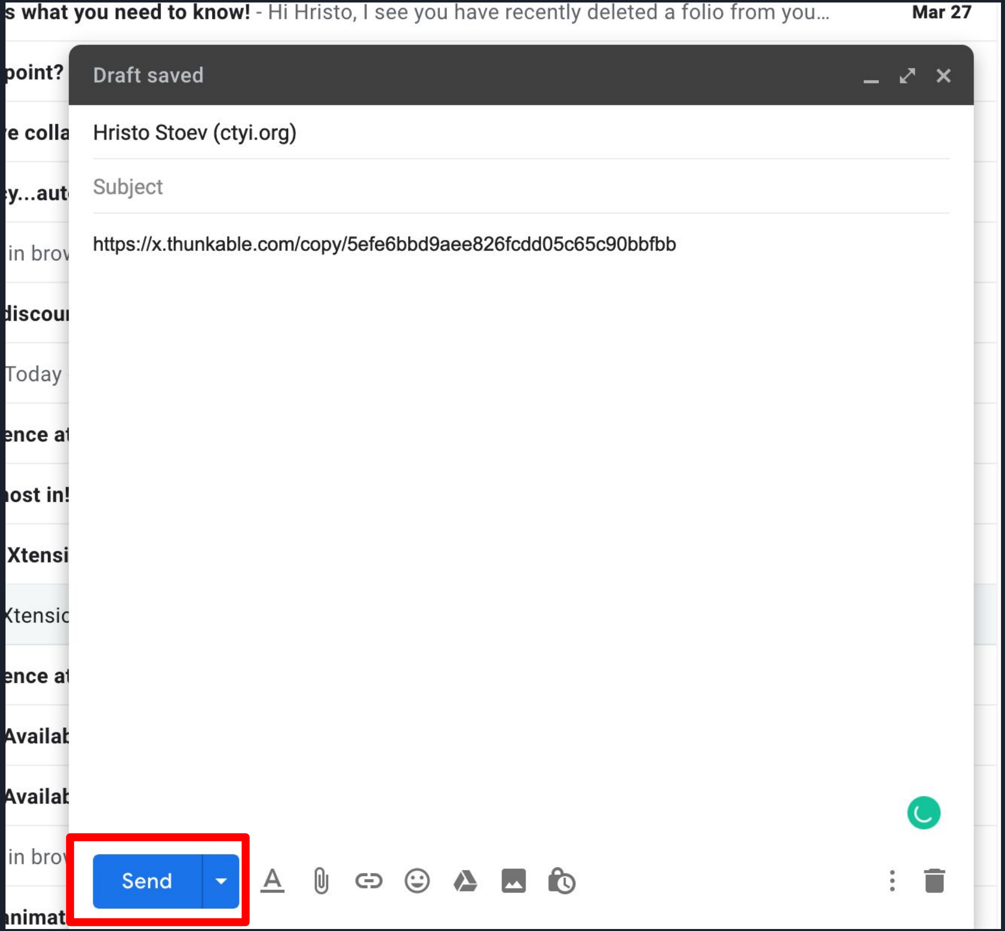
https://x.thunkable.com/copy/5efe6bbd9aee826fcdd05c65c90b

Link generated at Apr 5, 2020 6:20 PM

Sharing your Thunkable Project

Then paste the link to the project into the email.

Finally, click ‘Send’ to send it to me.



s what you need to know! - Hi Hristo, I see you have recently deleted a folio from you... Mar 27

Draft saved

Hristo Stoev (ctyi.org)

Subject

https://x.thunkable.com/copy/5efe6bbd9aee826fcdd05c65c90bbfbb

Homework

Work on your Thunkable Project.

Send me the link so I can provide you with feedback.

These lectures will be available online,

Final Project Design Document

This is in your Google Docs.

https://docs.google.com

Open this up and use it as a guideline to make your app.

You can even edit it if you want.

DESIGN DOCUMENT

- It expresses the core idea of the app.
- It must be nice and short, so keep it to 2/3 pages.
- This is like a business plan, but for an app.

WHAT IS IT?

- It expresses the core idea of the game.
- Keep it to 2/3 pages.
- This is like a business plan, but for an app. It is used to pitch the app to investors/publishers.

WHAT SHOULD YOU PUT IN IT?

- Introduction (what is the name?)
- Description (how will someone use the app?)
- Key features (camera, high scores, multiplayer, touch controls, etc)
- Category (where it will be in the app store)
- Platform
- Concept art.

INTRODUCTION

- This will sell the app to the reader.

- Try to describe the app in an exciting manner.

DESCRIPTION

- In a few paragraphs or a page, describe the app to the readers as if they are the user.
- Use the "you" tense.
- Try to make this section a narrative of the user’s experience.
- Describe exactly what the user does and sees.

KEY FEATURES

- This is a bullet point list of items that will set this app apart from others and show people how it will improve their lives/make it interesting to use.

- It's a summary of your app.

CATEGORY

- Broad Category:
  - sports, productivity, game, etc

PLATFORM

- You should also indicate which platform you will release the app for.

CONCEPT ART

- If you have any sprites, backgrounds, etc, include them here.

- Draw some pictures, on paper or using Paint that will show how your app will look.

Homework

Work on your Thunkable Project.

Send me the link so I can provide you with feedback.

These lectures will be available online,