

# Week 4: Flutter Layout

In the labs, you can run your with web browser or phone emulator.

## Lab 1 Comparing: Material vs Non-Material App

Start with Material App:

1.1 Clone Flutter source from Flutter website

\$ git clone <https://github.com/flutter/website.git>

After git clone, folder “website” is created.

```
PS H:\Teaching\424-Wireless\2564-2\week-4> ls

Directory: H:\Teaching\424-Wireless\2564-2\week-4


Mode                LastWriteTime         Length Name
----                -
d-----          1/23/2022   5:25 PM             hello
d-----          1/27/2022   9:37 PM             website
-a-----          1/23/2022   5:36 PM          48876 Basic Widgets.docx
-a-----          1/27/2022   9:44 PM          12608 Week 4-Layout-Lab-She
```

1.2 Create Project with out overwrite

\$ flutter create --no-overwrite .\website\examples\layout\base\

1.3 Go to project folder then analyze and test code.

\$ cd .\website\examples\layout\base\

\$ dart analyze

\$ flutter test

\$ flutter run

1.4 Capture the output

## 2. Compare with Non-material

Assume we outside website folder

```
PS H:\Teaching\424-Wireless\2564-2\week-4\website> pwd

Path
----
H:\Teaching\424-Wireless\2564-2\week-4\website
```

## 2.1 Create Project based on git clone one, non-material, without overwrite

```
$ flutter create --no-overwrite .\examples\layout\non_material\
```

## 2.2 Go to Project directory, analyze, test and run

```
$ cd .\examples\layout\non_material\
```

```
$ dart analyze
```

```
$ flutter test
```

```
$ flutter run
```

## 2.3 Capture the result

```
Windows PowerShell
At line:1 char:1
+ cd .\examples\layout\non_material\
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\punza\...\non_material\:String) [Set-Location], ItemNotFoundE
xception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\row_column>
^C
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\row_column>
cd .\examples\layout\non_material\
cd : Cannot find path 'C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\exampl
es\layout\row_column\examples\layout\non_material\' because it does not exist.
At line:1 char:1
+ cd .\examples\layout\non_material\
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\Users\punza\...\non_material\:String) [Set-Location], ItemNotFoundE
xception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\row_column>
cd ..
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout> cd ..
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples> cd ..
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website> cd .\examples\layout\non_m
aterial\
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\non_materia
l> dart analyze
Analyzing non_material...
No issues found!
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\non_materia
l> flutter test
00:00 +0: ...TCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\non_material\test\widget_test.dart S
hell: [FATAL:flutter/fml/icu_util.cc(98)] Check failed: context->IsValid(). Must be able to initialize the ICU context.
Tried: icudtl.dat
00:02 +0 -1: loading C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\
layout\non_material\test\widget_test.dart [E]
Failed to load "C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\lay
out\non_material\test\widget_test.dart": Connection closed before test suite loaded.
00:02 +0 -1: Some tests failed.
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\non_materia
l> flutter run
No supported devices connected.
The following devices were found, but are not supported by this project:
Chrome (web) • chrome • web-javascript • Google Chrome 97.0.4692.99
Edge (web) • edge • web-javascript • Microsoft Edge 97.0.1072.69
If you would like your app to run on web, consider running `flutter create .` to generate projects for these platforms.
PS C:\Users\punza\OneDrive\@00000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\non_materia
l>
```

3. What is the difference between Material APP vs Non-Material App?

## Lab 2 Row and Column Widget

Assume, you have done with Lab 1, so that we have source of Lab 2 already.

### 2.1 Assume we outside website folder

```
PS H:\Teaching\424-Wireless\2564-2\week-4\website> pwd
```

```
Path
```

```
----
```

```
H:\Teaching\424-Wireless\2564-2\week-4\website
```

### 2.2 Create Project based on git clone one, non-material, without overwrite

```
$ flutter create --no-overwrite .\examples\layout\row_column\
```

### 2.3 Go to Project directory, analyze, test and run

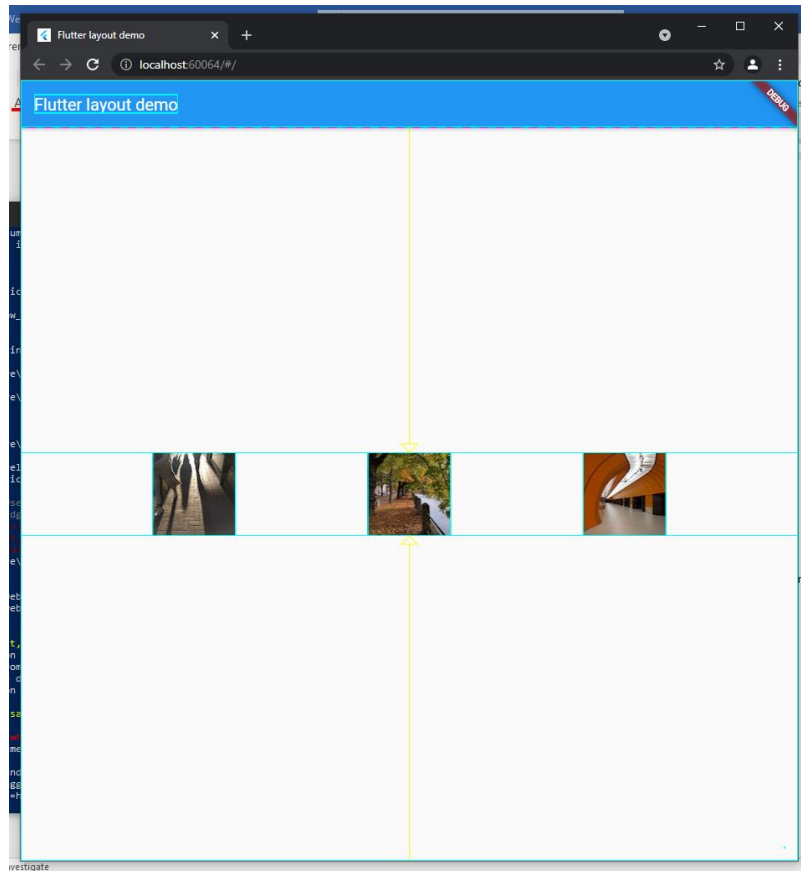
```
$ cd .\examples\layout\non_material\
```

```
$ dart analyze
```

```
$ flutter test
```

```
$ flutter run
```

### 2.4 Capture the result

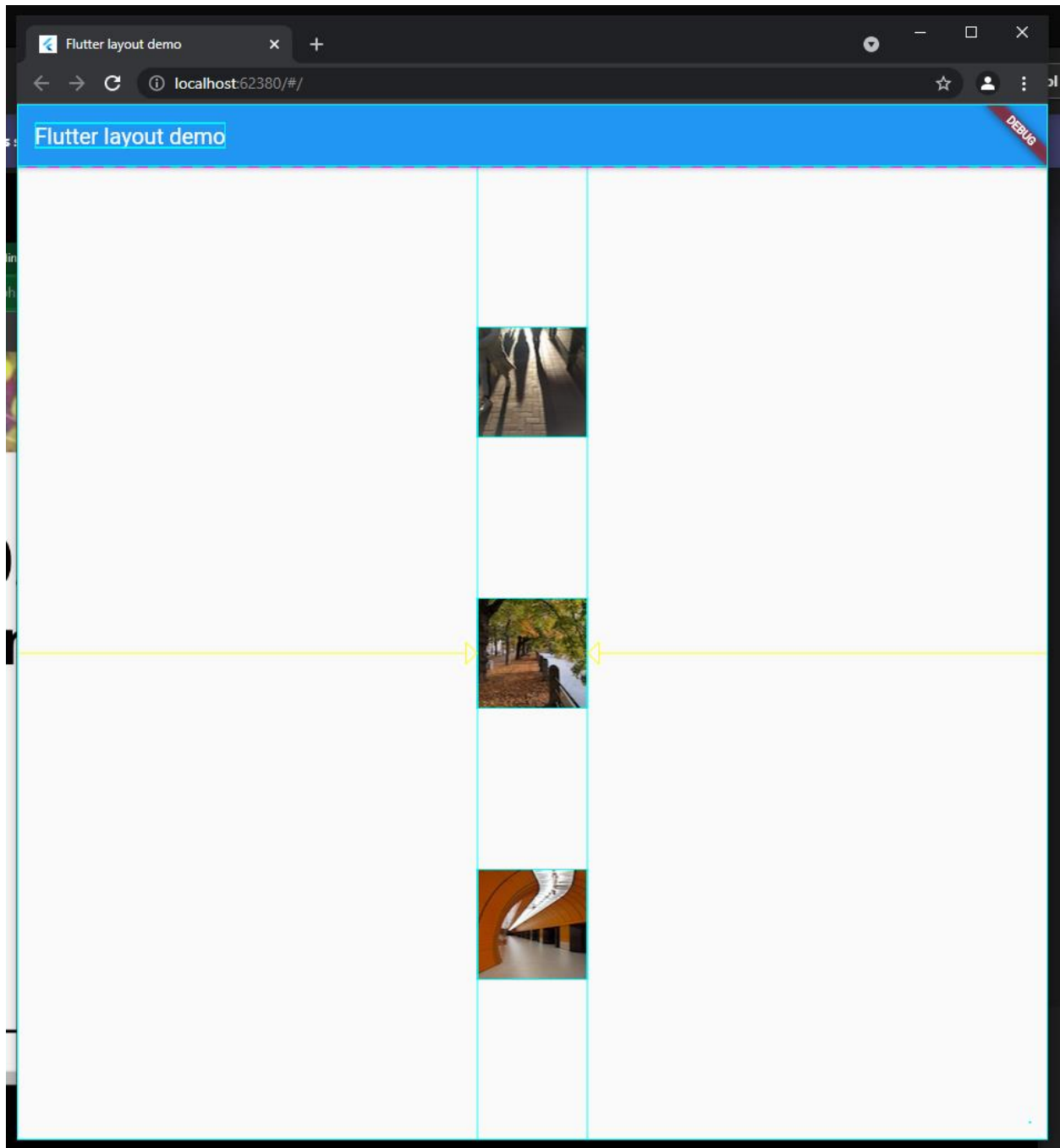


## 2.5 Question?

On the result, what have to do in main.dart, to let see unseen structure in App.

Exercise 1:

Given lab 2 that show images in Row, change the code (one line), to show image in column.



### 3. Lab Sizing Widgets

Assume, you have done with Lab 1, so that we have source of Lab 3 already.

3.1 Assume you can change folder/director to appropriate place, in side website folder as before.

3.2 Create Project based on git clone one, non-material, without overwrite

```
$ flutter create --no-overwrite .\examples\layout\sizing\
```

3.3 Go to Project directory, analyze, test and run

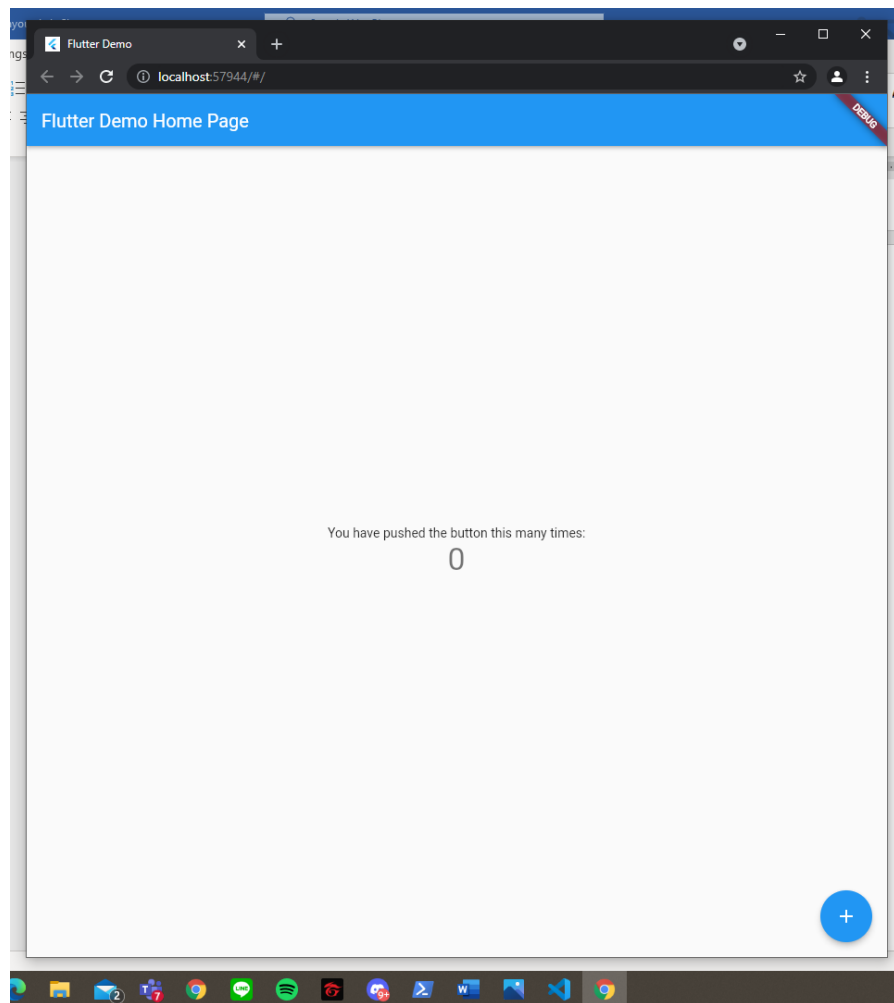
```
$ cd .\examples\layout\sizing\
```

```
$ dart analyze
```

```
$ flutter test
```

```
$ flutter run
```

3.4 Capture the result



## Exercise 2:

Given project in Lab 3, to see Overflow in App change

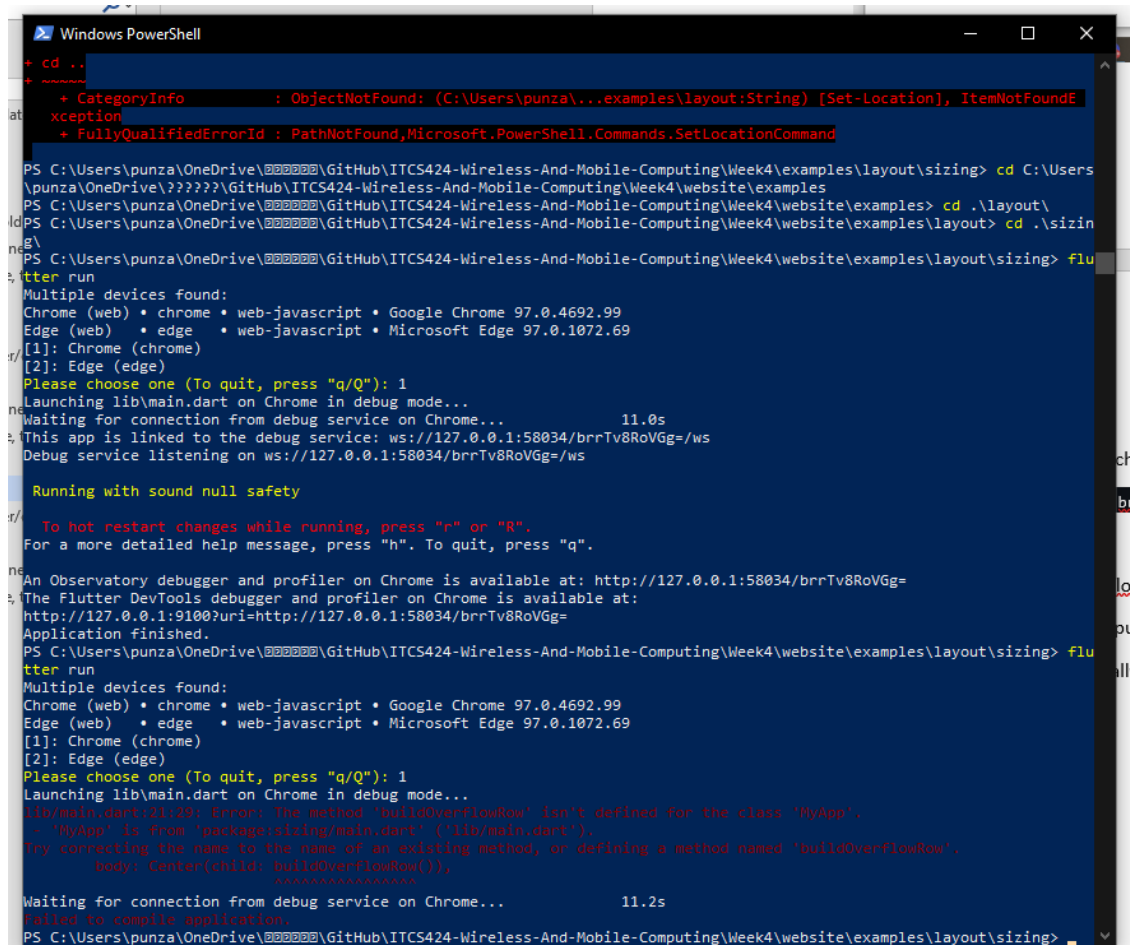
Line 21 in lib/main.dart, `body: Center(child: buildExpandedImages()),`

Replace with

Process necessary steps to show Overflow output on App.

If you run App on Brower, resize screen manually to see that is Overflow mea

Capture the Error.



```
Windows PowerShell
+ cd ..
+ CategoryInfo          : ObjectNotFound: (C:\Users\punza\...examples\layout:String) [Set-Location], ItemNotFoundE
Exception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.SetLocationCommand

PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\examples\layout\sizing> cd C:\Users
\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples
PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples> cd .\layout\
PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout> cd .\sizin
g\
PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\sizing> flu
tter run
Multiple devices found:
Chrome (web) • chrome • web-javascript • Google Chrome 97.0.4692.99
Edge (web)   • edge   • web-javascript • Microsoft Edge 97.0.1072.69
[1]: Chrome (chrome)
[2]: Edge (edge)
Please choose one (To quit, press "q/Q"): 1
Launching lib/main.dart on Chrome in debug mode...
Waiting for connection from debug service on Chrome... 11.0s
This app is linked to the debug service: ws://127.0.0.1:58034/brrTv8RoVGg=ws
Debug service listening on ws://127.0.0.1:58034/brrTv8RoVGg=ws

Running with sound null safety

To hot restart changes while running, press "r" or "R".
For a more detailed help message, press "h". To quit, press "q".

An Observatory debugger and profiler on Chrome is available at: http://127.0.0.1:58034/brrTv8RoVGg=
The Flutter DevTools debugger and profiler on Chrome is available at:
http://127.0.0.1:9100?uri=http://127.0.0.1:58034/brrTv8RoVGg=
Application finished.
PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\sizing> flu
tter run
Multiple devices found:
Chrome (web) • chrome • web-javascript • Google Chrome 97.0.4692.99
Edge (web)   • edge   • web-javascript • Microsoft Edge 97.0.1072.69
[1]: Chrome (chrome)
[2]: Edge (edge)
Please choose one (To quit, press "q/Q"): 1
Launching lib/main.dart on Chrome in debug mode...
lib/main.dart:21:29: Error: The method 'buildOverflowRow' isn't defined for the class 'MyApp'.
- 'MyApp' is from 'package:sizing/main.dart' ('lib/main.dart').
Try correcting the name to the name of an existing method, or defining a method named 'buildOverflowRow'.
    body: Center(child: buildOverflowRow()),
                        ^^^^^^^^^^^^^^^^^
Waiting for connection from debug service on Chrome... 11.2s
Failed to compile application.
PS C:\Users\punza\OneDrive\000000\GitHub\ITCS424-Wireless-And-Mobile-Computing\Week4\website\examples\layout\sizing>
```

## Lab 4: Full Layout Example App

This lab is not elaborate so much, but let student overall result from lecture

Assume, you have done with Lab 1, so that we have source of Lab4 already.

4.1 Assume you can change folder/director to appropriate place,  
in side website folder as before.

4.2 Create Project based on git clone one, non-material, without overwrite  
\$ flutter create --no-overwrite .\examples\layout\pavlova\

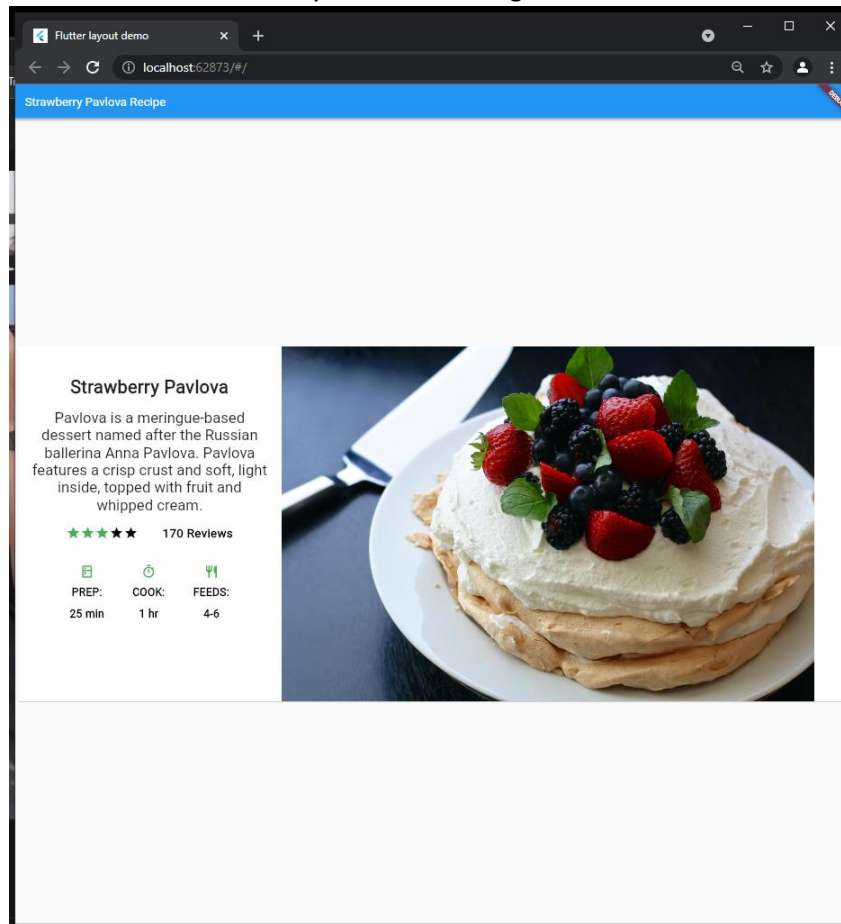
4.3 Go to Project directory, analyze, test and run  
\$

\$ dart analyze

\$ flutter test

\$ flutter run

Zoom in or Zoom out in your browser to get ride of Overflow if it show here.





4.4 Prepare information related to your project: your image, Text descript your project, assume this app has been review by some number of user so choose your random one for Reviewer number.

Change three icon relate to your project:

1. Proposal icon: weeks
2. Implementation icon : weeks
3. Verify icon: weeks

#### 4.5 Capture the result

