

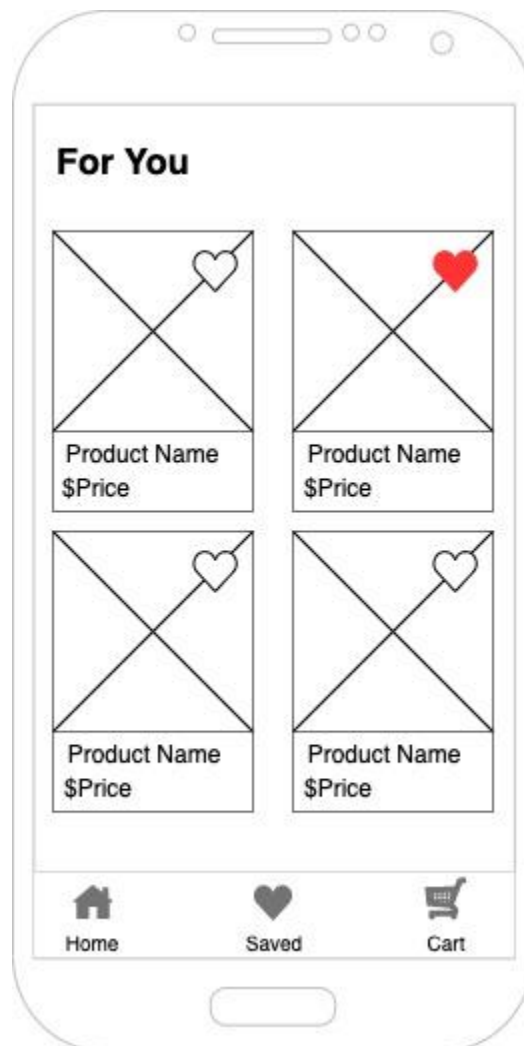
Flutter Mobile Challenge

We would like to understand how you build scalable and robust applications, and also your thought process to solve real-world problems as a mobile developer.

Requirements

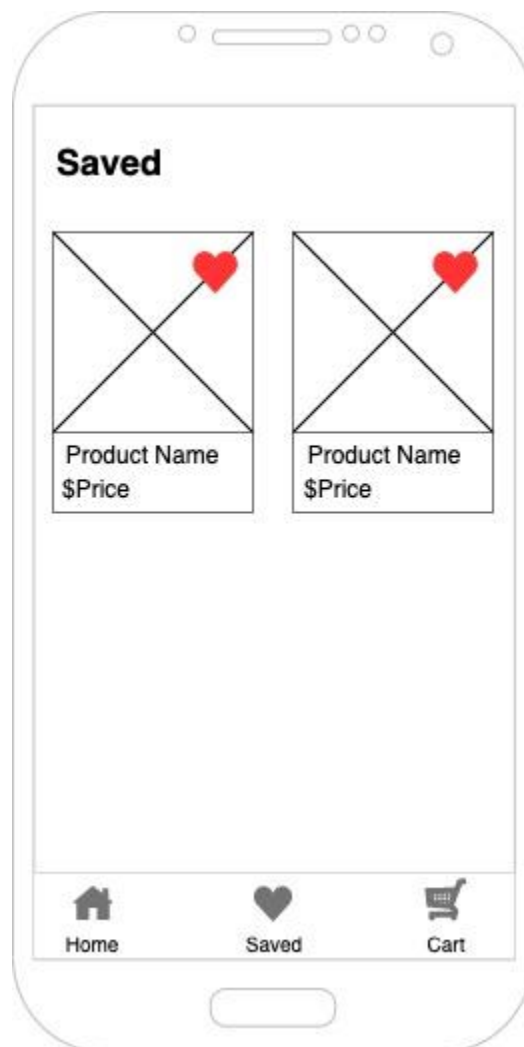
Your task is to build a simple online shopping application with 4(+1) pages. It is entirely up to you to choose and design UX/UI, widgets, elements, and styles based on a given requirements and wireframe for your application. We do not evaluate how beautiful your application is but we mainly focus on technique and practice you use in developing your application. Note that you can make your own assumptions if some requirements are not clear to you.

1. Home Page



- Display a list of product items in 2 columns.
- For each product item card, display a product image, product name, and product price.
- Users can save or unsave their favorite product items by toggling a heart icon at the top right of the product item card.
- Popup a message when the item is saved or unsaved.
- All saved items will be shown in a `Saved` page.
- Users can click on a product item card to see a product detail in a `Product` page.

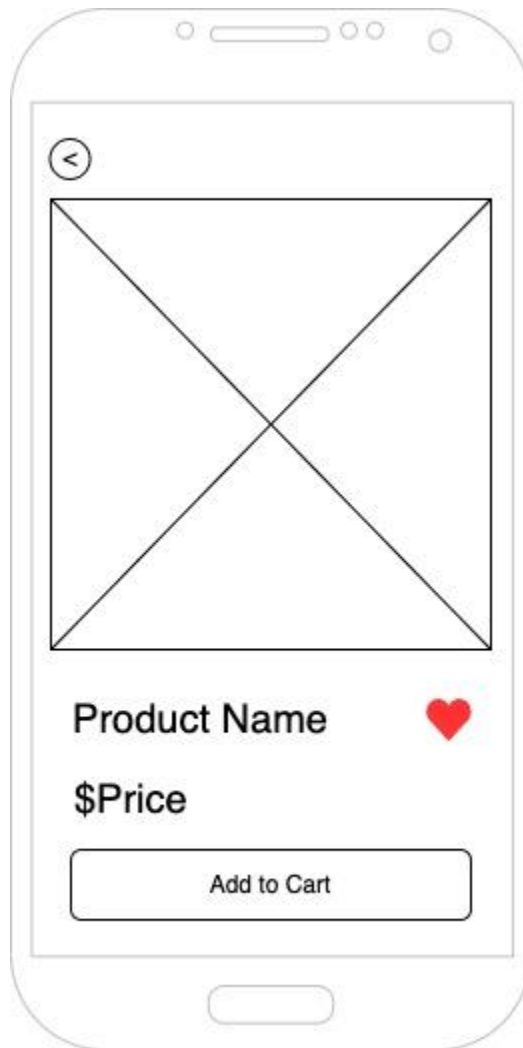
2. Saved Page



- Display a list of saved items in 2 columns.
- For each product item card, display a product image, product name, and product price.

- Users can unsave their favorite product items by toggling a heart icon at the top right of the product item card.
- Popup a message when the item is unsaved.
- The unsaved items will be removed from this page immediately.
- Users can click on a product item card to see a product detail in a `Product` page.

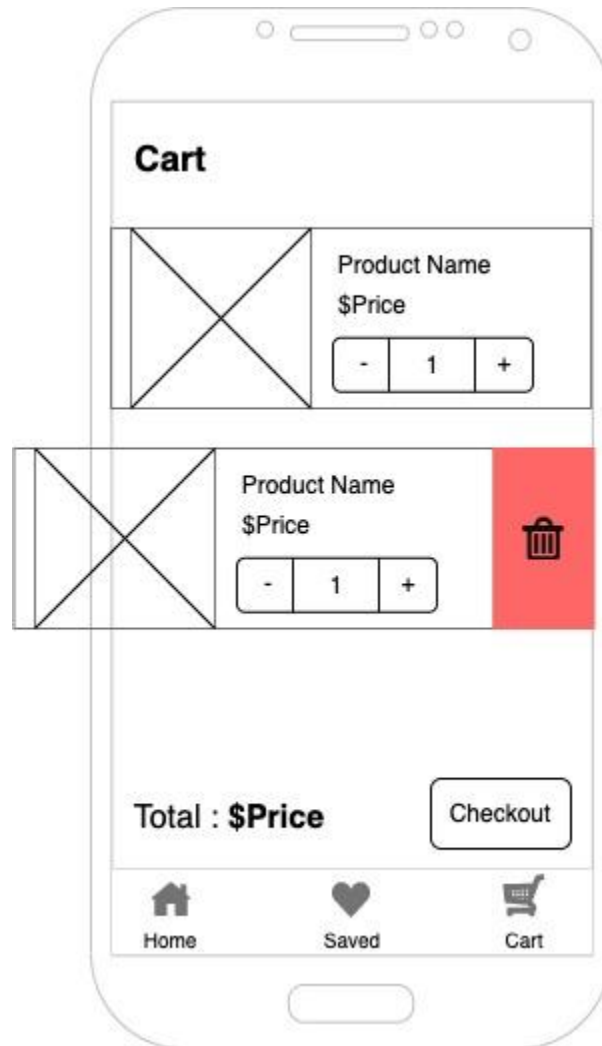
3. Product Page



- For product details, display a product image, product name, product price, and saved-item status.
- Users can save or unsave the item by toggling a heart icon at the right bottom (outside) of the product image.

- Users can add the item into a shopping cart by clicking on the button at the bottom of the page.
- Popup a message when the item is saved, unsaved, or added into the cart.
- Users can go back to the previous page by clicking on the back button at the top left of the page.

4. Cart Page



- Display a list of items in a shopping cart.
- For each product item card, display a product image, product name, product price, and quantity with plus and minus buttons to increase or decrease a number of the item in the cart.
- Users can remove an item from the shopping card by swiping a product item card to the left, and clicking on a remove button.
- The removed items will be removed from this page immediately.

- The total price of all items in the shopping cart must be shown at the bottom left of the page.

$\text{Total Price} = \text{Sum}(\text{Product price} \times \text{Product quantity}).$

- Users can proceed to pay by clicking on a `Checkout` button at the bottom right of the page and it will redirect users to a `Checkout` page.

5. Checkout Page (Optional - Bonus)

This page is optional so you do not need to create it unless you have time and enjoy our challenge!



- Display a QR code generated from the below URL:
[https://payment.spw.challenge/checkout?price=\\${price}](https://payment.spw.challenge/checkout?price=${price})

where **`${price}`** is a query string equal to the total price from a `Cart` page.

- Display the total price at the middle bottom of the page.
- Users can go back to the previous page by clicking on the back button at the top left of the page.

Additional Requirements

1. You may use all icons from Flutter Font Awesome
https://pub.dev/packages/font_awesome_flutter
2. No need to call any external APIs for getting a list of product items as mock data is prepared and given in this challenge (see Appendix).

Evaluation Criteria

1. You know TDD and implement appropriate unit tests (not too many or too few) to ensure that all critical functions are working properly with good code coverage.
2. You construct your software project well and apply any suitable design patterns for your code.
3. You develop production-grade software and write code with high quality and standard best practices.
4. You use the right libraries and tools for the right jobs.
5. You have comments in your code or make your code explain itself.
6. You handle errors gracefully and concern about performance optimization.
7. You do care for other developers who have to review what you have done and allow them to easily maintain and extend your code in the future.

Submission

Create a zip file from your working directory by including the following items:

- README.md (describe how to build and run your application)
- All project folders and files

Attach your zip file to the email and reply back to us.

Appendix

```
{
  "product_items": [
    {
      "id": 1,
      "name": "Puma White (New)",
      "image_url":
"https://images.unsplash.com/photo-1608231387042-66d1773070a5?fit=crop&w=300&q=80",
      "price": 250.00
    },
    {
      "id": 2,
      "name": "iPhone 12 Pro Black Edition",
      "image_url":
"https://images.unsplash.com/photo-1573148195900-7845dcb9b127?fit=crop&w=300&q=80",
      "price": 1200.00
    },
    {
      "id": 3,
      "name": "Nintendo Switch 2021",
      "image_url":
"https://images.unsplash.com/photo-1578303512597-81e6cc155b3e?fit=crop&w=300&q=80",
      "price": 599.00
    },
    {
      "id": 4,
      "name": "Black + Decker",
      "image_url":
"https://images.unsplash.com/photo-1574269909862-7e1d70bb8078?fit=crop&w=300&q=80",
      "price": 149.00
    },
    {
      "id": 5,
      "name": "White Neat Mug",
      "image_url":
"https://images.unsplash.com/photo-1514228742587-6b1558fcca3d?fit=crop&w=300&q=80",
      "price": 35.00
    },
    {
      "id": 6,
      "name": "SMEG Oven - Winter Collection",
      "image_url":
"https://images.unsplash.com/photo-1586208958839-06c17cacdf08?fit=crop&w=300&q=80",
      "price": 8299.00
    },
    {
      "id": 7,
      "name": "Black Table Fan with Pink Moody Cat",
      "image_url":
"https://images.unsplash.com/photo-1618941716939-553df3c6c278?fit=crop&w=300&q=80",
      "price": 79.00
    }
  ]
}
```