

ISAD 251 Coursework – Tea Room Application

Application Design Document

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Links

GitHub repository: https://github.com/Squidgeypea/isad251_cw

Project board: https://github.com/Squidgeypea/isad251_cw/projects

Video: <https://www.youtube.com/watch?v=ZK2LDWGXyJU&t=2s>

Introduction

This application is based on the theme of a tea room situated on board a fictional steam train, The Puffing Express, in the style of a train's restaurant car. The application could be presented within the 'tea car' on a self-service device, integrated into the structure of the room, like the self-service devices currently found in some popular fast food outlets, or it could be accessed using a personal mobile device.

A GitHub project board was used to organise tasks and keep track of work.

Storyboard

The storyboard was edited to act on advice and ideas presented at the peer review.

The initial storyboard is displayed here. The final storyboard is shown on page six of this document.

1. Home page *Assumes user is a customer*

The Home page layout includes a top navigation bar with a logo (1), a staff login button (7), and a 'My order (2)' button (2). Below this is a 'Welcome' message. The main content area features two columns: 'Picture of drinks' with a 'Browse drinks' button (2), and 'Picture of snacks' with a 'Browse snacks' button (3). A 'Nice background picture' is indicated below these columns. The footer contains a 'Disclaimer', 'Ts & Cs etc', and 'Date'.

2. Drinks menu

The Drinks menu layout features a top navigation bar with a logo (1) and a 'My order (2)' button (2). The main content area is divided into three sections: 'Snacks' (3) with a 'Picture of snacks', 'Drinks menu' with three items (each with a picture placeholder 'pic', 'Item 4', and '£x.xx'), and a 'My order (2)' sidebar. The sidebar contains a list of items with 'pic', 'Item', and '£x.xx' placeholders, a 'Remove all' button (X), and a 'Total: £x.xx' label. A 'Complete' button (5) is at the bottom of the sidebar. A red arrow labeled 'Add' points from the 'Drinks menu' items to the sidebar. A red arrow labeled 'remove' points from the 'Remove all' button to the sidebar. A red arrow labeled 'scroll bar' points to the right side of the sidebar.

3. Snacks menu

The Snacks menu layout features a top navigation bar with a logo (1) and a 'My order (2)' button (2). The main content area is divided into three sections: 'Drinks' (2) with a 'Picture of drinks', 'Snacks menu' with three items (each with a picture placeholder 'pic', 'Item 4', and '£x.xx'), and a 'My order (2)' sidebar. The sidebar contains a list of items with 'pic', 'Item', and '£x.xx' placeholders, a 'Total: £x.xx' label, and a 'Complete' button (5). A red arrow labeled 'Add' points from the 'Snacks menu' items to the sidebar. A red arrow labeled 'remove' points from the 'Remove all' button to the sidebar. A red arrow labeled 'scroll bar' points to the right side of the sidebar.

4. Item information popup (not a separate page)

The Item information popup layout is a modal window with a close button (X) in the top right corner. It contains a 'Picture of item', an 'Item name', and a price '£x.xx'. Below these are three lines of text: 'Portion size: xxxxxxxxxx', 'Ingredients: xxxxxxxxxxxxxx', and 'Allergy warnings: xxxxxxxx'. The background of the page is greyed out, as indicated by the text 'Grey out page behind' on both sides.

5. Order finalisation

logo 1

TITLE

Confirm order

pic

Item

£x.xx

pic

Item

£x.xx

Table number:

Total: £x.xx

Cancel 2

Complete 6

Disclaimer

Ts & Cs etc

Date

6. Order complete

logo 1

TITLE

Order Complete

Thank you for your order

Table: 04

Order number: 06

Please pay when you leave

Disclaimer

Ts & Cs etc

Date

7. Staff login

logo 1

TITLE

Staff Login

This page will time out in seconds. In case they start logging in and get distracted

Staff Number:

Password:

Go 8

Disclaimer

Ts & Cs etc

Date

8. Staff view of orders

logo 1

Products 10

priority

Time	Table	Order	Actions
12:44	01	Coffee x 2	<input checked="" type="checkbox"/> <input type="checkbox"/>
12:48	09	Water x 1 Biscuit x 1	<input checked="" type="checkbox"/> <input type="checkbox"/>
12:55	05	Coffee x 1 Cake x 1	<input checked="" type="checkbox"/> <input type="checkbox"/>

Log out 1

Name

delivered

cancel

Disclaimer

Ts & Cs etc

Date

9. Confirmation of action

logo 1

TITLE

Confirm action

Name

Log out 1

Time	Table	Order
12:44	01	Coffee x 2

Cancel this order

Back 8

Confirm 8

Disclaimer

Ts & Cs etc

Date

10. View products

logo 1

TITLE

Current products

Name

Log out 1

Orders 8

Add new product 11

Drinks

Snacks

On sale

pic

Item 4 £x.xx

edit X

pic

Item 4 £x.xx

edit X

pic

Item 4 £x.xx

edit X

On sale 11

pic

Item 4 £x.xx

edit X

pic

Item 4 £x.xx

edit X

Not on sale

pic

Item 4 £x.xx

edit ✓

Remove from sale

Place on sale

Disclaimer

Ts & Cs etc

Date

11. Add/edit a product

logo 1

TITLE

Edit product

Name

Log out 1

same form for adding new product but blank

Name: Cake

Image: cake.png Change

Price: £ 1.75

Information: Ingredients: Flour, butter...

Drink ☐

Snack ☐

Cancel 10

Save 10

Disclaimer

Ts & Cs etc

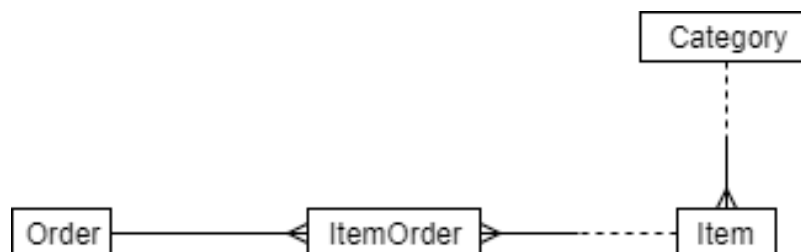
Date

4

Entity relationship diagram

The entity relationship diagram was created using the web site, Draw.io.

Although the category could have been an attribute of an item, it was decided that it would be a separate entity. This was because it would then be easier for a category to be made or removed, and for categories to have their own descriptions without repeating the same thing for each item. It also led to looser coupling.



Settings and Images

Resource name	Resource type	Use in application	Source
favicon	Image	Icon	Myself
rooibos.jpg	Image	Customer area	https://www.thesun.co.uk/fabulous/10030257/tea-drink-teabag-plastic-billions-particles/
notepad.jpg	Image	Staff area	https://ectacenter.org/decrp/type-checklists.asp
1393497919.jpg	Image	Background	https://www.trainsafaris.com/uploads/2/1/2/7/21279846/1393497919.jpg

Feedback

Peer review of storyboard

Peer reviews of the storyboard were carried out on 15/10/2019.

Reviewer name	Avy Gurung	Max Barker	Josh Franklin
Errors identified	Add/edit item part needs a category.	Basket may be incompatible with mobile devices.	Database will not be correctly populated with new item without category.
Unclear parts	None.	None.	None.
Inspiration gained	Include date in orders.	None.	Include category in add new item part.
Constructive advice	Include category in add/edit.	Make basket a slide-out or drop-down for mobile devices.	Have 'on sale' Boolean rather than just deleting an item. Include functionality for forgotten passwords and to add new staff members.

The storyboard was changed after the peer review and it was simplified a lot because a simpler application would be better for users and better in terms of code structure.

The following changes were made to the initial storyboard, to act on feedback received during the peer review.

It was suggested that the 'My order' section should be simplified. This advice was followed.

It was pointed out that it was necessary to include the product category in the form to add or edit a product. This is because products will be shown to customers based on their category, which must not be null in the database.

A peer commented that it would be preferable to remove a product from sale than to remove it from view altogether. This way, a staff member could easily decide to sell the product again in future without having to recreate the product. Since it would be easy to put the removed product back on sale, it was decided that screen 12 would no longer be necessary, and it was removed from the storyboard. Screen 10 was adapted to show the change.

Below is the simplified final design for the storyboard:

1

Welcome

Customer

Staff

2

4

2

1

2

3

Home

Menu

My order

Drinks

Snacks

My order

drink 1

Add

drink 2

Add

drink 3

Add

drink 4

Add

snack 1

Add

snack 2

Add

snack 3

Add

snack 4

Add

Complete order

3

3

1

2

3

Home

Menu

My order

Confirm order

Order item 1

Order item 2

...

Total: £x.xx

2

3

Complete

Clear

4

1

4

5

Home

Orders

Products

Current orders

Order 1

Completed

Order 2

Completed

....

5

1 4 5

Home Orders Products

6 Products 7

Add Edit

Item 1
Item 2
Item 3
Item 4
....

6

1 4 5

Home Orders Products

Add a new product

Name

Price

Info

Category v

Sale status v

Submit Cancel

7

1 4 5

Home Orders Products

Edit a product

Product to change v

Name

Price

Info

Category v

Sale status v

Submit Cancel

Peer review of demo

Reviewer name	Morgan Wilson	Morgan Hill	Dan Skillman
Errors identified	Staff member can't remove an order from their view of orders.	When a new customer uses the system, the previous customer's order is still shown.	Customer might not realise that their items have been added.
Unclear parts	None.	None.	None.
Inspiration gained	Use nice looking buttons rather than just text.	None.	Structure the README file so that it's easy to read.
Constructive advice	Make sure staff can update/remove orders from their list.	Make sure the page is reset each time a new customer uses it.	Display a message telling them that their items were added.

It was suggested that the staff should be able to remove an order from their view once it was completed. This advice was following by adding a 'completed' field to the database. This way, orders could be shown to staff if they had not been completed, and if they had been completed, they would remain in the database but not be visible.

It was pointed out that a customer should start on a 'blank canvas', a page with nothing already selected. This was achieved by clearing the incomplete orders each time the home page is loaded. This ensures that the basket cannot fill up with unwanted orders.

A peer commented that customers should be alerted when they added items to their basket. This was done by including a code block in the view which displayed a message on the screen when they added an item to their order.

Analysis

Listed below are further improvements which could have been made, in addition to the suggestions from the reviews.

- Include the option to add a new category besides drinks and snacks.
- Make the application compatible for mobile devices.
- Include a login system for different users.
- Provide the option to add a new staff member.

Screenshots



Welcome to the Puffing Express Tea Car



Customer area



Staff area

20/11/2019 - Puffing Express Tea Car



Menu

Drinks

Water	Glass of still water.	Add to order
Tea	Tea in a tea car shaped teapot. Contains caffeine.	Add to order
Coffee	Ground coffee in a 300 mL cup. Contains caffeine.	Add to order
Rooibos tea	Caffeine-free tea made from the rooibos (redbush) plant.	Add to order

Snacks

Scone	1 scone with jam and cream in separate containers. Ingredients: wheat flour, baking powder, caster sugar, sea salt, coconut oil, almond milk.	Add to order
Carrot cake	1 slice. Ingredients: flour, sugar, egg, vegetable oil, bicarbonate of soda, salt, cinnamon, carrots, walnuts.	Add to order
Locomotive shaped biscuit	1 biscuit. Ingredients: butter, caster sugar, egg yolk, vanilla extract, flour.	Add to order
Nuts & raisins	Bowl of mixed nuts & raisins. Ingredients: hazelnuts, peanuts, cashew nuts, brazil nuts, raisins.	Add to order
Rhubarb	Not an animal.	Add to order

My order

[My order](#)



Confirm order

Item	Quantity	Price	
Locomotive shaped biscuit	3	0.50	Remove
Water	2	0.10	Remove
Coffee	1	1.50	Remove

Total: £3.20

Table number

Complete

Clear



Current orders

Order number	Order time	Table number	Item ordered	Quantity	
53	10/01/2020 01:35:43	1	Tea	1	Completed
54	10/01/2020 01:35:52	5	Carrot cake	1	Completed



Products

[Add new product](#)

[Edit a product](#)

Name	Information	Picture file	Currently on sale	Sale price	Category	
Scone	1 scone with jam and cream in separate containers. Ingredients: wheat flour, baking powder, caster sugar, sea salt, coconut oil, almond milk.	scone.jpg	<input checked="" type="checkbox"/>	1.20	Drinks	Details
Carrot cake	1 slice. Ingredients: flour, sugar, egg, vegetable oil, bicarbonate of soda, salt, cinnamon, carrots, walnuts.	cake.jpg	<input checked="" type="checkbox"/>	2.00	Drinks	Details
Locomotive shaped biscuit	1 biscuit. Ingredients: butter, caster sugar, egg yolk, vanilla extract, flour.	biscuit.png	<input checked="" type="checkbox"/>	0.50	Drinks	Details
Nuts & raisins	Bowl of mixed nuts & raisins. Ingredients: hazelnuts, peanuts, cashew nuts, brazil nuts, raisins.	nuts.jpg	<input checked="" type="checkbox"/>	1.50	Drinks	Details
Water	Glass of still water.	water.jpg	<input checked="" type="checkbox"/>	0.10	Snacks	Details
Tea	Tea in a tea car shaped teapot. Contains caffeine.	tea.jpg	<input checked="" type="checkbox"/>	1.20	Snacks	Details
Coffee	Ground coffee in a 300 mL cup. Contains caffeine.	coffee.png	<input checked="" type="checkbox"/>	1.50	Snacks	Details
Rooibos tea	Caffeine-free tea made from the rooibos (redbush) plant.	rooibos.jpg	<input checked="" type="checkbox"/>	1.20	Snacks	Details
Rhubarb	Not an animal.		<input checked="" type="checkbox"/>	0.10	Drinks	Details



Add a new product

Product name

Coffee

Price £

1.00

Product description

Info

Select category ▾

Select category

Drink

Snack

Select sale status ▾

Submit

Cancel



Edit product listing and information

Select product to be changed

Rhubarb

Name

Olives

Price £

0.10

Description

Healthy but also fatty.

Snack

Select sale status

Select sale status

On sale now

Not on sale yet

Cancel