Evidence Gathering Document for SQA Level 8 Professional Developer Award.

This document is designed for you to present your screenshots and diagrams relevant to the PDA and to also give a short description of what you are showing to clarify understanding for the assessor.

Each point that required details the Assessment Criteria (What you have to show) along with a brief description of the kind of things you should be showing.

Please fill in each point with screenshot or diagram and description of what you are showing.

Week 2

Unit	Ref	Evidence	
I&T	I.T.5	Demonstrate the use of an array in a program. Take screenshots of: *An array in a program *A function that uses the array *The result of the function running	
		Description:	

Paste Screenshot here

```ruby
chickens = [
  {name: "Margaret", age: 2, eggs:0},
  {name: "Hetty", age: 1, eggs:2},
  {name: "Henritta", age: 3, eggs:1},
  {name: "Audrey", age: 2, eggs:0},
  {name: "Mabel", age: 5, eggs:1},
]

def count_eggs(array)
  total_eggs = 0

  for bird in array
    total_eggs += bird[:eggs]
      # bird[:eggs] = 0
  end

  return total_eggs.to_s() + " eggs collected"
end


p count_eggs(chickens)
```

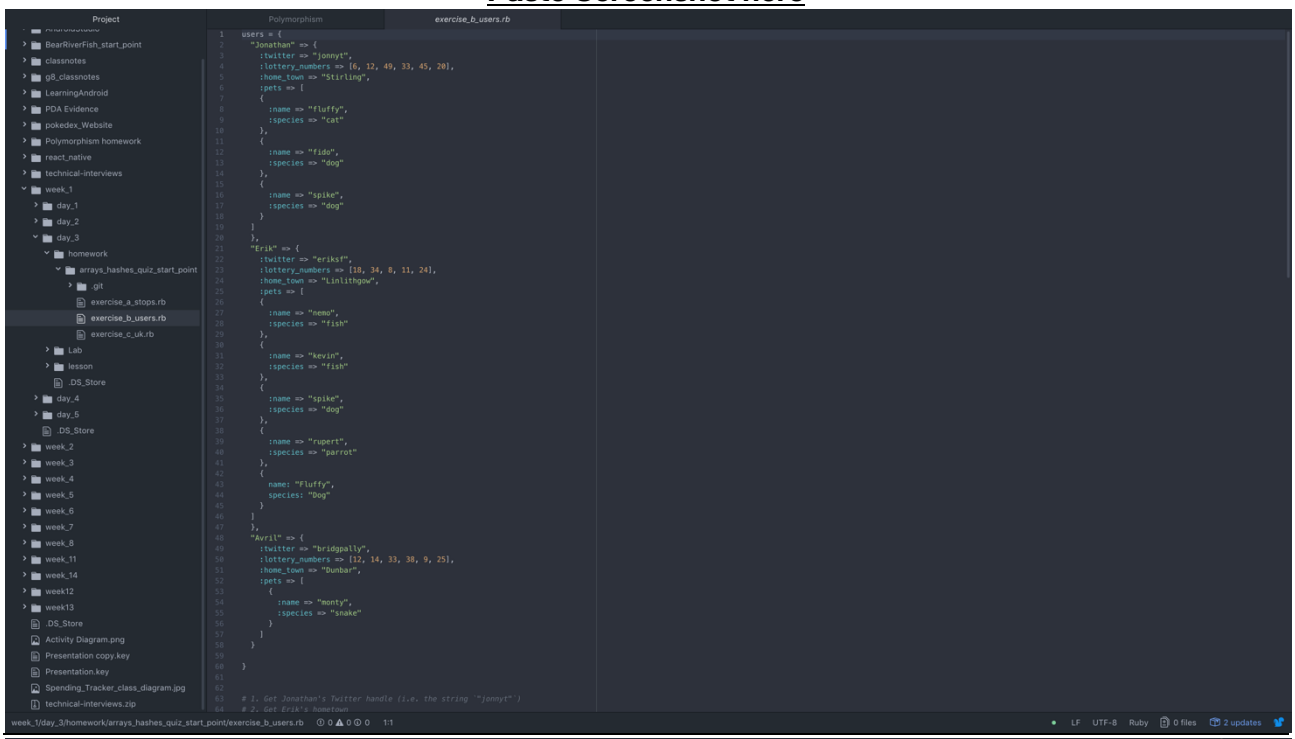
```
➜  loops ruby loops_in_functions.rb
"4 eggs collected"
```

Description here

The function initializes a counter total_eggs and then loops through the array to add the eggs to the counter to find the total number of eggs within the array.

Unit	Ref	Evidence	
I&T	I.T.6	Demonstrate the use of a hash in a program. Take screenshots of: *A hash in a program *A function that uses the hash *The result of the function running	
		Description:	

Paste Screenshot here




```ruby
avril_lot_num = users["Avril"][:lottery_numbers]
# p avril_lot_num.keep_if{|x| x % 2 == 0}

result = []         # This is how it should have been done using what was learned in class.
for number in avril_lot_num
  if number % 2 == 0
    result << number
  end
end
p result
```

```
codeclan_work — craigdunlop@craigs-MacBook-Pro-2 — ..codeclan_work — -zs
→  codeclan_work ruby week_1/day_3/homework/arrays_hashes_quiz_start_point/exerc
ise_b_users.rb
[12, 14, 38]
→  codeclan_work
```

Description here

The function creates an empty array called result. It then loops through the array of lottery numbers and if it is an even number then it is added to the result array.

Week 3

Unit	Ref	Evidence	
I&T	I.T.3	Demonstrate searching data in a program. Take screenshots of: *Function that searches data *The result of the function running	
		Description:	

Paste Screenshot here

```ruby
  def order()
    sql = "SELECT * FROM pizza_orders WHERE customer_id = $1"
    values = [@id]
    orders = SqlRunner.run(sql,values)
    return orders.map{|order_hash|PizzaOrder.new(order_hash)}
  end
end
```

```
From: /Users/craigdunlop/Documents/codeclan_work/week_3/day_3/pizza_sh
ole.rb @ line 29 :

    24: order1.save()
    25: order2.save()
    26: cust1_orders = customer1.order()
    27:
    28: binding.pry
 => 29: nil

[1] pry(main)> cust1_orders
=> [#<PizzaOrder:0x007fbce5aec578
  @customer_id=1,
  @id=1,
  @quantity=2,
  @topping="Cheese">,
 #<PizzaOrder:0x007fbce5aec488
  @customer_id=1,
  @id=2,
  @quantity=2,
  @topping="Veg">]
[2] pry(main)>
```

Description here

The function searches through the database for orders which have the same customer id being searched. it then returns an array of pizza's.

Unit	Ref	Evidence	
I&T	I.T.4	Demonstrate sorting data in a program. Take screenshots of: *Function that sorts data *The result of the function running	
		Description:	

Paste Screenshot here

```
def self.all()
  sql = "SELECT * FROM transactions ORDER BY transaction_date DESC"
  results = SqlRunner.run(sql)
  transactions = results.map{|transaction|Transaction.new(transaction)}
  return transactions
end
```

```
spending_tracker=# SELECT * FROM transactions ORDER BY transaction_date DESC;
 id | amount | transaction_date | merchant_id | tag_id
----+--------+------------------+-------------+--------
 96 |  23.57 | 2018-10-03       |          73 |     74
 97 |  32.00 | 2018-10-03       |          80 |     74
 95 |  34.50 | 2018-10-02       |          73 |     74
 94 |  75.40 | 2018-10-01       |          73 |     74
 88 |  23.50 | 2018-09-12       |          73 |     74
(5 rows)

spending_tracker=#
```

RESULTS OF FUNCTION

Description here
Transactions are sorted by most recent order.

Week 5 and 6

Unit	Ref	Evidence	
A&D	A.D.1	A Use Case Diagram	
		Description:	

Paste Screenshot here

Description here

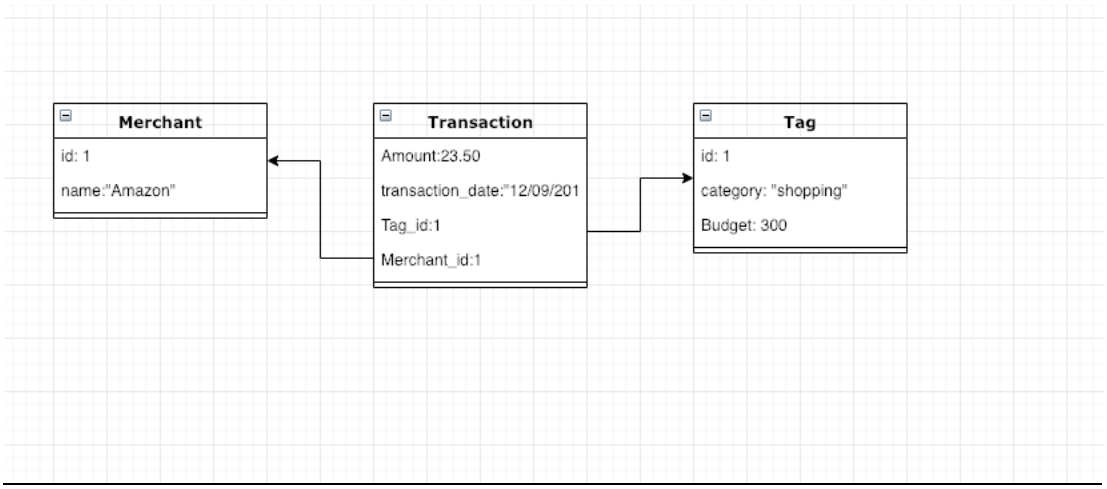
Unit	Ref	Evidence	
A&D	A.D.2	A Class Diagram	
		Description:	

Paste Screenshot here

Description here

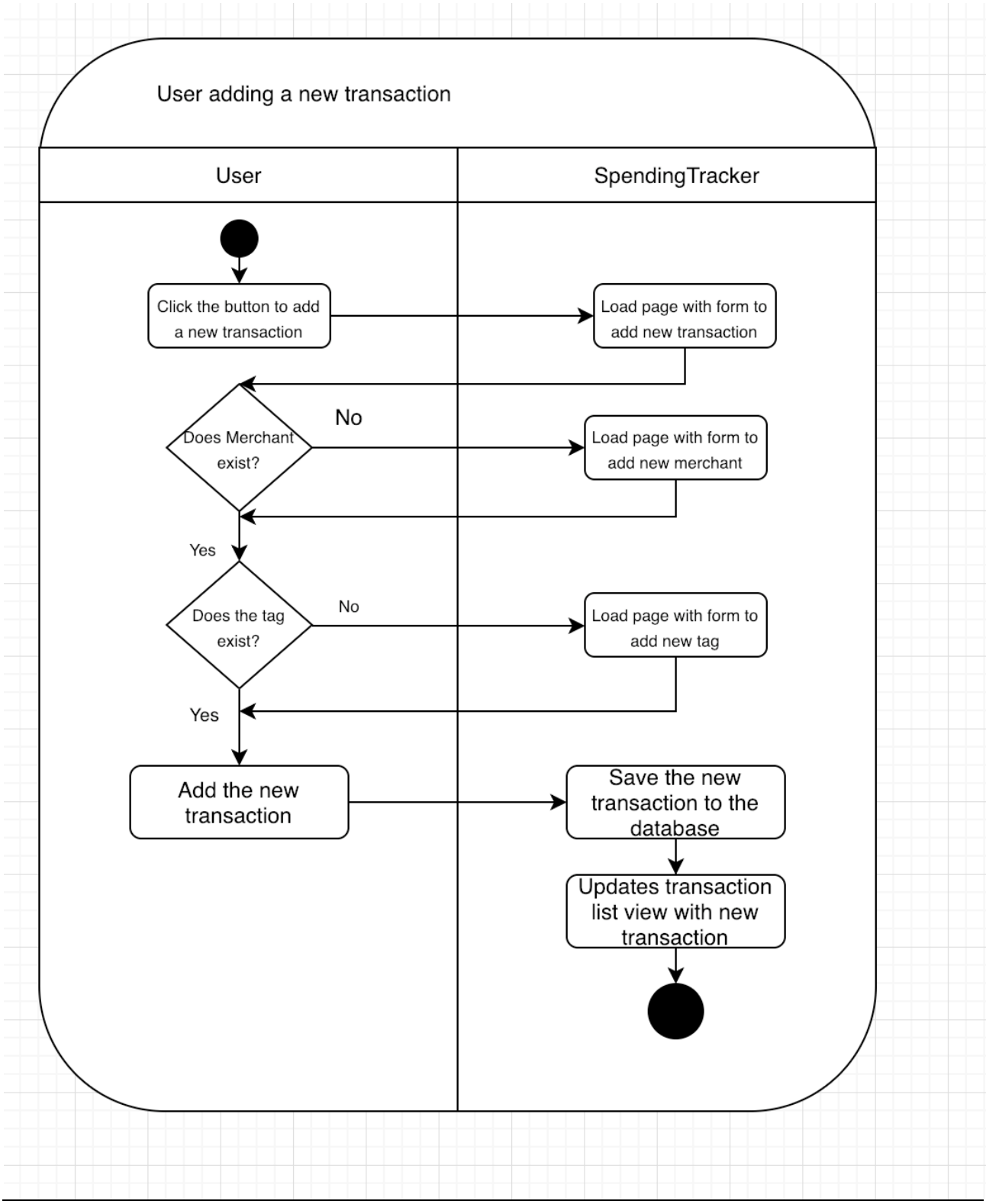
Unit	Ref	Evidence	
A&D	A.D.3	An Object Diagram	
		Description:	

Paste Screenshot here



Unit	Ref	Evidence	
A&D	A.D.4	An Activity Diagram	
		Description:	

Paste Screenshot here



Description here

Unit	Ref	Evidence	
A&D	A.D.6	Produce an Implementations Constraints plan detailing the following factors: *Hardware and software platforms *Performance requirements *Persistent storage and transactions *Usability *Budgets *Time	
		Description:	

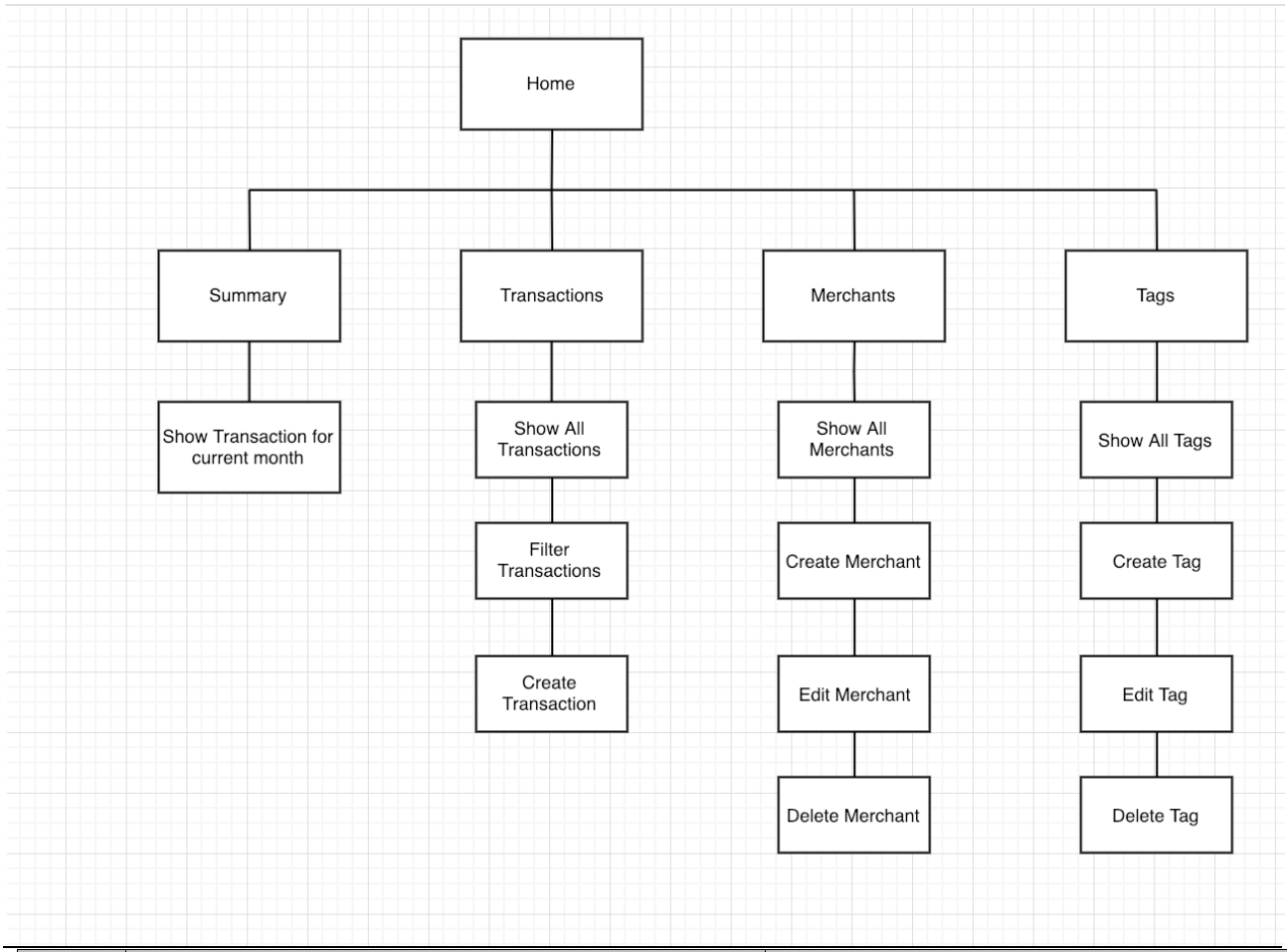
Paste Screenshot here

1	Constraint Category	Implementation Constraint	Solution
2	**Hardware and Software Platforms**	Intended to be used at home and on the move by users, so should support web and mobile use.	Ensure website design is responsive so it is legible on mobile devices.
3	**Performance and Requirements**	Must run on mobile devices. Multiple users may impact website performance.	Perform performance tests and ensure web performance is optimised where possible.
4	**Persistant Storage and Transactions**	Must be able to store Categories, Merchants and Transactions created by user.	Using PostrgeSQl and implementing CRUD methods to allow data to be stored,read, updated and deleted
5	**Usability**	implementing forms on mobile must be easily readible and ensure buttons are easily clickable on smaller devices	implement good responsive design to ensure appications remains user-friendly on different devices.
6	**Budgets**	No Budget required	Only one person working on project for free.
7	**Time Limitations**	Only 5 days available for completion of project.	Ensure project is planned out successfully with realistic deadlines and requirements. Manage time effectively

Description here

Unit	Ref	Evidence	
P	P.5	User Site Map	
		Description:	

Paste Screenshot here



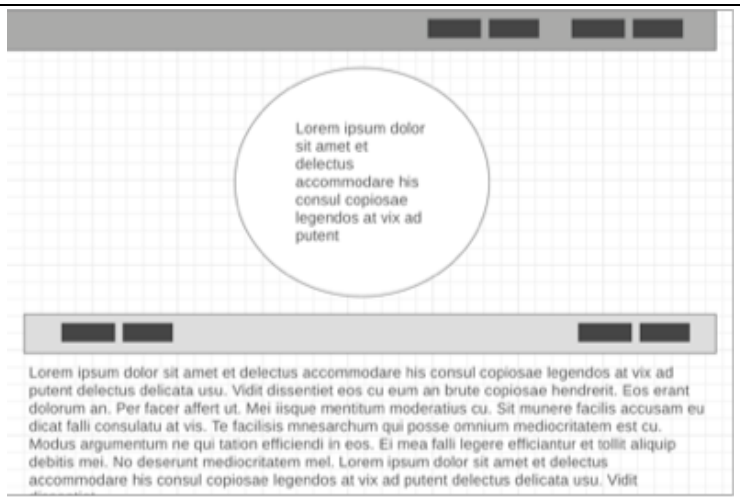
Unit	Ref	Evidence	
P	P.6	2 Wireframe Diagrams	
		Description:	

Paste Screenshot here

Home Summary Merchants Tags

Summary

Spending	Total Spent: £XX.xx
Category	£XX.XX
Category	£XX.XX
Category	£XX.XX
Category	£XX.XX
Category	£XX.XX



TYPE TO ENTER A CAPTION.

Description here

Unit	Ref	Evidence	
P	P.10	Example of Pseudocode used for a method	
		Description:	

Paste Screenshot here

```ruby
def buy_ticket(screening)
  # find screening
  sql =  "SELECT films.* FROM
   screenings INNER JOIN films ON film_id = films.id WHERE films.id = $1"
   values = [screening.film_id]

   film_at_screening = SqlRunner.run(sql,values)
   result = film_at_screening.first
   price =  result["price"].to_i
  #  if customer has enough funds remove price from customer funds
   if @funds > price && screening.seats_available
     pay_ticket(price)
    #  buy ticket for screening
     screening.sell_ticket
     return "Ticket successfully purchased"
   else
     return "Unsuccessful"
   end
end
```

Description here

Unit	Ref	Evidence	
P	P.13	Show user input being processed according to design requirements. Take a screenshot of: * The user inputting something into your program * The user input being saved or used in some way	
		Description:	

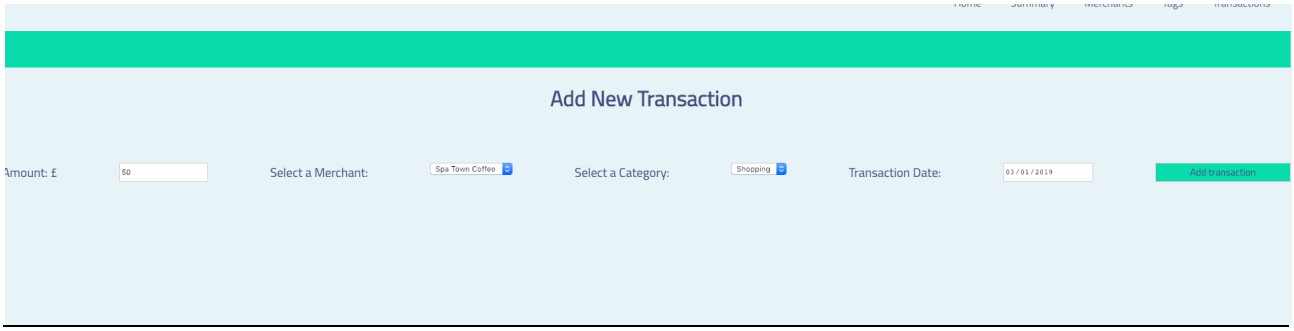
Paste Screenshot here

Description here

The user inputs a date which then brings back the transactions for that given date.

Unit	Ref	Evidence	
P	P.14	Show an interaction with data persistence. Take a screenshot of: * Data being inputted into your program * Confirmation of the data being saved	
		Description:	

Paste Screenshot here



Description here

User inputs a transactions amount with a merchant category and transaction date. This is then saved to the databased and will be rendered when the transactions page is viewed.

Unit	Ref	Evidence	
P	P.15	Show the correct output of results and feedback to user. Take a screenshot of: * The user requesting information or an action to be performed * The user request being processed correctly and demonstrated in the program	
		Description:	

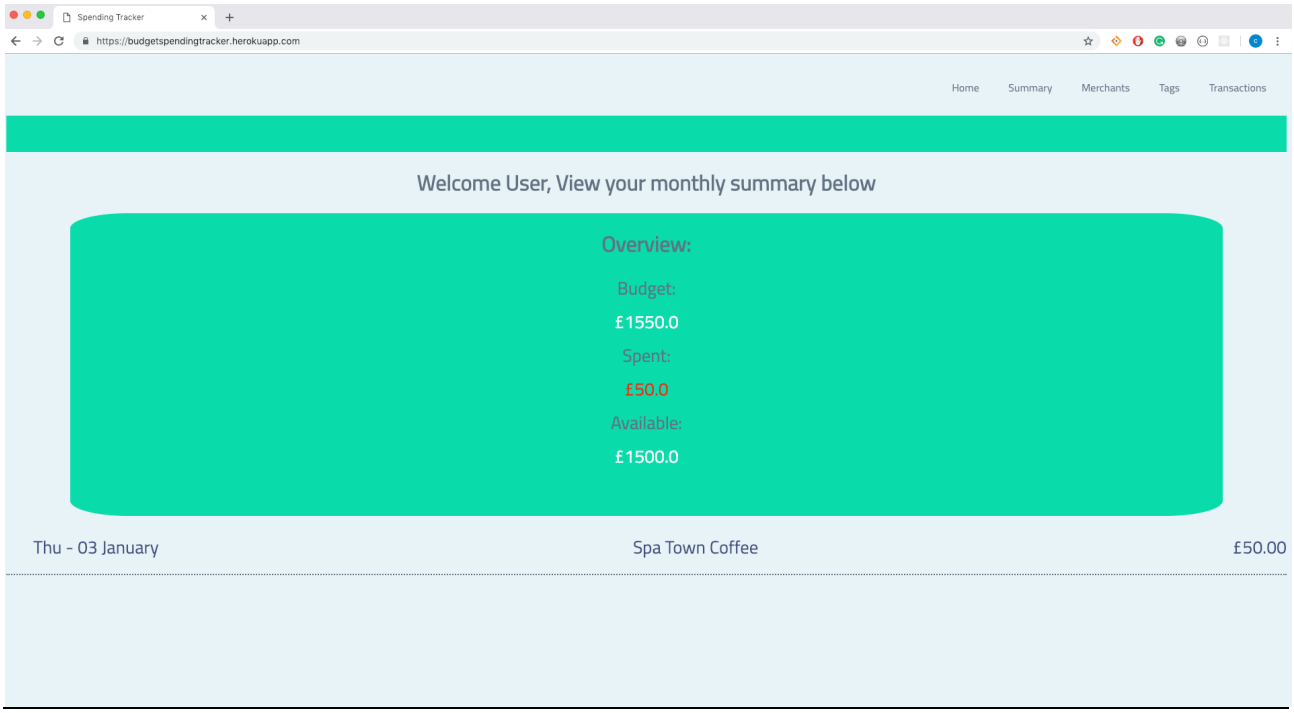
Paste Screenshot here

Description here

The user inputs a month/year they would like to filter transactions by and press the filter by date button which will then bring back a new view with all the transactions within that month/year.

Unit	Ref	Evidence	
P	P.11	Take a screenshot of one of your projects where you have worked alone and attach the Github link.	
		Description:	

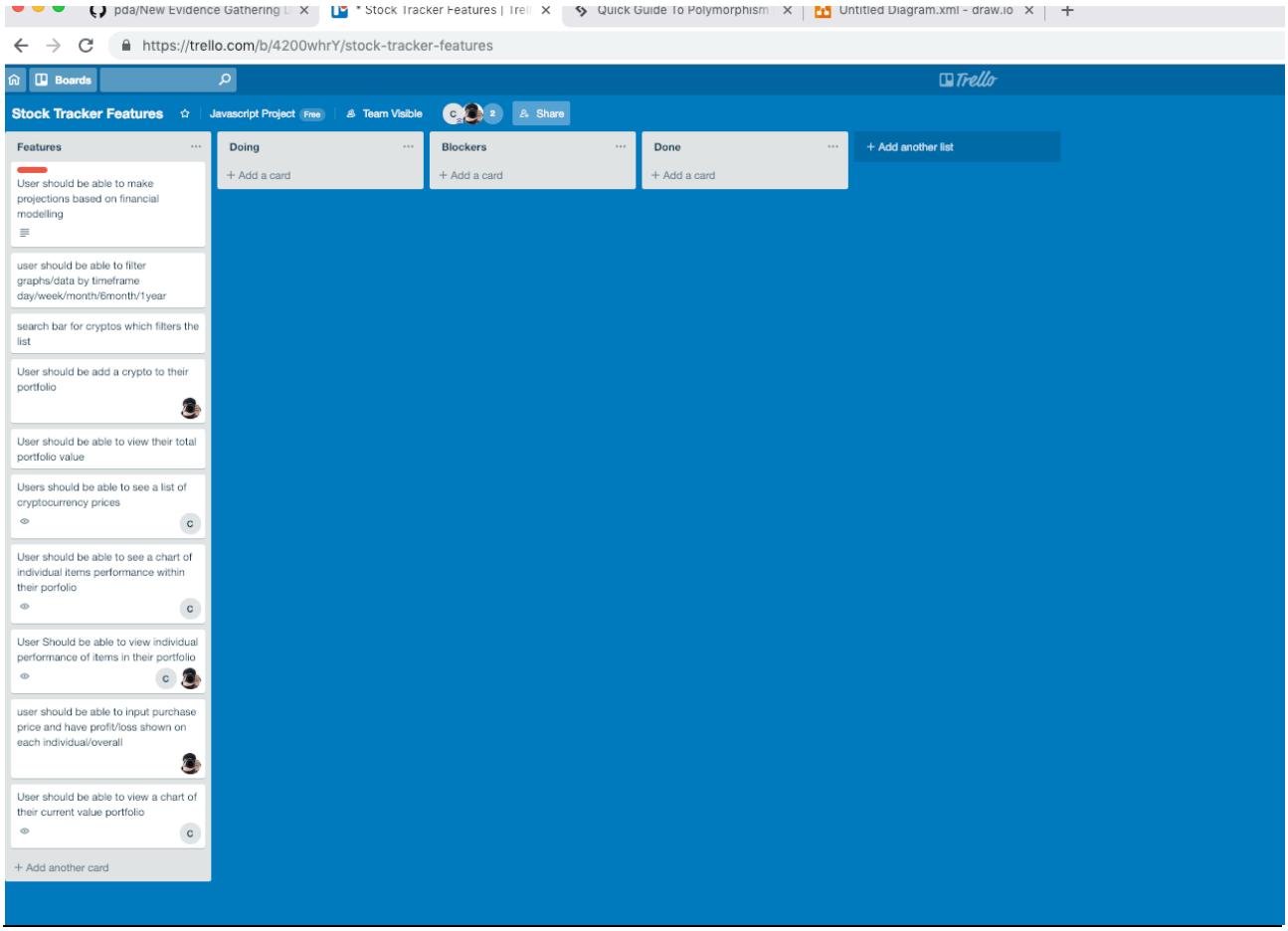
Paste Screenshot here

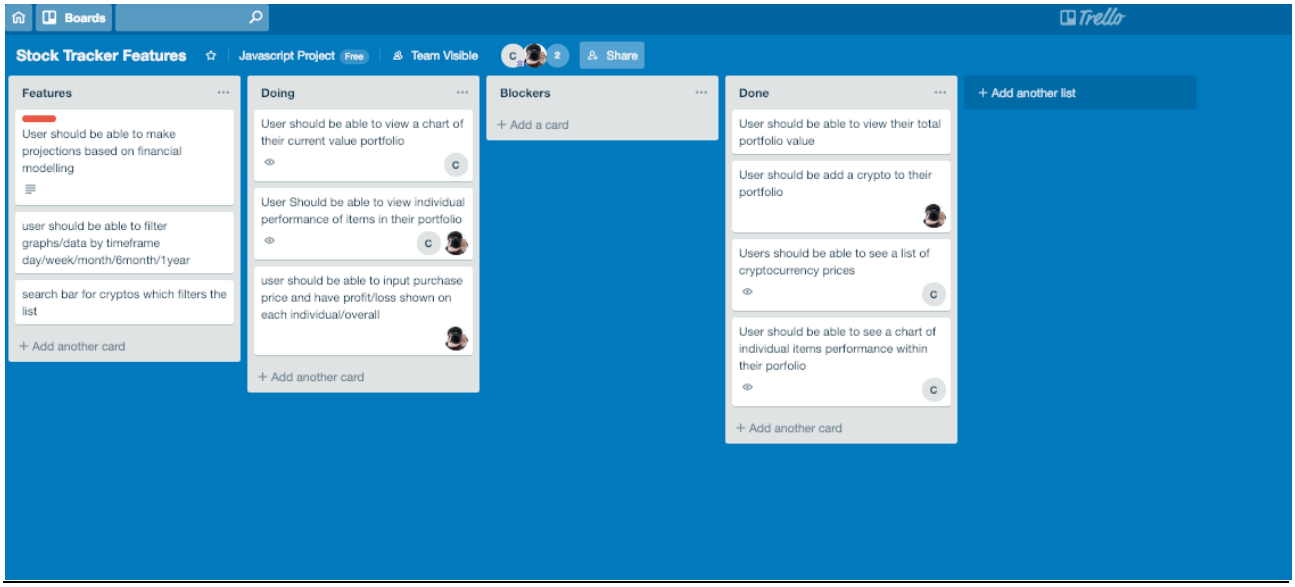


Description here
https://github.com/cd9393/Week5_Spending_Tracker

Unit	Ref	Evidence	
P	P.12	Take screenshots or photos of your planning and the different stages of development to show changes.	
		Description:	

Paste Screenshot here


https://trello.com/b/4200whrY/stock-tracker-features
Boards
Trello
Stock Tracker Features
Javascript Project
Free
Team Visible
Share
Features
User should be able to make projections based on financial modelling
user should be able to filter graphs/data by timeframe day/week/month/6month/1year
search bar for cryptos which filters the list
User should be add a crypto to their portfolio
User should be able to view their total portfolio value
Users should be able to see a list of cryptocurrency prices
User should be able to see a chart of individual items performance within their porfolio
User Should be able to view individual performance of items in their portfolio
user should be able to input purchase price and have profit/loss shown on each individual/overall
User should be able to view a chart of their current value portfolio
+ Add another card
Doing
+ Add a card
Blockers
+ Add a card
Done
+ Add a card
+ Add another list


Boards
Trello
Stock Tracker Features
Javascript Project
Free
Team Visible
Share
Features
User should be able to make projections based on financial modelling
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search bar for cryptos which filters the list
+ Add another card
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User should be able to view a chart of their current value portfolio
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+ Add another card
Blockers
+ Add a card
Done
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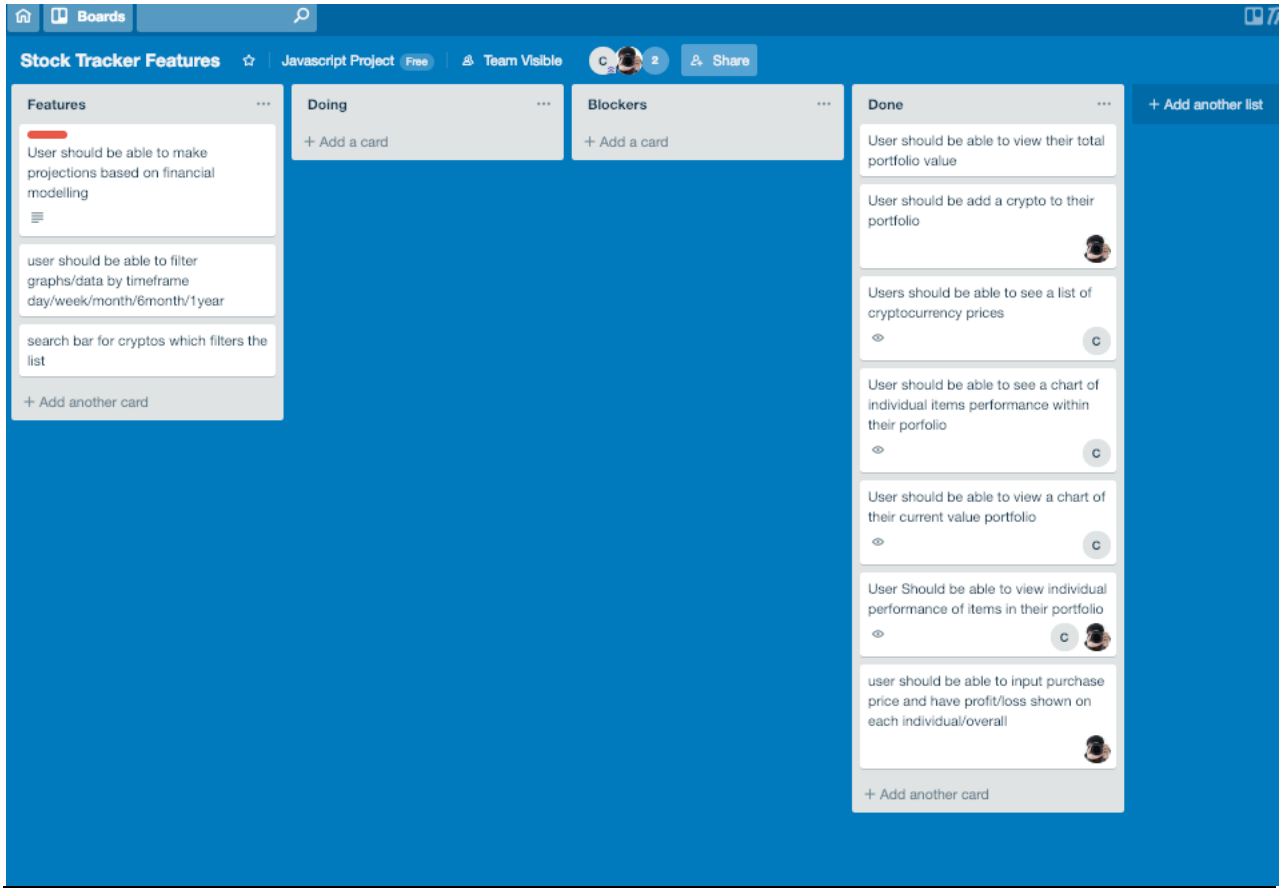
+ Add another card
+ Add another list



Description here

Week 7

Unit	Ref	Evidence	
P	P.16	Show an API being used within your program. Take a screenshot of: * The code that uses or implements the API * The API being used by the program whilst running	
		Description:	

Paste Screenshot here

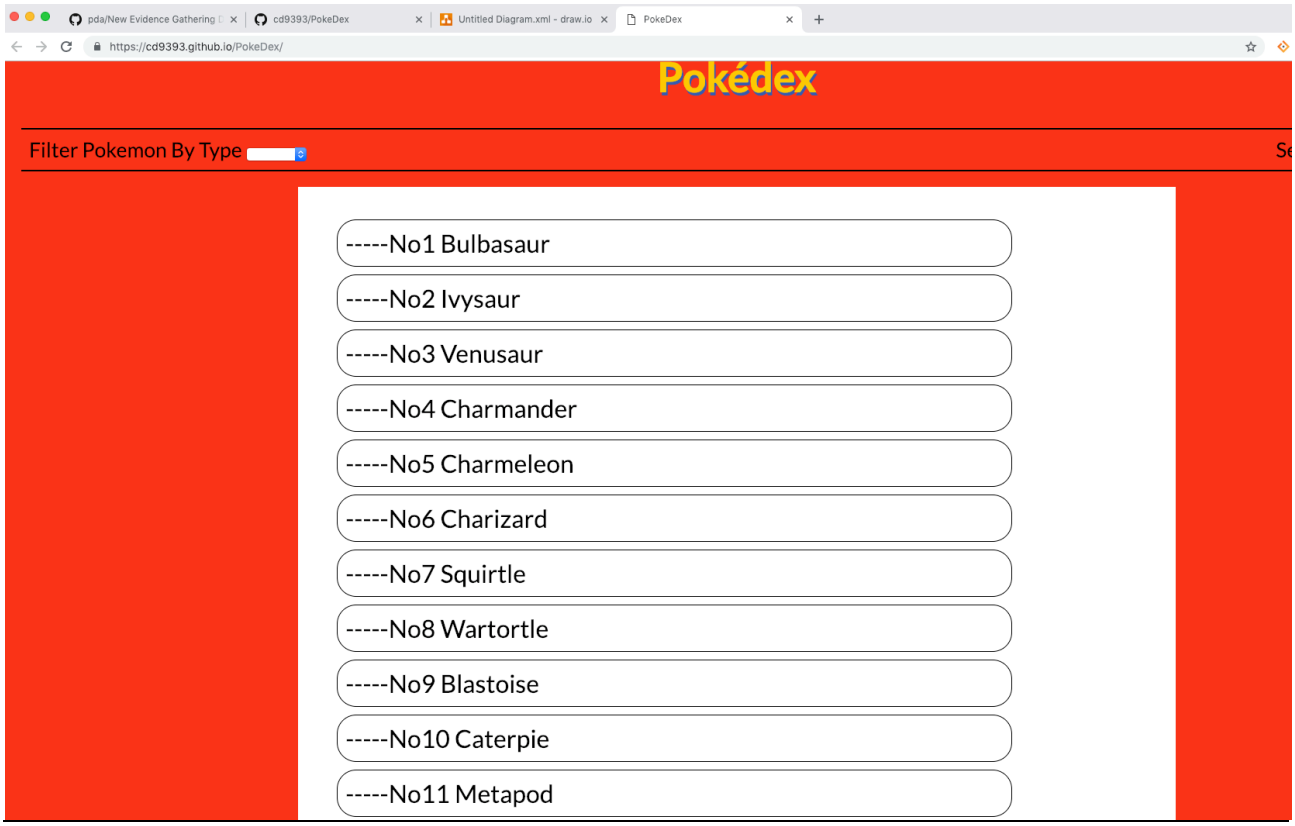
```
const Request = function (url) {
  this.url = url;
}

  Request.prototype.get = function () {
    return fetch(this.url).then(response => response.json());
  };
  module.exports = Request;
```

```
Pokemon.prototype.getData = function () {
  const url = "https://pokeapi.co/api/v2/pokemon/";
  const request = new Request(url);

  request.get().then(data => {
    this.data = data.results;
    PubSub.publish('Pokemon:pokemon-data-loaded', this.data);
  })
  // request.get((data) => {
  //   this.data = data.message;
  //   PubSub.publish('Dogs:dog-data-loaded', this.data);
  // });
}
```

```
PokemonListView.prototype.createPokedex = function (pokemonArray) {
  const pokedex = document.createElement('ul');
  pokedex.classList.add('pokedex');
  pokemonArray.forEach((pokemon,index) => {
    const number = index+=1;
    const listItem = document.createElement('li');
    listItem.id = pokemon.name;
    listItem.value = pokemon.name;
    listItem.textContent = `-----No${number}  ${pokemon.name.capitalize()}`;
    listItem.addEventListener("click",(event) => {
      const selectedPokemon = event.target.id;
      PubSub.publish("pokemonListView: Pokemon-selected",selectedPokemon)
    })
    pokedex.appendChild(listItem)
  })
  return pokedex;
};
```



Description here

An API request is made to get all the pokemon information from the API. This is then published out using PubSub to the views page which then creates the list of pokemon as shown above.

Unit	Ref	Evidence	
P	P.18	Demonstrate testing in your program. Take screenshots of: * Example of test code * The test code failing to pass * Example of the test code once errors have been corrected * The test code passing	
		Description:	

Paste Screenshot here

```ruby
require_relative('card.rb')
class CardGame # no initialize statement class has no variables.


  def checkforAce(card)
    if card.value = 1 # this will always set the value of the card to be one 1 should be ==
      return true
    else
      return false
    end
  end

  dif highest_card(card1 card2) #dif instead of def, no comma between card1,card2
  if card1.value > card2.value
    return card.name #card isnt a defined variable .should be card1. # .name isnt a class method should be suit.
  else
    card2 # return statement missing
  end
end
end # too many ends statements. This ends the class.

def self.cards_total(cards)
  total  # should be =0
  for card in cards
    total += card.value
    return "You have a total of" + total  # this should be outside the for loop to return the total. total should be included in the string with {#}
  end
end


```

FIGURE 1- TEST CODE

```
        from PDA Evidence/Static_and_Dynamic_Task_A/specs/testing_spec.rb:3:in `<main>'
➜  codeclan_work ruby PDA\ Evidence/Static_and_Dynamic_Task_A/specs/testing_spec.rb
/Users/craigdunlop/Documents/codeclan_work/PDA Evidence/Static_and_Dynamic_Task_A/testing_task_2.rb:46:in `<class:CardGame>': undefined local vari
able or method `card2' for CardGame:Class (NameError)
        from /Users/craigdunlop/Documents/codeclan_work/PDA Evidence/Static_and_Dynamic_Task_A/testing_task_2.rb:35:in `<top (required)>'
        from PDA Evidence/Static_and_Dynamic_Task_A/specs/testing_spec.rb:3:in `require_relative'
        from PDA Evidence/Static_and_Dynamic_Task_A/specs/testing_spec.rb:3:in `<main>'
```

FIGURE 2- TEST FAILING TO RUN

```ruby

  require_relative('card.rb')
  class CardGame


    def checkforAce(card)
      if card.value == 1
        return true
      else
        return false
      end
    end

    def highest_card(card1,card2)
    if card1.value > card2.value
      return card1
    else
      card2
    end
  end

  def self.cards_total(cards)
    total = 0
    for card in cards
      total += card.value
    end
    return "You have a total of #{total}"
  end
  end

```

FIGURE 3-CORRECTED TEST CODE

```
➜  specs git:(master) ✗ ruby testing_spec.rb
Run options: --seed 65002

# Running:

....

Finished in 0.001206s, 3316.7496 runs/s, 3316.7496 assertions/s.

4 runs, 4 assertions, 0 failures, 0 errors, 0 skips
➜  specs git:(master) ✗
```

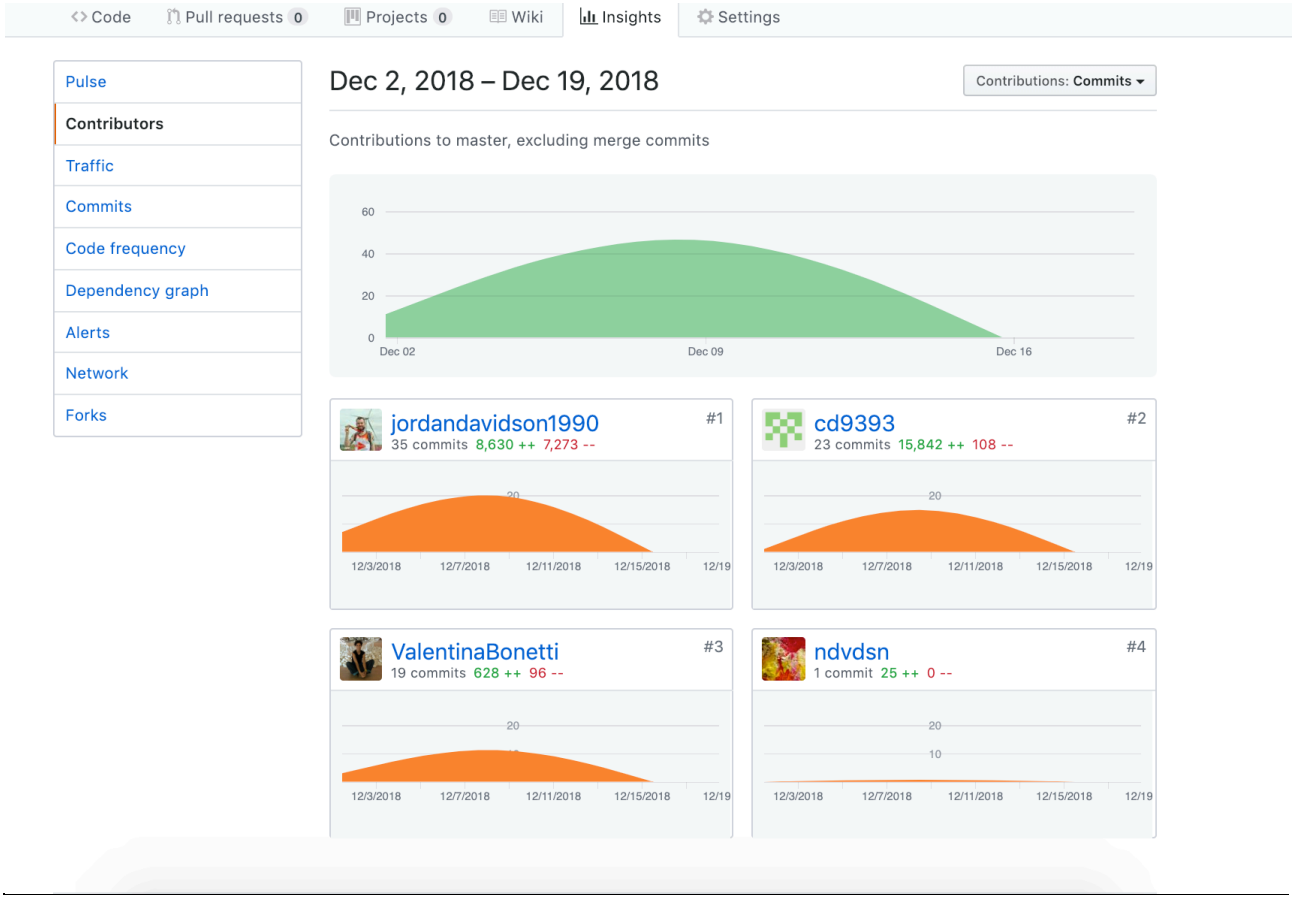
FIGURE 4-TESTS PASSING

Description here

Week 9

Unit	Ref	Evidence	
P	P.1	Take a screenshot of the contributor's page on Github from your group project to show the team you worked with.	
		Description:	

Paste Screenshot here



Description here

Contributors page from Group project.

Unit	Ref	Evidence	
P	P.2	Take a screenshot of the project brief from your group project.	
		Description:	

Paste Screenshot here

Restaurant Booking System:

You have been tasked to create a booking system for a brand new restaurant. The restaurant needs a way to book and arrange tables for customers who are booking over the phone. This system is for the staff to use.

MVP:

Your system must be able to:

- Allow a customer to book a table at the restaurant for a particular time and date
- Update a booking, for example if the customer wants to change a booking time
- Display a list of bookings for a given date
- Display a list of customers ordered by frequency of visits

Project Extensions:

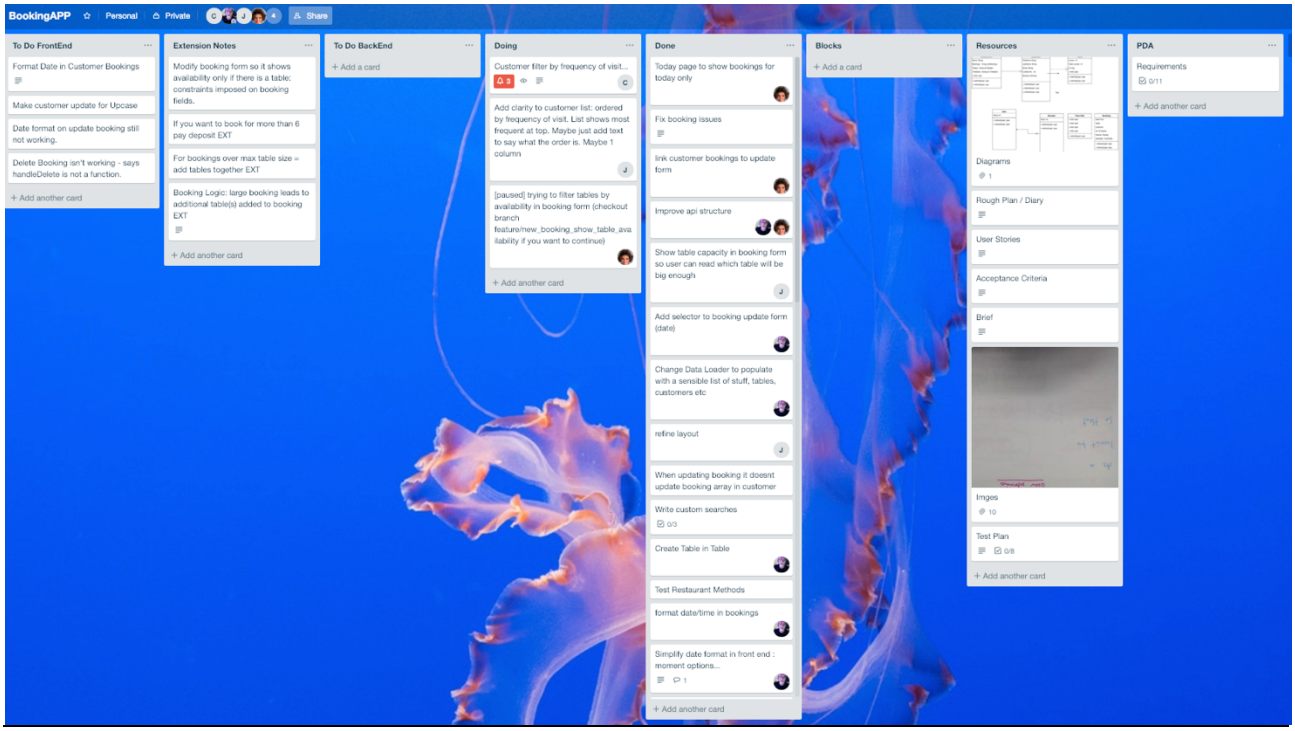
- Don't allow double bookings
- Add a customer's receipt to a booking so you can view their previous orders and how much they spent
- Calculate how much a customer has spent over a given period of time
- Give discounts to frequent customers
- Whatever features you think would be beneficial to a restaurant

---

Project Brief from Group Project

Unit	Ref	Evidence	
P	P.3	Provide a screenshot of the planning you completed during your group project, e.g. Trello MOSCOW board.	
		Description:	

Paste Screenshot here



Description here

Unit	Ref	Evidence	
P	P.4	Write an acceptance criteria and test plan.	

Paste Screenshot here

Acceptance Criteria - "A user should be able to…"	**Expected Output/Result**	**Test Result** (Pass/Fail)
view total current value.	• The main page should display total current value when a user visits the home page of the website	Pass
view individual and total performance trends.	• The user should be able to view total performance trends when the individual element is clicked	Pass
retrieve a list of share prices from an external API and allow the user to add shares to her portfolio.	• A user should be able to view a list of all API entries retrieved when the 'Crypto' button is clicked • A user should be able to add a Crypto asset to the list when the 'add' button is clicked	Pass
View a chart of the current values in her portfolio.	• The user should be able to view a performance chart of the asset when the portfolio asset is clicked	Pass

Description here

Unit	Ref	Evidence	
P	P.7	Produce two system interaction diagrams (sequence and/or collaboration diagrams).	
		Description:	

Paste Screenshot here

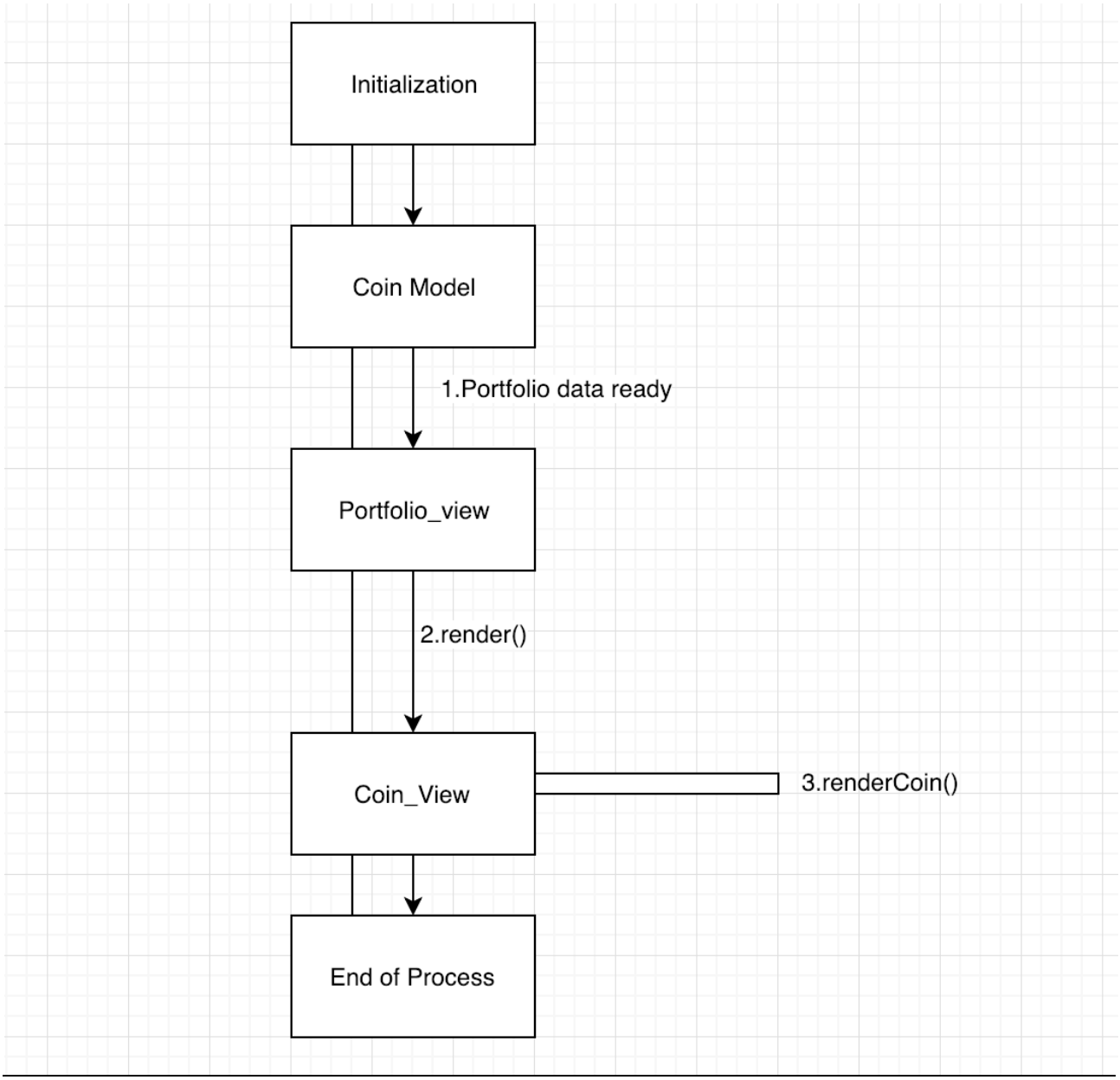


FIGURE 5-COLLABORATION DIAGRAM TO DISPLY PORTFOLIO IN CRYPTOTRACKER

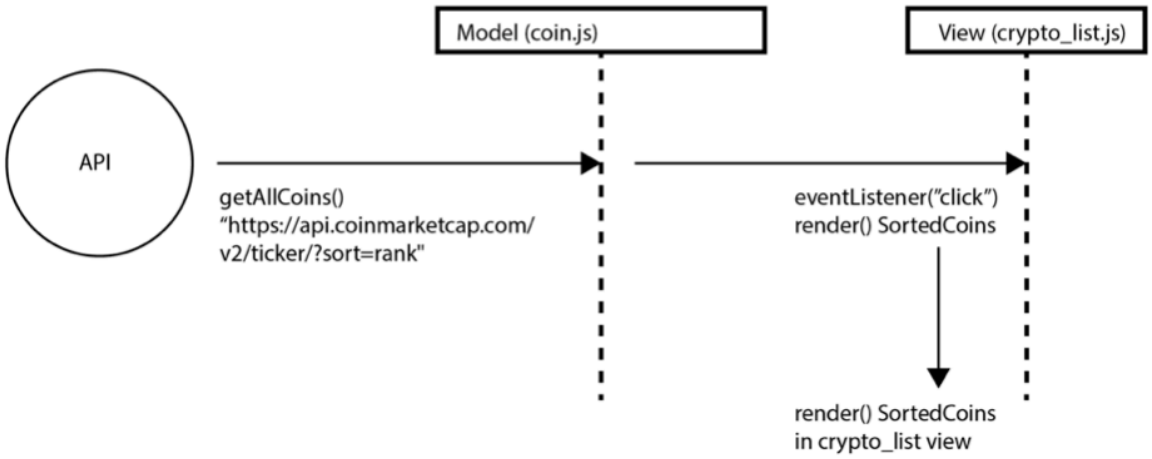
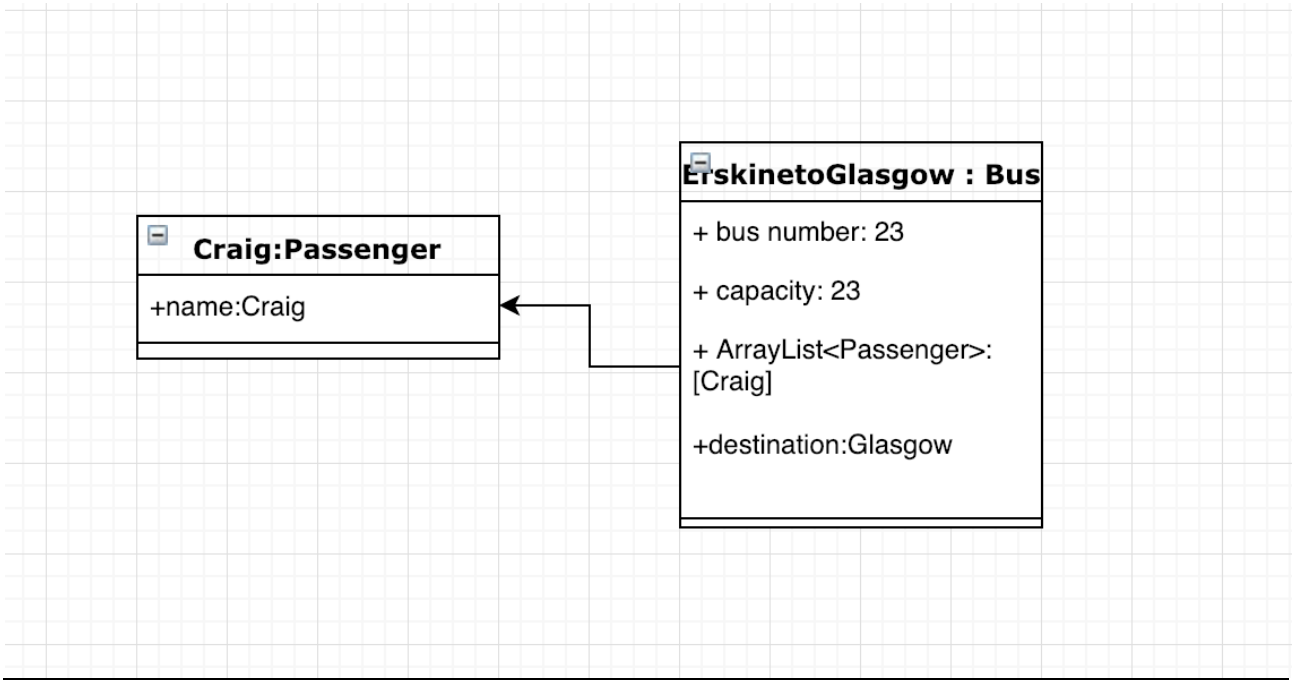


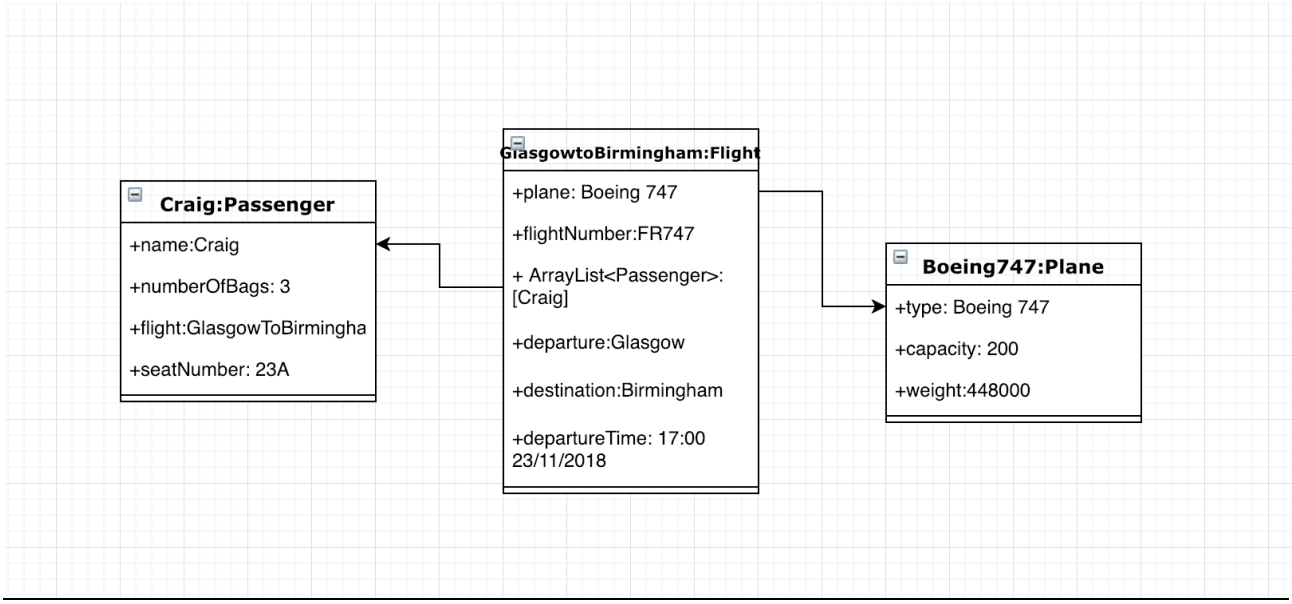
FIGURE 6-SEQUENCE DIAGRAM TO SHOW HOW LIST OF CRYPTOCURRENCIES ARE RENDERED IN CRYPTOTRACKER

Description here

Unit	Ref	Evidence	
P	P.8	Produce two object diagrams.	
		Description:	

Paste Screenshot here





Description here

Unit	Ref	Evidence	
P	P.17	Produce a bug tracking report	
		Description:	

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Bug Identified	Solution	Date
Portfolio not displaying on screen - waiting for data to be returned from multiple API calls, leading to asynchronous behaviour.	Declare 'async' function and add 'await' expression to resolve asynchronous behaviour.	04 Nov 2018
Portfolio not rendering when delete button is clicked - subscribe eventListener not receiving data.	Initiate top level function in App.js (entry point), triggering bindEvents() function to pass data to eventListener	04 Nov 2018
Webpage refreshes when submit buttons is clicked.	Event trigger - added preventDefault() to resolve form submit issue.	02 Nov 2018
SearchCoin() function is returning an 'undefined' value in the model	'return' keyword is required outside of the loop statement	02 Nov 2018
Adding of API 'Price' values to existing database price results in a 'NaN'	API price require to be parsed to decimal, using parseFloat(Coin-Price)	02 Nov 2018

Description here

Week 12

Unit	Ref	Evidence	
I&T	I.T.7	The use of Polymorphism in a program and what it is doing.	
		Description:	

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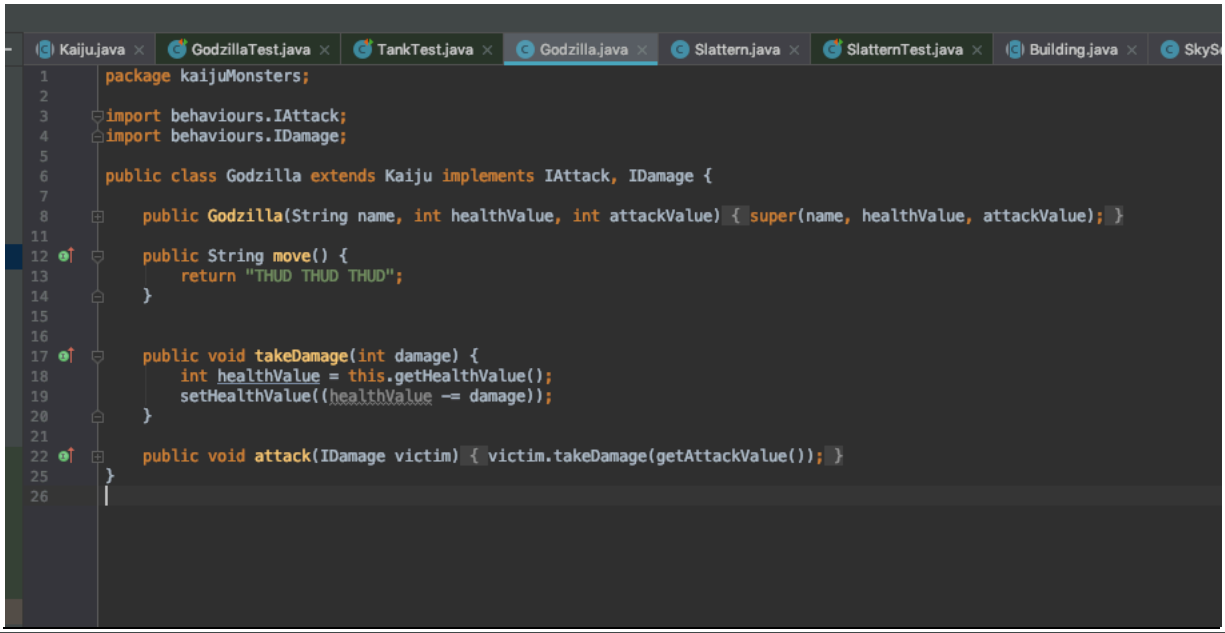
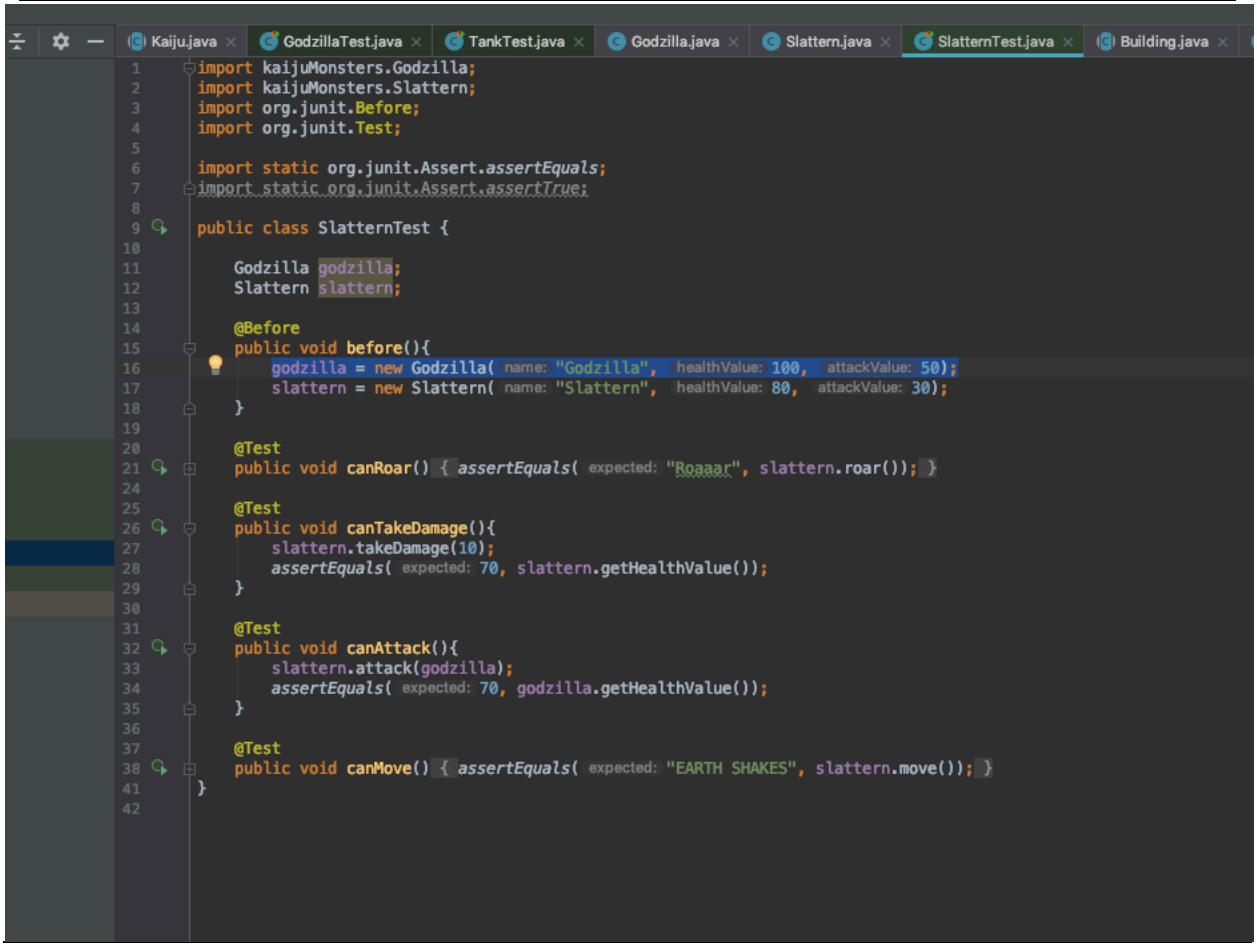


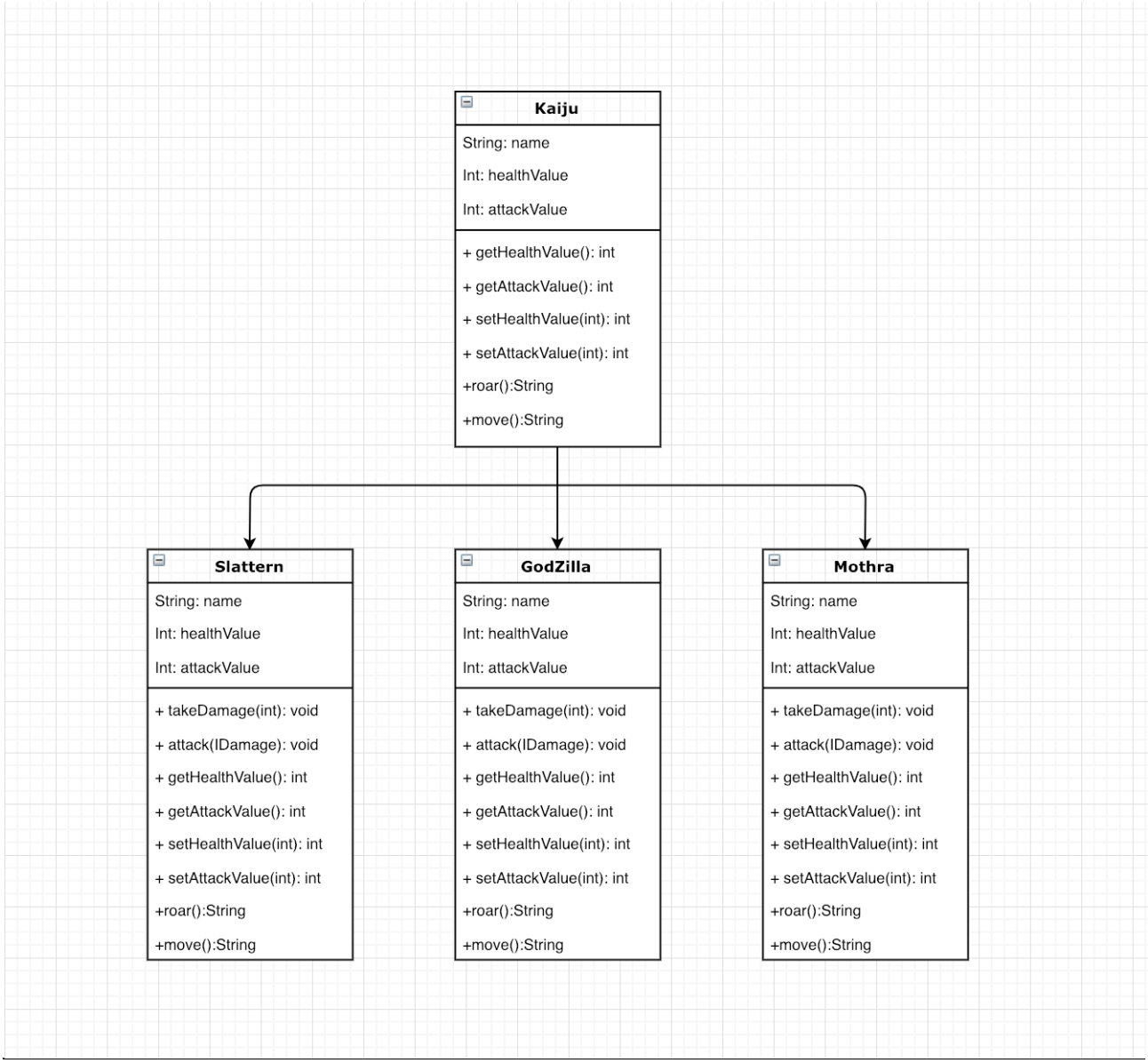


Description here

Godzilla is A Kaiju, Godzilla, IAttack and IDamage. The attack method takes in an IAttack type . As the Godzilla implements the IAttack interface it is able to be passed into the attack method.

Unit	Ref	Evidence	
A&D	A.D.5	An Inheritance Diagram	
		Description:	

Paste Screenshot here



Description here

Unit	Ref	Evidence	
I&T	I.T.1	The use of Encapsulation in a program and what it is doing.	
		Description:	

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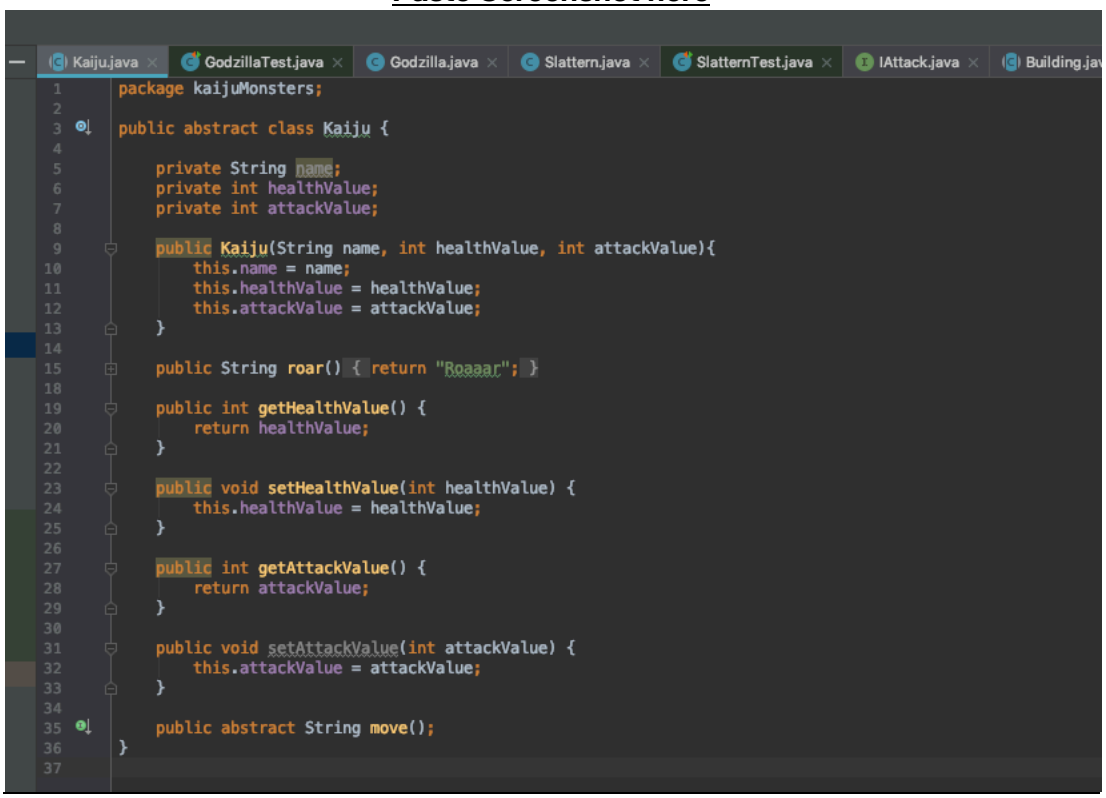

Description here

declaring variables as private to prevent it being accessed by other classes and writing public methods in order to access and edit the variables.

Unit	Ref	Evidence	
I&T	I.T.2	Take a screenshot of the use of Inheritance in a program. Take screenshots of: *A Class *A Class that inherits from the previous class *An Object in the inherited class *A Method that uses the information inherited from another class.	
		Description:	

Paste Screenshot here

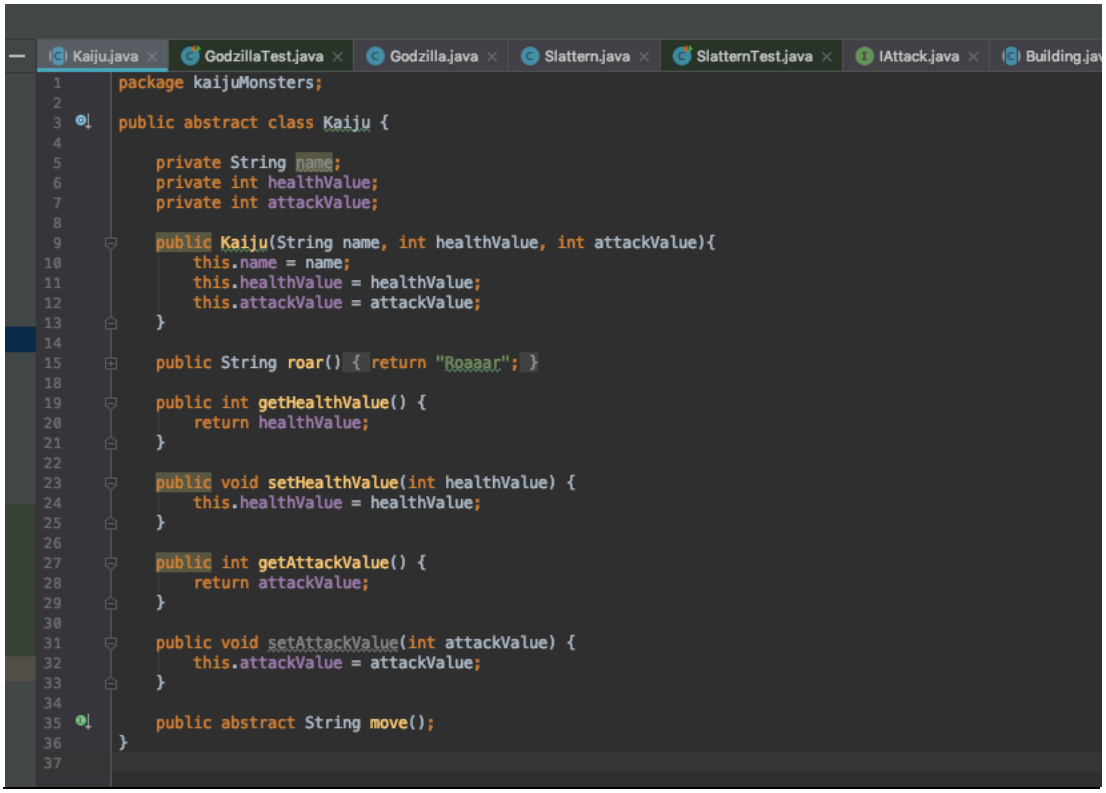

FIGURE 7- A CLASS

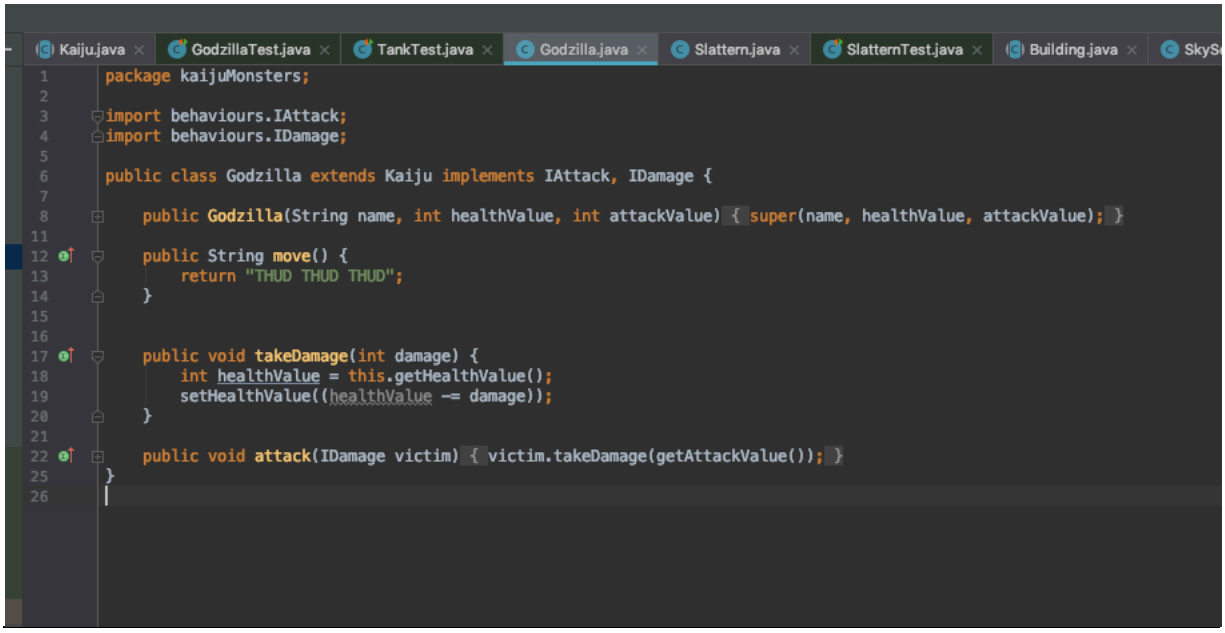

FIGURE 8- GODZILLA CLASS INHERITS FROM KAIJU

FIGURE 9- GODZILLA OBJECT

```
import static org.junit.Assert.assertEquals;

public class GodzillaTest {

    Godzilla godzilla;
    Slattern slattern;

    @Before
    public void before(){
        godzilla = new Godzilla( name: "Godzilla",  healthValue: 100,  attackValue: 50);
        slattern = new Slattern( name: "Slattern",  healthValue: 80,  attackValue: 30);
    }

    @Test
    public void canRoar() { assertEquals( expected: "Roaaar", godzilla.roar()); }

    @Test
    public void canTakeDamage(){
        godzilla.takeDamage(10);
        assertEquals( expected: 90, godzilla.getHealthValue());
    }

    @Test
    public void canAttack(){
        godzilla.attack(slattern);
        assertEquals( expected: 30, slattern.getHealthValue());
    }

    @Test
    public void canMove() { assertEquals( expected: "THUD THUD THUD", godzilla.move()); }

}
```

FIGURE 10- METHOD USING INFORMATION INHERITED FROM ANOTHER CLASS

Description here

Unit	Ref	Evidence	
P	P.9	Select two algorithms you have written (NOT the group project). Take a screenshot of each and write a short statement on why you have chosen to use those algorithms.	
		Description:	

Paste Screenshot here

```
public int generateSeatNumber(){
    int seatNumber = generateRandom();
    while(this.bookedSeats.contains(seatNumber)){
        seatNumber = generateRandom();
    }
    this.bookedSeats.add(seatNumber);
    return seatNumber;
}

public void addPassenger(Passenger passenger1) {
    if(availableSeats()>0) {
        this.passengers.add(passenger1);
        this.availableSeats -= 1;
        passenger1.setSeatNumber(generateSeatNumber());
    }
}
```

Generate Seat number function will assign the seat number a random number and then will run a while loop to check whether the seat number already exists in the booked seats array, if it does then it will assign a new random number and repeat the while loop until it assigns a number which doesn't exist in the booked seats array and then add this to the booked seats array and return the seat number.

```
Coin.prototype.individualCoinPriceData = function (symbol) {
  const individualCoinData = new
  Request(`https://www.alphavantage.co/query?function=DIGITAL_CURRENCY_DAILY&symbol=${symbol}&market=USD&ap
  ey=SZGMIHDEPWLBE9NI`);

  const todaysPrice = new
  Request(`https://www.alphavantage.co/query?function=CURRENCY_EXCHANGE_RATE&from_currency=${symbol}&to_cur
  ncy=USD&apikey=SZGMIHDEPWLBE9NI`);

  const realTimeInfo = todaysPrice.get().then((data)=>{
    const realTimeInfo = {
      name: data["Realtime Currency Exchange Rate"]["2. From_Currency Name"],
      symbol: data["Realtime Currency Exchange Rate"]["1. From_Currency Code"] ,
      date: data["Realtime Currency Exchange Rate"]["6. Last Refreshed"],
      close: data["Realtime Currency Exchange Rate"]["5. Exchange Rate"] ,
    }
    return realTimeInfo;
  })

  realTimeInfo.then((data) => {
    this.realtime = data;
    individualCoinData.get().then((data) => {
      this.singleCoinData = data["Time Series (Digital Currency Daily)"]
      this.singleCoinResult = data
      const dates = Object.keys(this.singleCoinData)
      dateInfo = []
      dates.forEach((date) => {
        const closePrice = this.singleCoinData[date]["4b. close (USD)"]
        const info = {
          name: this.singleCoinResult["Meta Data"]["3. Digital Currency Name"],
          symbol: this.singleCoinResult["Meta Data"]["2. Digital Currency Code"],
          date: date,
          close: closePrice
        };
        dateInfo.push(info)
      })
      dateInfo.unshift(this.realtime)
      console.log(dateInfo);
      PubSub.publish("coin:chosen-coin-price-History",dateInfo)
    })
  })
```

This function combines the information from two different API requests. It initially creates an object for the real time information for the coin and then does another API request to create the historic pricing data of the coin. It will then push the real-time information to the start of the array list and publish it out.

Description here