PDA: Software Development
Level 8
Student Evidence Checklist

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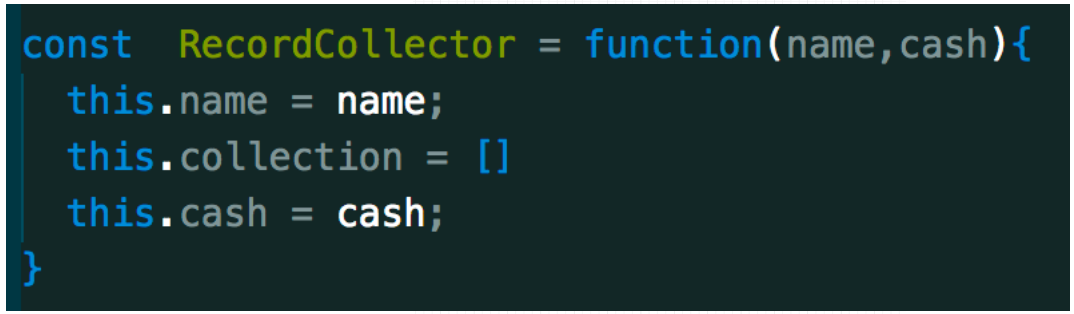
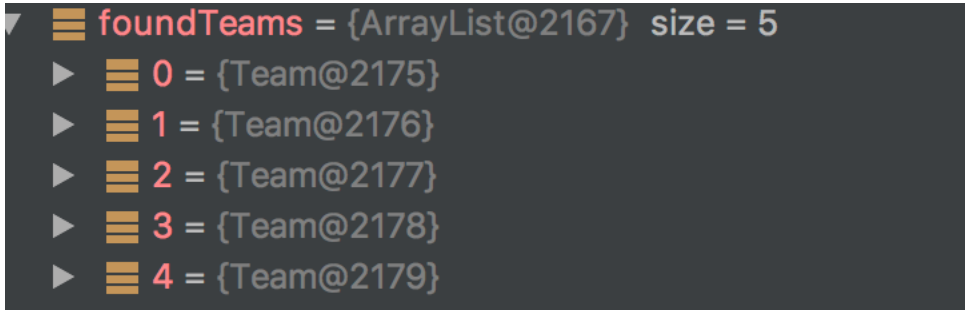
Cohort	**G4**

The evidence required can be taken from your assignments, homework that you have completed on your own or by creating a specific example for the PDA.

	Unit	Ref.	Evidence	Done
Week 2	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	
				
				

				
	I & T	I.T 6		
	I & T		Static and Dynamic testing task A	

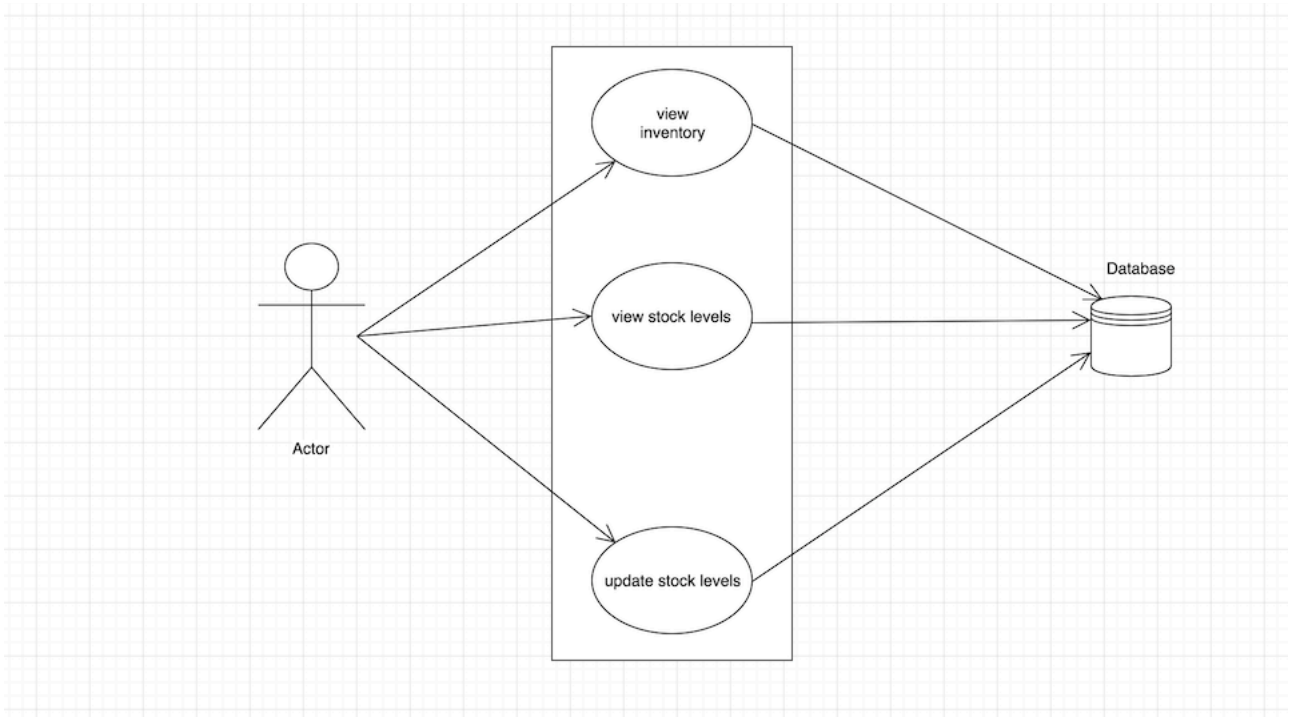
	Unit	Ref.	Evidence	Done
	I & T	I.T 3	Demonstrate searching data in a program. Take screenshots of: *Function that searches data *The result of the function running	

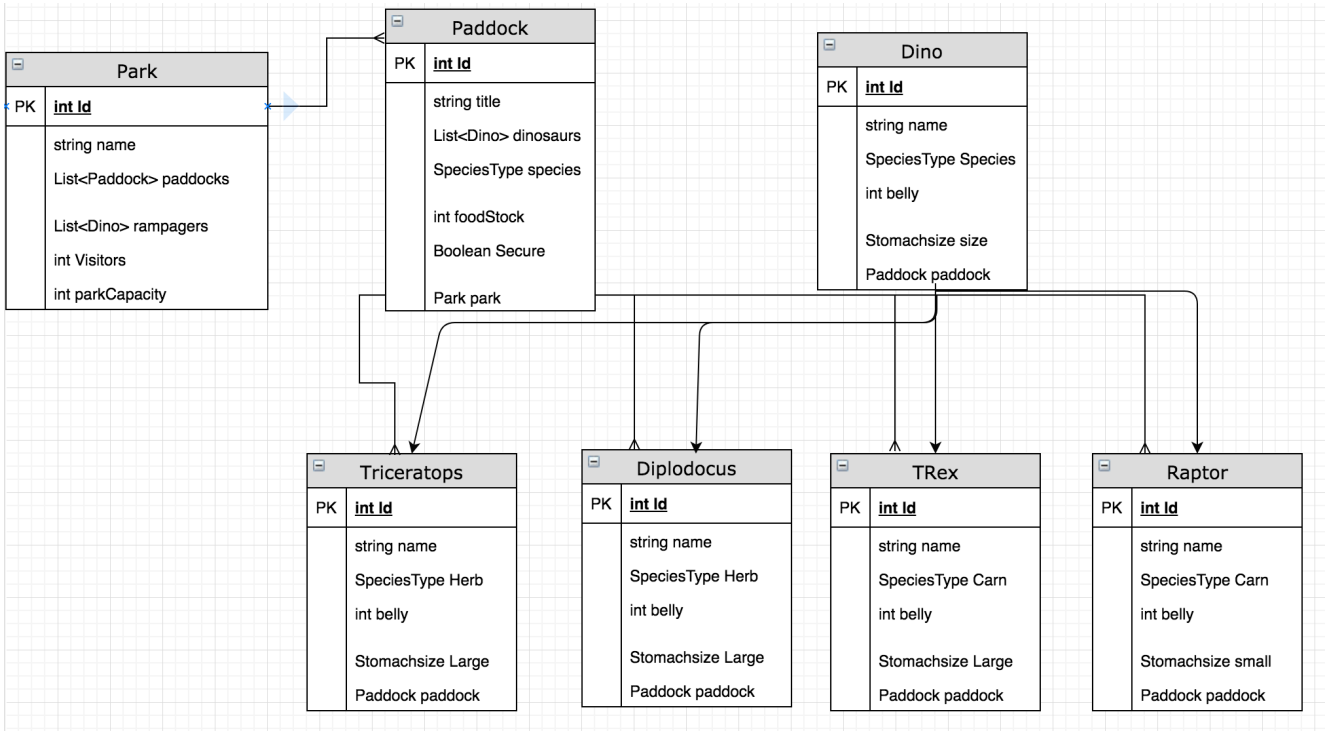
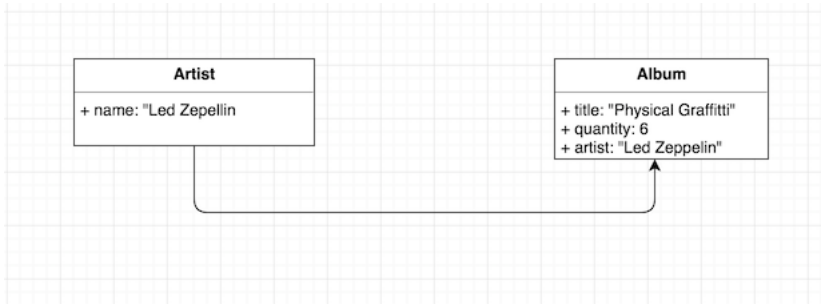
Week 3			   	
	I & T	I.T 4	Demonstrate sorting data in a program. Take screenshots of: *Function that sorts data *The result of the function running	

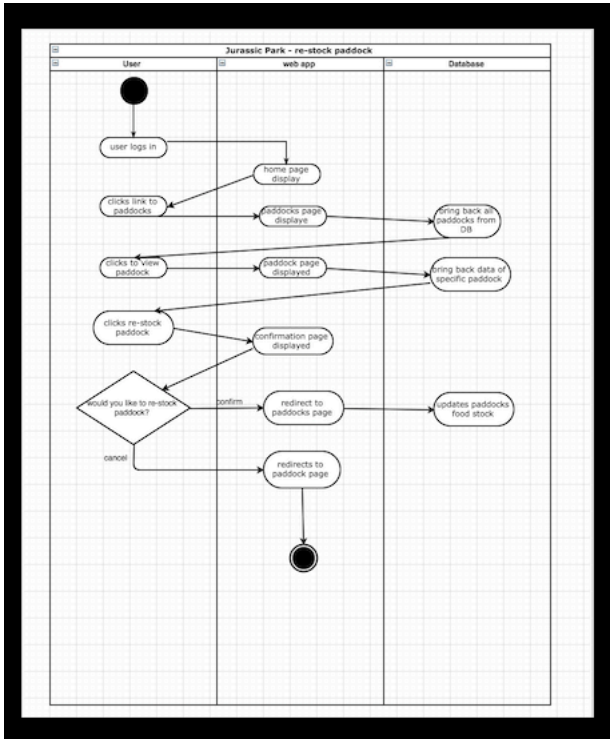
```
public static List<Team> getTeamsInLeague(League league){
session = HibernateUtil.getSessionFactory().openSession();
List<Team> results = null;
Criteria criteria = session.createCriteria(Team.class);
criteria.add(Restrictions.eq("league", league));
criteria.addOrder(Order.desc("points"));
results = getList(criteria);
return results;

}
```

```
List<Team> teamsfoundInPointsOrder = DBHelper.getTeamsInLeague(league);
```


teamsfoundInPointsOrder = {ArrayList@2170} size = 5
0 = {Team@2183}
id = 5
name = "Barcelona"
points = 20
manager = null
league = {League@2189}
1 = {Team@2184}
id = 4
name = "Newcastle"
points = 19
manager = null
league = {League@2189}
2 = {Team@2185}
id = 1
name = "soccer united"
points = 12
manager = null
league = {League@2189}
3 = {Team@2186}
id = 3
name = "Man blues"
points = 7
manager = null
league = {League@2189}
4 = {Team@2187}
id = 2
name = "Man reds"
points = 3
manager = null
league = {League@2189}

Unit	Ref.	Evidence	Done
A & D	A.D 1	A Use Case Diagram	
			
A & D	A.D 2	A Class diagram.	

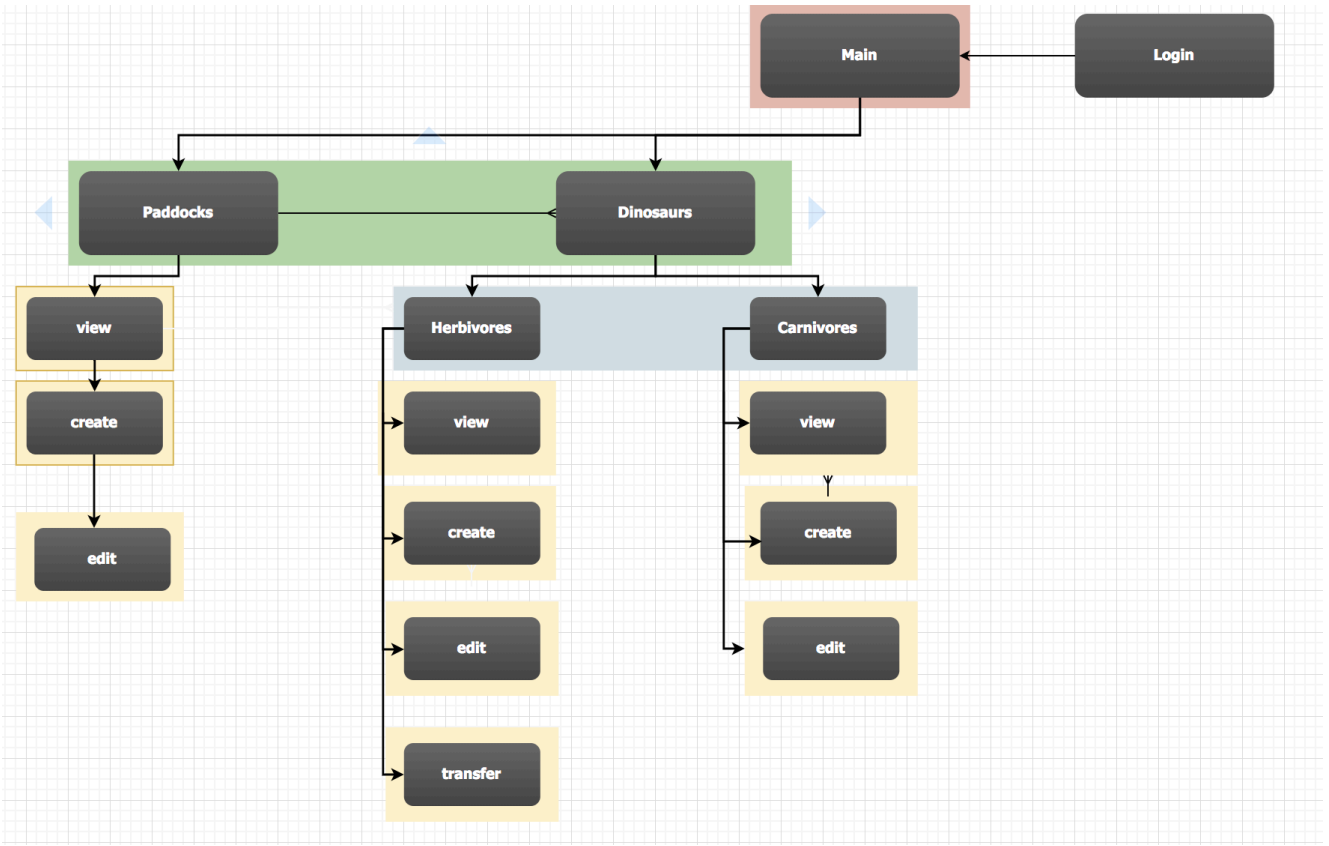
			
A & D	A.D 3	An Object diagram.	
			
A & D	A.D 4	An Activity Diagram	

			
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	

Implementation Constraints

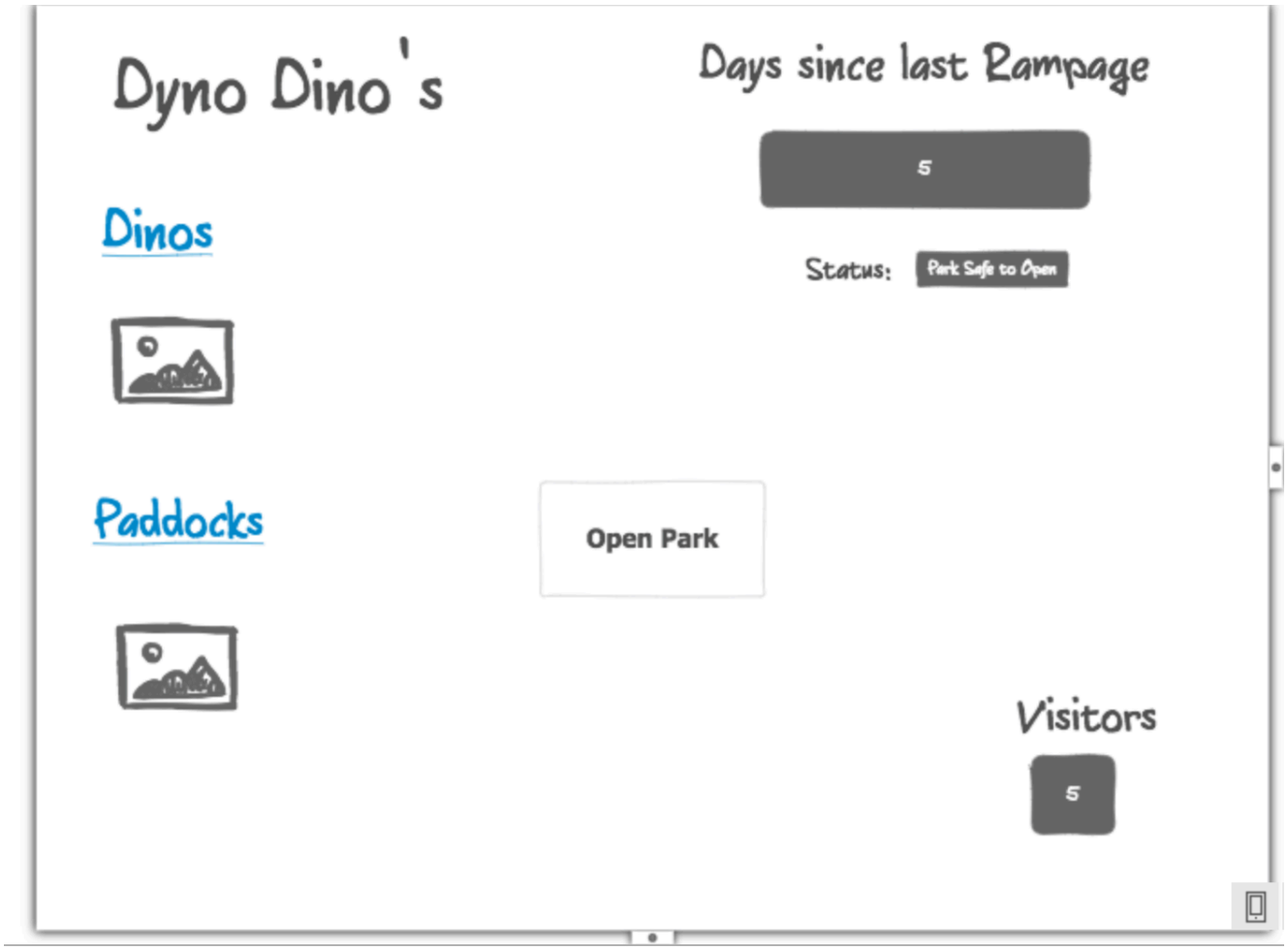
Topic	Possible effect	Solution
Hardware/Software Platforms	No Constraints on hardware or software platforms at this stage	n/a
Performance Requirements	Application can only be accessed via localhost	Gateway can be set-up to be hosted on another port.
Persistent Storage And transactions	No storage issues as application does not require large amounts of data to be stored	n/a
Usability	Application is being developed for one user at a time	Could add a login/admin to allow for multiple users to access the app.
Budgets	Budget could be set on applications design	More developers could be brought in to add further functionality
Time Limitations	Project Submission Deadline	Post submission, further functionality can be added to the application

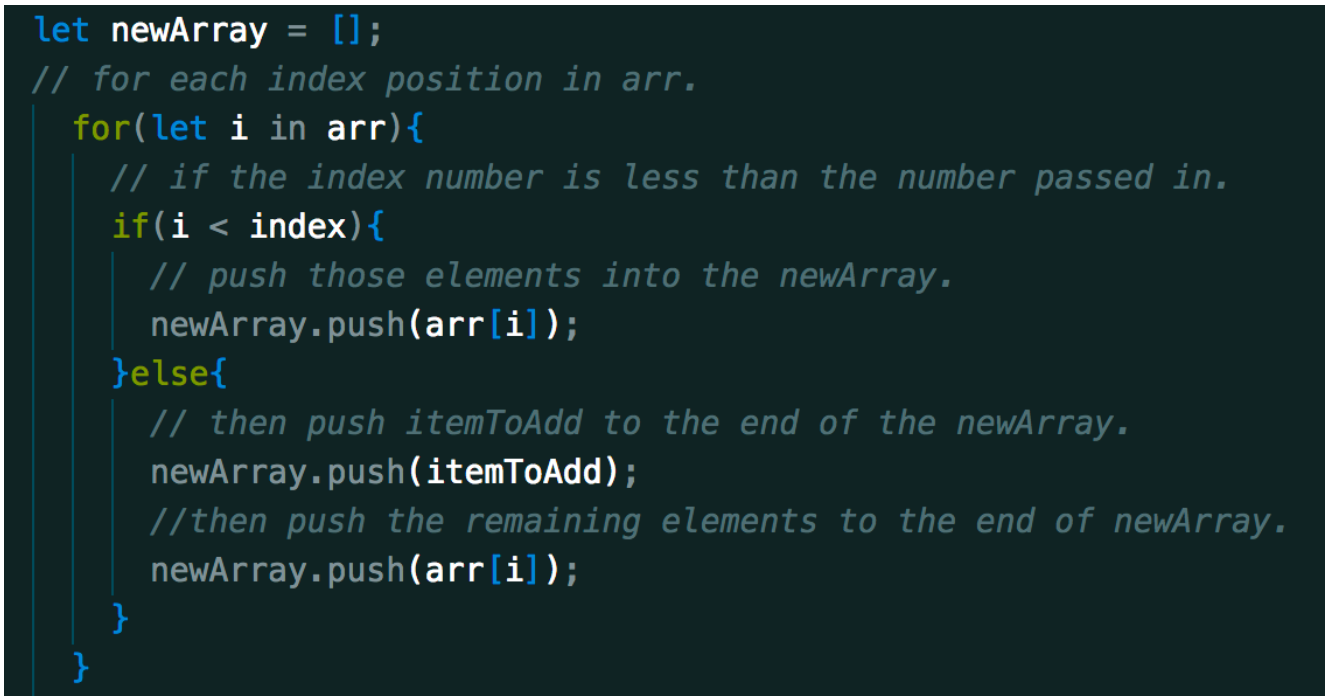
P	P 5	Create a user sitemap.	

			
P	P 6	Produce two wireframe designs.	

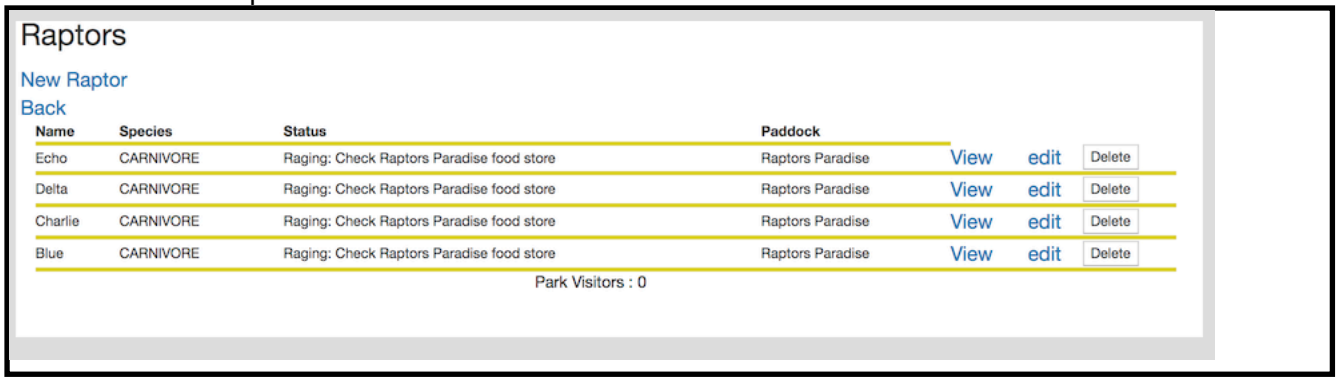
Week 5				

Paddocks
paddock
Type
Status
view
update
Paddock 1
Herbivore
Food Stock Low!
view
update
paddock 2
Carnivore
Safe
view
update
paddock 3
Carnivore
No Stock! Re-stock immediately
view
update
Add Paddock

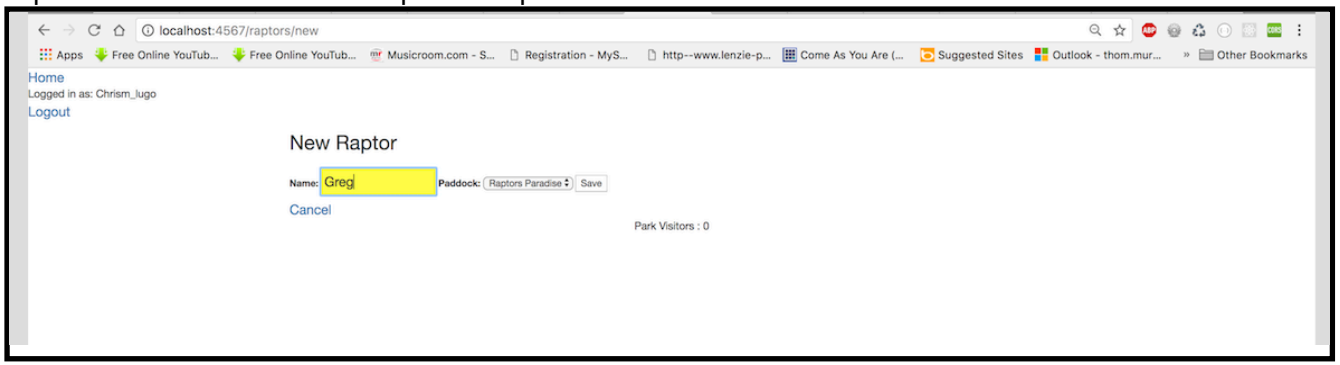
			
P	P 10	Take a screenshot of an example of pseudocode for a function.	

			
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	

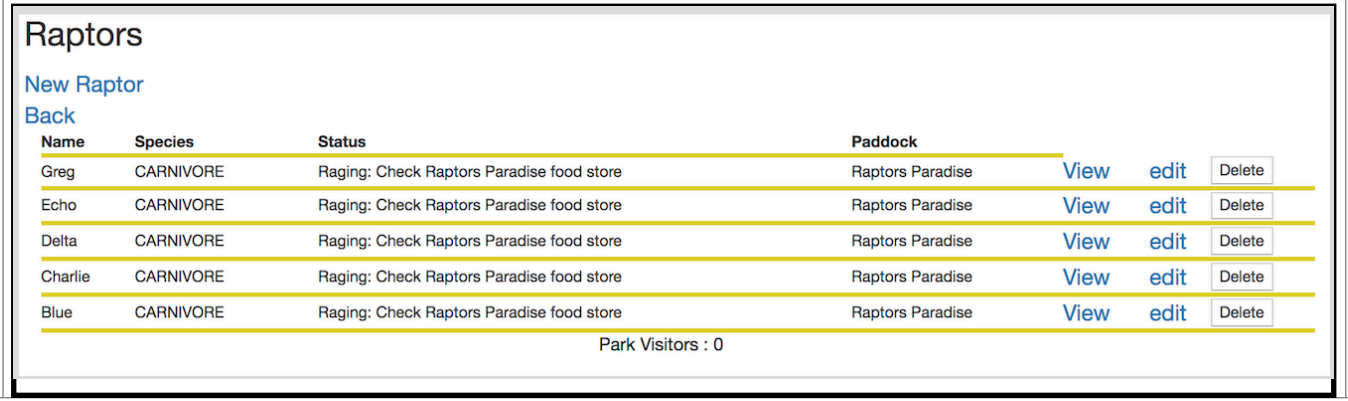
User clicks new raptor link

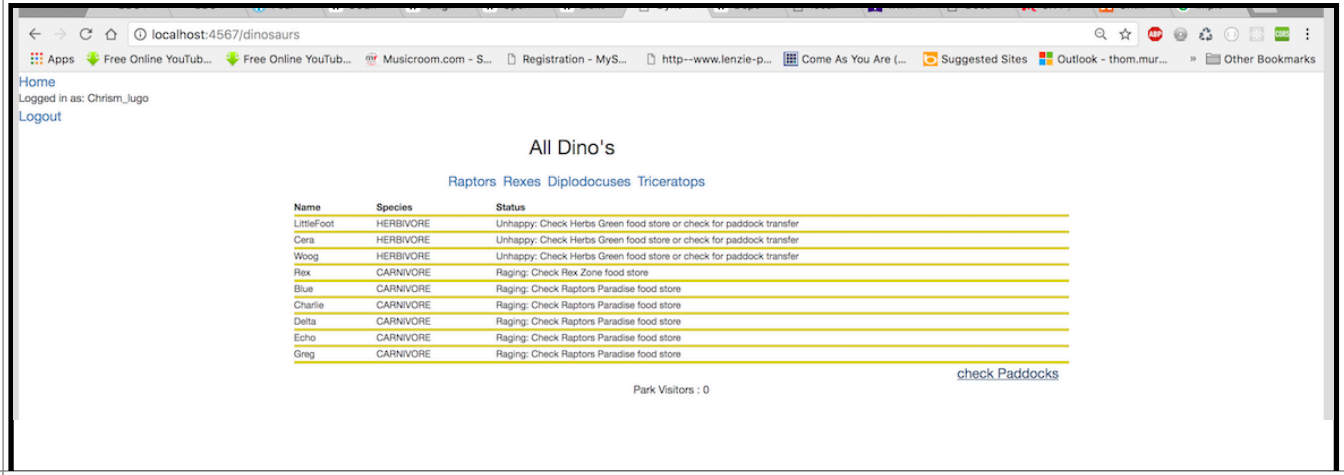


Inputs the name of the new raptor and paddock and clicks save

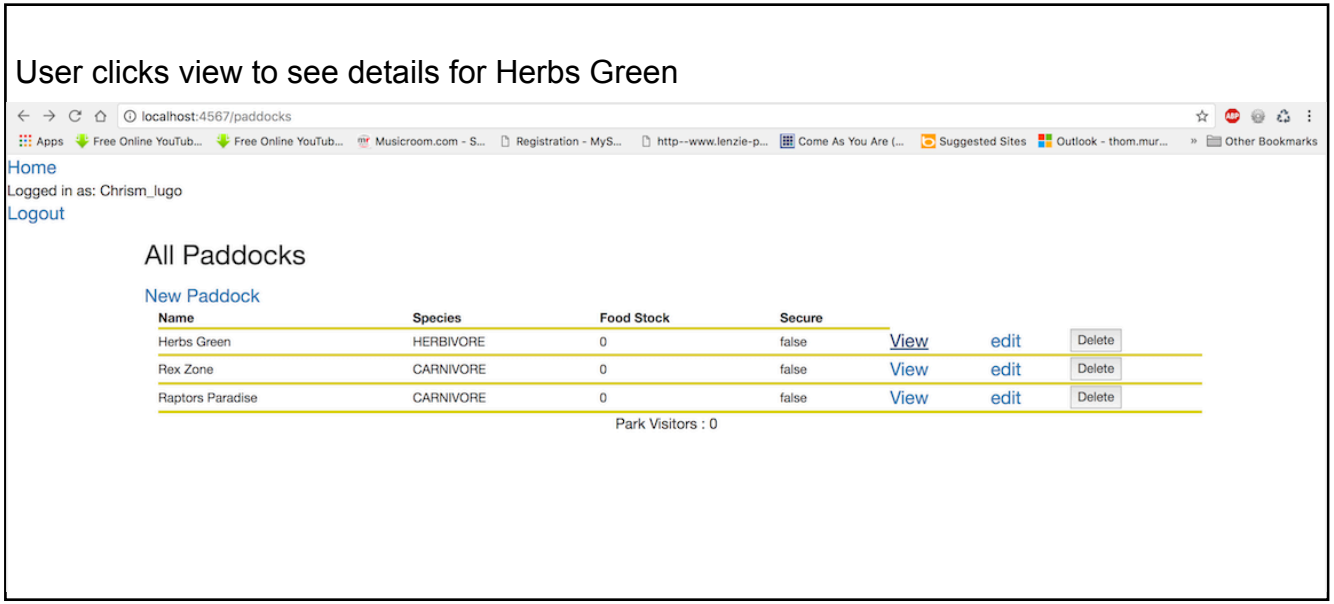


The input is saved to the database which is confirmed when viewed on raptors page.



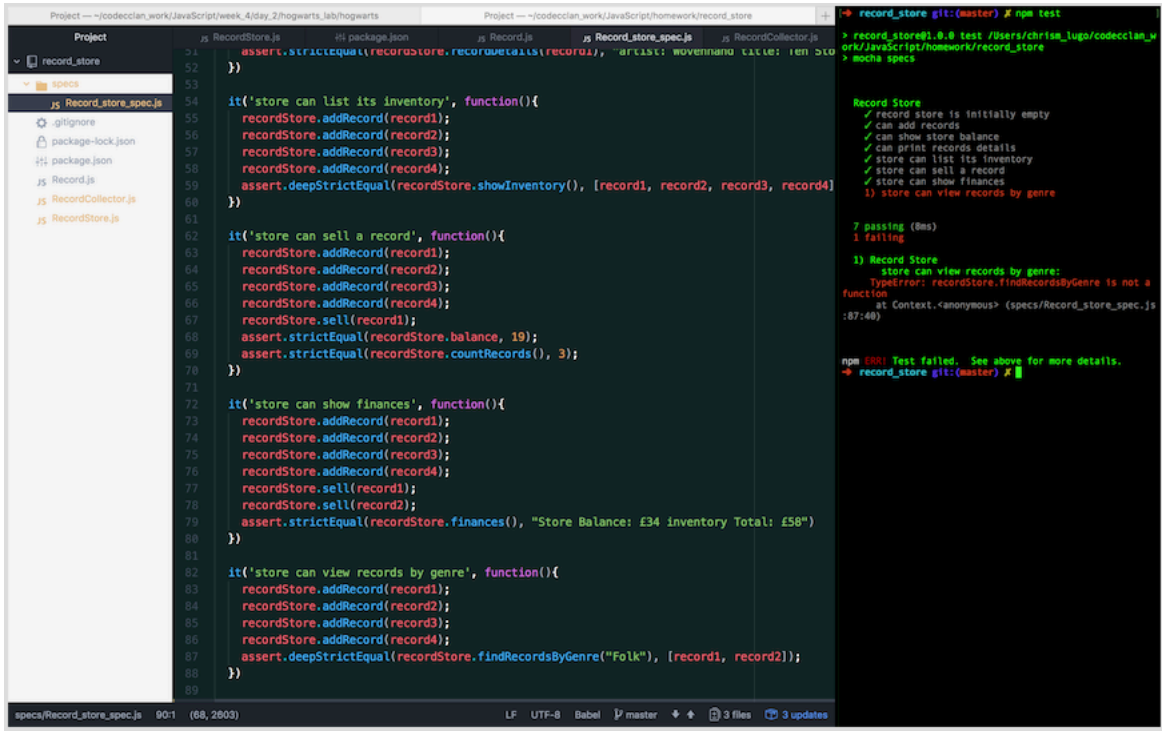
P	P 14	Show an interaction with data persistence. Take a screenshot of: * Data being inputted into your program * Confirmation of the data being saved	
		This diagram shows a seeds file which on launch of the application stores this set of dinosaurs to the database  Here we can see the data is persisted.  	
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	

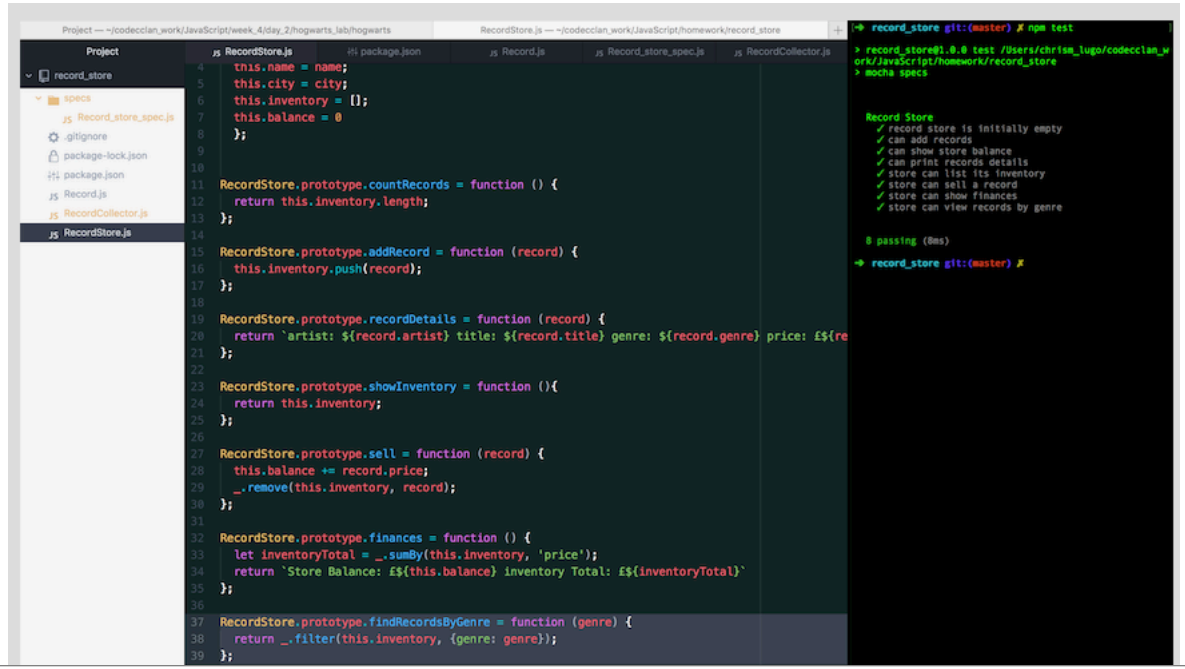
User clicks view to see details for Herbs Green



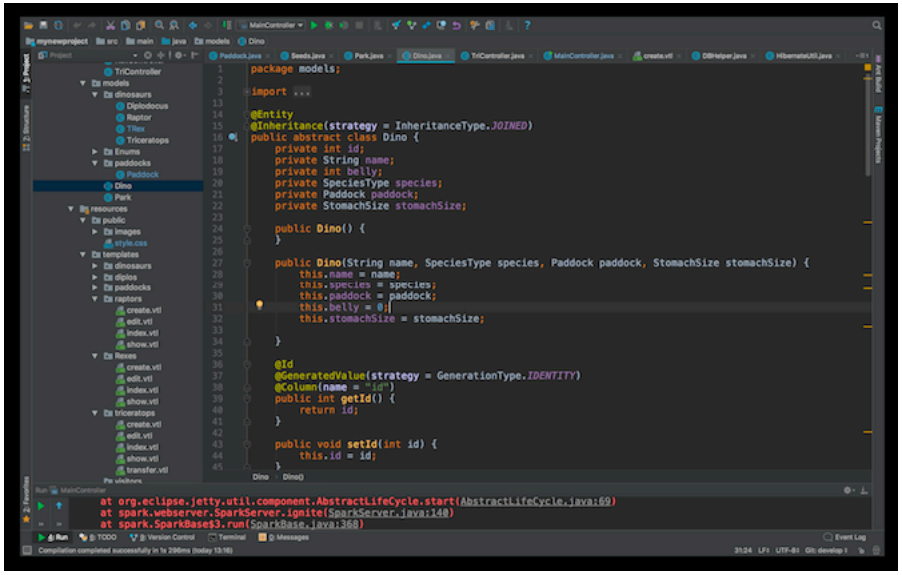
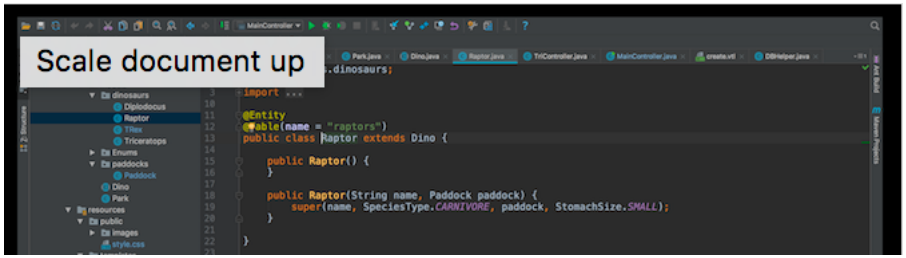
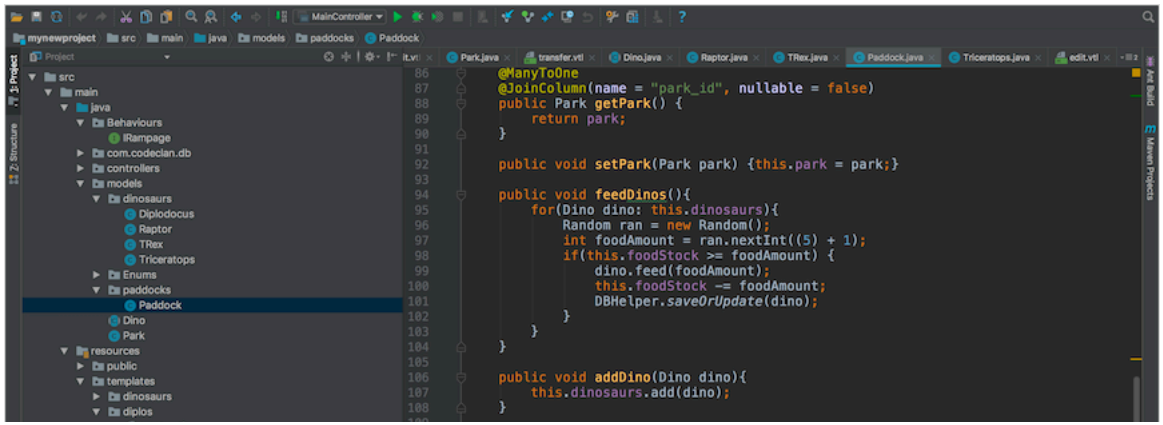
Link Navigates to paddock page for Herb's Green

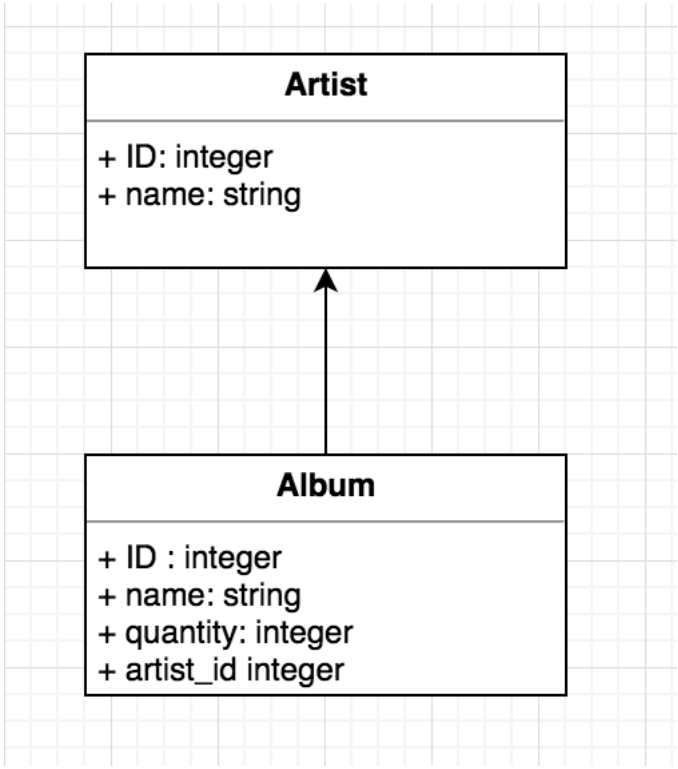
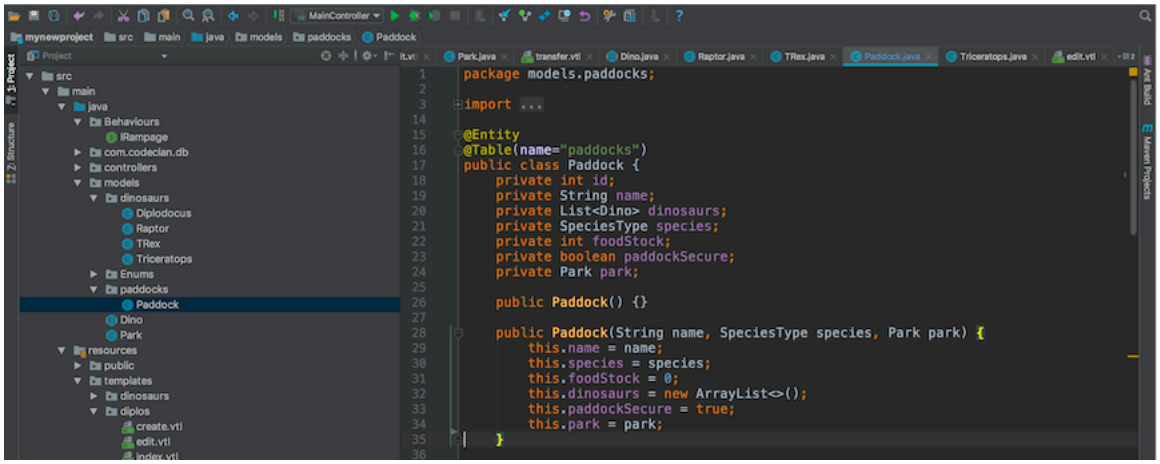
	P	P 18	Demonstrate testing in your program. Take screenshots of: * Example of test code * The test code failing to pass * Example of the test code once errors have been corrected * The test code passing	


Project — ~/codecclan_work/JavaScript/week_4/day_2/hogwarts_lab/hogwarts
Project — ~/codecclan_work/JavaScript/homework/record_store
Project
record_store
specs
Record_store_spec.js
.gitignore
package-lock.json
package.json
Record.js
RecordCollector.js
RecordStore.js
RecordStore.js
package.json
Record.js
Record_store_spec.js
RecordCollector.js
it('store can list its inventory', function(){
recordStore.addRecord(record1);
recordStore.addRecord(record2);
recordStore.addRecord(record3);
recordStore.addRecord(record4);
assert.deepStrictEqual(recordStore.showInventory(), [record1, record2, record3, record4])
})
it('store can sell a record', function(){
recordStore.addRecord(record1);
recordStore.addRecord(record2);
recordStore.addRecord(record3);
recordStore.addRecord(record4);
recordStore.sell(record1);
assert.strictEqual(recordStore.balance, 19);
assert.strictEqual(recordStore.countRecords(), 3);
})
it('store can show finances', function(){
recordStore.addRecord(record1);
recordStore.addRecord(record2);
recordStore.addRecord(record3);
recordStore.addRecord(record4);
recordStore.sell(record1);
recordStore.sell(record2);
assert.strictEqual(recordStore.finances(), "Store Balance: £34 inventory Total: £58")
})
it('store can view records by genre', function(){
recordStore.addRecord(record1);
recordStore.addRecord(record2);
recordStore.addRecord(record3);
recordStore.addRecord(record4);
assert.deepStrictEqual(recordStore.findRecordsByGenre("Folk"), [record1, record2]);
})
specs/Record_store_spec.js 90:1 (68, 2603)
LF UTF-8 Babel master 3 files 3 updates
record_store git:(master) ✗ npm test
> record_store@1.0.0 test /Users/chrism_lugo/codecclan_work/JavaScript/homework/record_store
> mocha specs
Record Store
✓ record store is initially empty
✓ can add records
✓ can show store balance
✓ can print records details
✓ store can list its inventory
✓ store can sell a record
✓ store can show finances
1) store can view records by genre
7 passing (8ms)
1 failing
1) Record Store
store can view records by genre:
TypeError: recordStore.findRecordsByGenre is not a function
at Context.<anonymous> (specs/Record_store_spec.js:87:40)
npm ERR! Test failed. See above for more details.
record_store git:(master) ✗


Project — ~/codecclan_work/JavaScript/week_4/day_2/hogwarts_lab/hogwarts
RecordStore.js — ~/codecclan_work/JavaScript/homework/record_store
Project
record_store
specs
Record_store_spec.js
.gitignore
package-lock.json
package.json
Record.js
RecordCollector.js
RecordStore.js
RecordStore.js
package.json
Record.js
Record_store_spec.js
RecordCollector.js
this.name = name;
this.city = city;
this.inventory = [];
this.balance = 0
};
RecordStore.prototype.countRecords = function () {
return this.inventory.length;
};
RecordStore.prototype.addRecord = function (record) {
this.inventory.push(record);
};
RecordStore.prototype.recordDetails = function (record) {
return `artist: ${record.artist} title: ${record.title} genre: ${record.genre} price: £${re
};
RecordStore.prototype.showInventory = function (){
return this.inventory;
};
RecordStore.prototype.sell = function (record) {
this.balance += record.price;
_.remove(this.inventory, record);
};
RecordStore.prototype.finances = function () {
let inventoryTotal = _.sumBy(this.inventory, 'price');
return `Store Balance: £${this.balance} inventory Total: £${inventoryTotal}`
};
RecordStore.prototype.findRecordsByGenre = function (genre) {
return _.filter(this.inventory, {genre: genre});
};
record_store git:(master) ✗ npm test
> record_store@1.0.0 test /Users/chrism_lugo/codecclan_work/JavaScript/homework/record_store
> mocha specs
Record Store
✓ record store is initially empty
✓ can add records
✓ can show store balance
✓ can print records details
✓ store can list its inventory
✓ store can sell a record
✓ store can show finances
✓ store can view records by genre
8 passing (8ms)
record_store git:(master) ✗

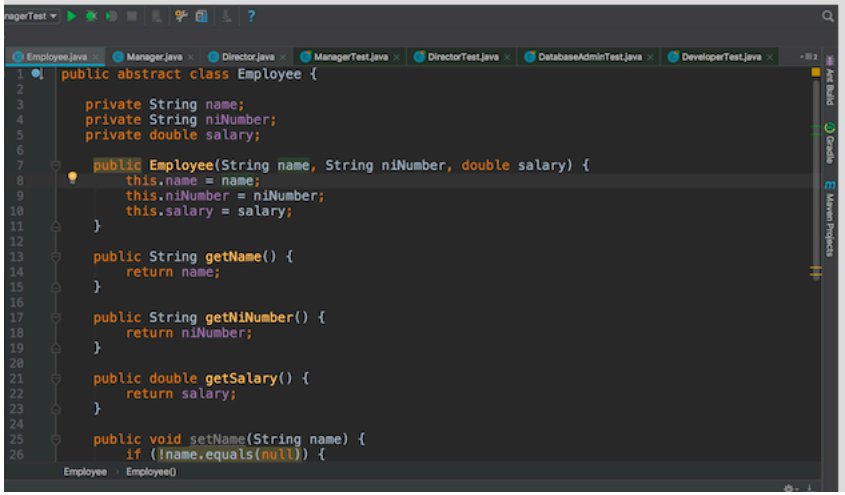
	Unit	Ref.	Evidence	Done
	I & T	I.T 7	Demonstrate the use of Polymorphism in a program.	

		   	
A & D	A.D 5	An Inheritance Diagram	

				
	I & T	I.T 1	Take a screenshot of an example of encapsulation in a program.	
Week 7				

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.	

This Employee Class contains all the functionality for all types of employee

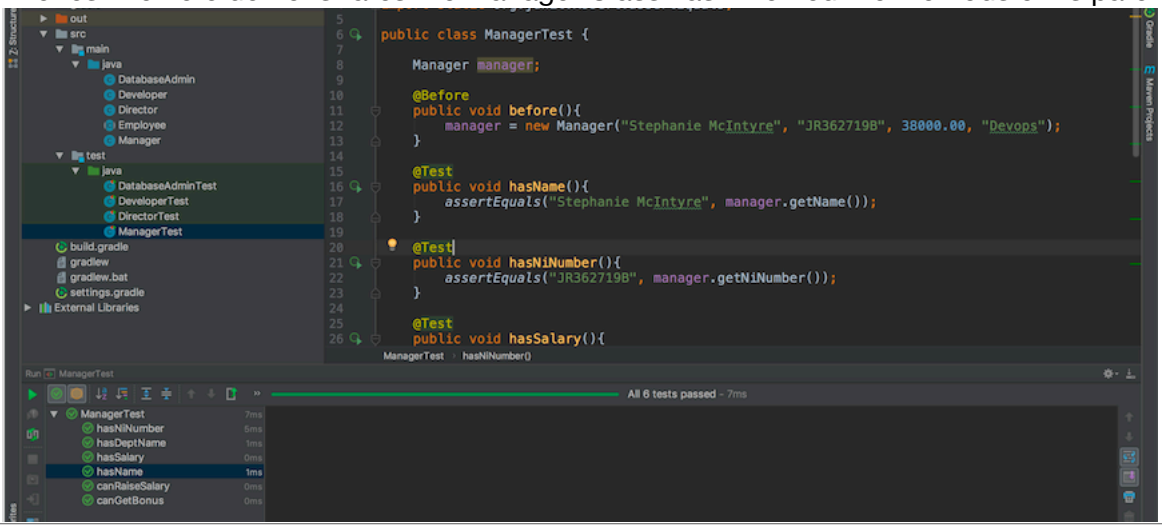


```java
public abstract class Employee {

    private String name;
    private String niNumber;
    private double salary;

    public Employee(String name, String niNumber, double salary) {
        this.name = name;
        this.niNumber = niNumber;
        this.salary = salary;
    }

    public String getName() {
        return name;
    }

    public String getNiNumber() {
        return niNumber;
    }

    public double getSalary() {
        return salary;
    }

    public void setName(String name) {
        if (!name.equals(null)) {
```

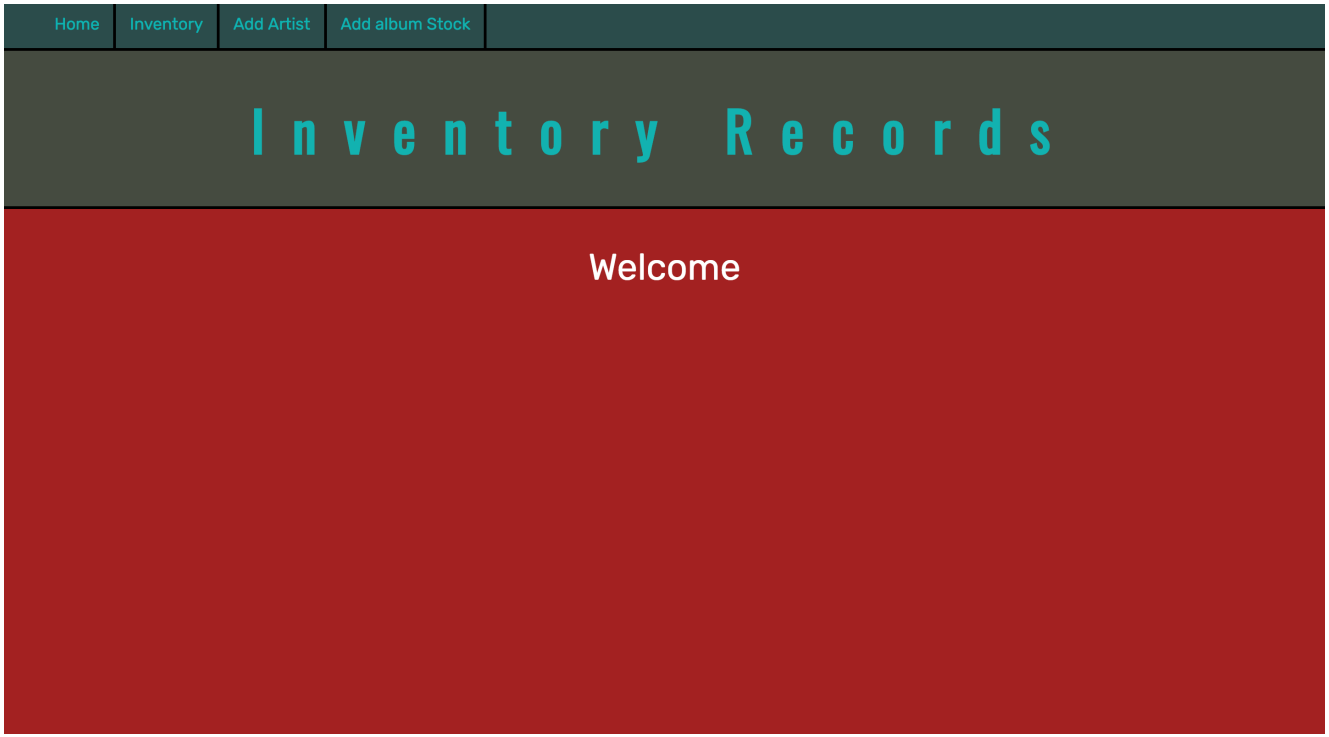
The Manager class shown here inherits from the Employee class.

```java
public class Manager extends Employee {

    private String deptName;

    public Manager(String name, String niNumber, double salary, String deptName) {
        super(name, niNumber, salary);
        this.deptName = deptName;
    }

    public String getDeptName() {
        return deptName;
    }
}
```

The test file here demonstrates the manager Class has inherited the methods of its parent class.



```java
public class ManagerTest {

    Manager manager;

    @Before
    public void before(){
        manager = new Manager("Stephanie McIntyre", "JR362719B", 38000.00, "Devops");
    }

    @Test
    public void hasName(){
        assertEquals("Stephanie McIntyre", manager.getName());
    }

    @Test
    public void hasNiNumber(){
        assertEquals("JR362719B", manager.getNiNumber());
    }

    @Test
    public void hasSalary(){
```

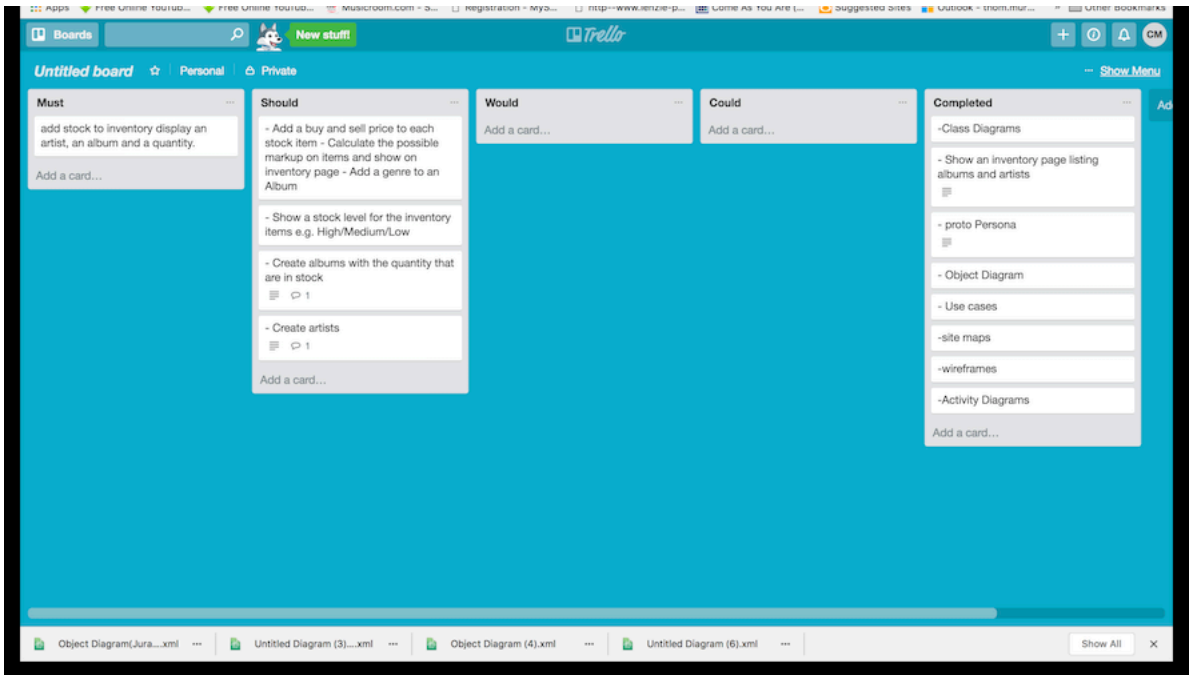
	P	P 11	Take a screenshot of one of your projects where you have worked alone and attach the Github link.	
			 https://github.com/Chrismlugo/Project-1	
	P	P 12	Take screenshots or photos of your planning and the different stages of development to show changes.	

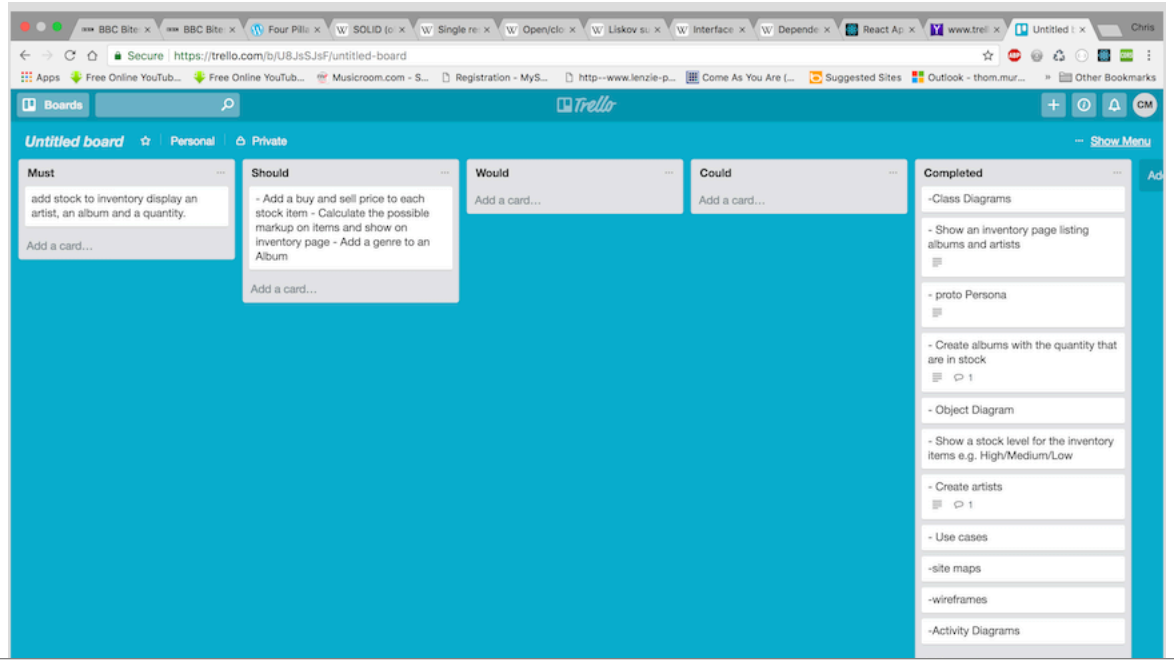
User Needs

As a	I want to	So that
Business owner	Have a stock management app	I can view, update and add stock.
Person who isn't Too familiar with the latest tech	Have a straightforward Layout that's familiar.	Be able to easily understand and use the app.
Manager of a team	Have an app which is easy to use	My staff can easily use it.

User Journey

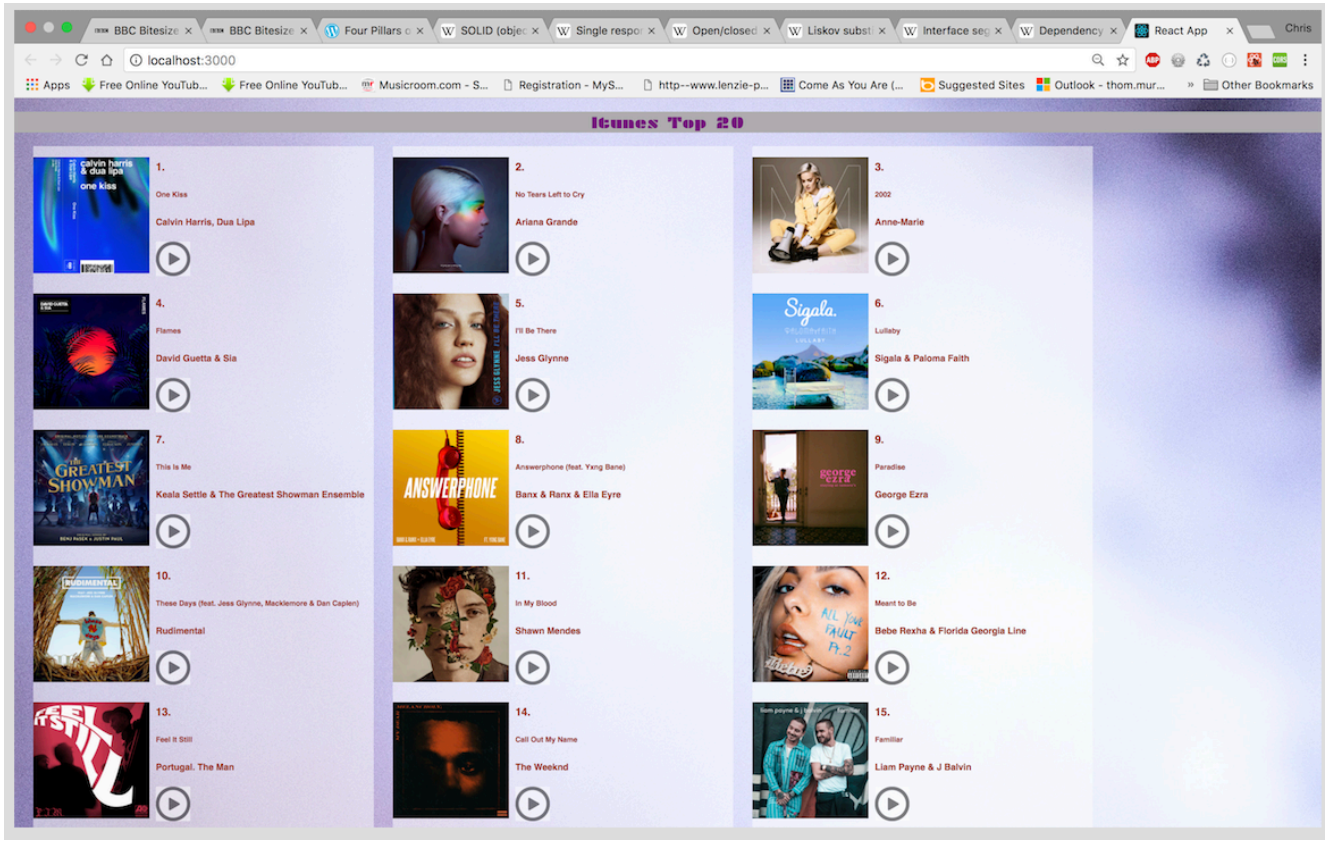
Action 1	**Action 2**	**Action 3**	**Action 4**	**Action 5**	**Action 6**
George views the home screen and would like to check the stores current inventory	He clicks link to inventory and views current stock	George wants to know the availability of a particular album	The album is showing low stock availability. He would like to update the inventory with new stock	George adds the new stock to the system and would like to confirm the update.	George submits the form and would like to view the inventory to confirm stock has been updated
System 1	**System 2**	**System 3**	**System 4**	**System 5**	**System 6**
Home page should have a link to navigate to the inventory page	Searches artists database and albums database and displays all details on screen.	Albums have a quantity. Can call a method with logic to determine high/ med/low/out of stock.	link next to each entry will navigate to an edit screen with a pre-populated form.	Form will include a quantity bar which will be a number input.	The submit button will update the album quantity and redirect to the inventory page.


Boards
New stuff!
Trello
CM
Untitled board
Personal
Private
Show Menu
Must
add stock to inventory display an artist, an album and a quantity.
Add a card...
Should
- Add a buy and sell price to each stock item - Calculate the possible markup on items and show on inventory page - Add a genre to an Album
- Show a stock level for the inventory items e.g. High/Medium/Low
- Create albums with the quantity that are in stock
- Create artists
Add a card...
Would
Add a card...
Could
Add a card...
Completed
-Class Diagrams
- Show an inventory page listing albums and artists
- proto Persona
- Object Diagram
- Use cases
-site maps
-wireframes
-Activity Diagrams
Add a card...
Object Diagram(Jura....xml
Untitled Diagram (3)....xml
Object Diagram (4).xml
Untitled Diagram (6).xml
Show All

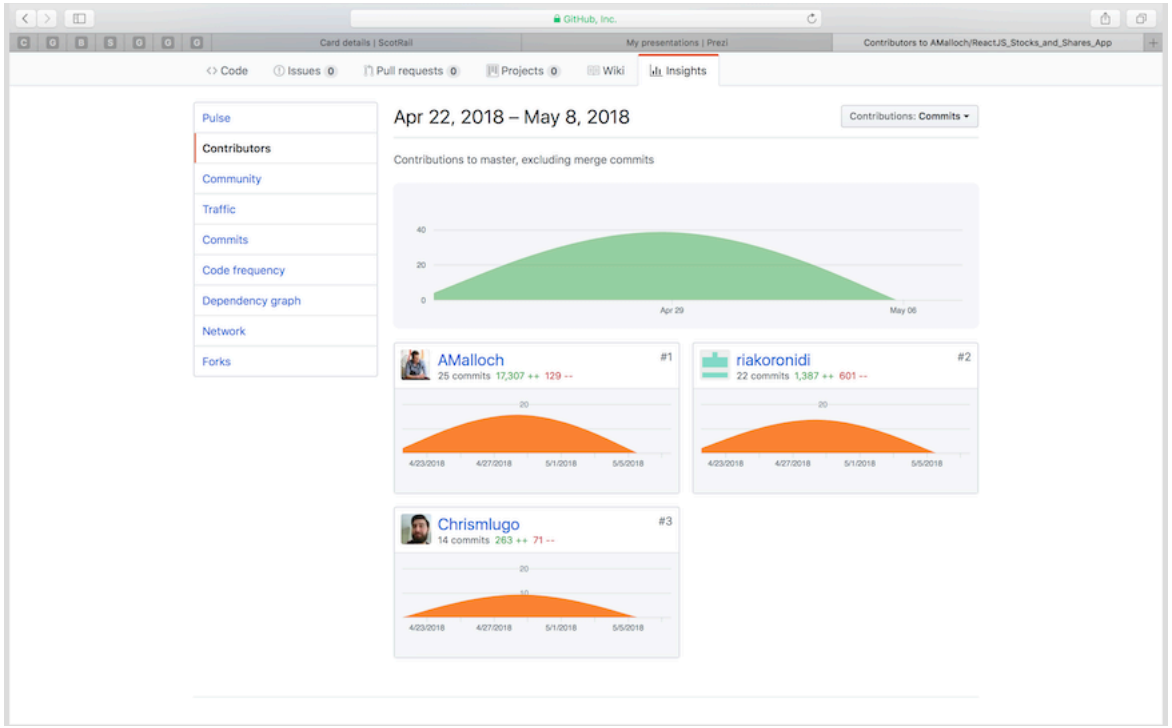

Secure | https://trello.com/b/U8JsSJsF/untitled-board
Boards
Trello
CM
Untitled board
Personal
Private
Show Menu
Must
add stock to inventory display an artist, an album and a quantity.
Add a card...
Should
- Add a buy and sell price to each stock item - Calculate the possible markup on items and show on inventory page - Add a genre to an Album
Add a card...
Would
Add a card...
Could
Add a card...
Completed
-Class Diagrams
- Show an inventory page listing albums and artists
- proto Persona
- Create albums with the quantity that are in stock
- Object Diagram
- Show a stock level for the inventory items e.g. High/Medium/Low
- Create artists
- Use cases
-site maps
-wireframes
-Activity Diagrams

	Unit	Ref.	Evidence	Done
Week 11	I & T		Unit, integration and acceptance testing task B	
			https://github.com/Chrismlugo/calculator_unit_and_integration_testing_mocha_selenium	
	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	
				

```
componentDidMount(){
    fetch("https://itunes.apple.com/gb/rss/topsongs/limit=20/json")
      .then(response => response.json())
      .then(json => this.setState({songs: json.feed.entry}));
    }

    handlePlayPause(audio){
      audio.paused ? audio.play() : audio.pause();
      audio.classList.toggle('playing');
    }

      render(){
        return (
          <div>
            <Header/>
            <SongList
              songs={this.state.songs}
              handlePlayPause={this.handlePlayPause}
            />
          </div>
        );
      }
    }
```



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

			
P	P 2	Take a screenshot of the project brief from your group project.	

Shares App

More and more people are playing the stock market. A local trader has come to you with a portoflio of shares. She wants to be able to analyse it more effectively. She has a small sample data set to give you and would like you to build a minimal viable product (MVP) that uses the data to display her portfolio in useful ways so that she can make better decisions.

MVP

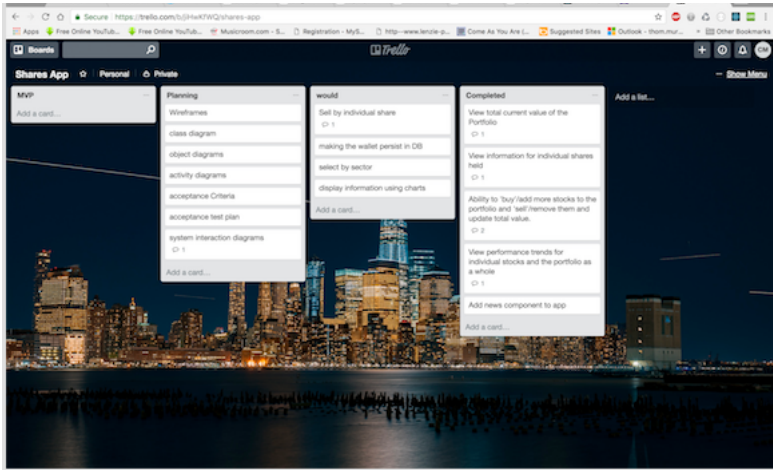
- View total current value of the portfolio
- View information for individual shares held
- Ability to 'buy'/add more stocks to the portfolio and 'sell'/remove them and update total value.
- View performance trends for individual stocks and the portfolio as a whole

Stock api's can be found here - https://github.com/toddmotto/public-apis#finance

If you want to make your own api an object may look something like this:

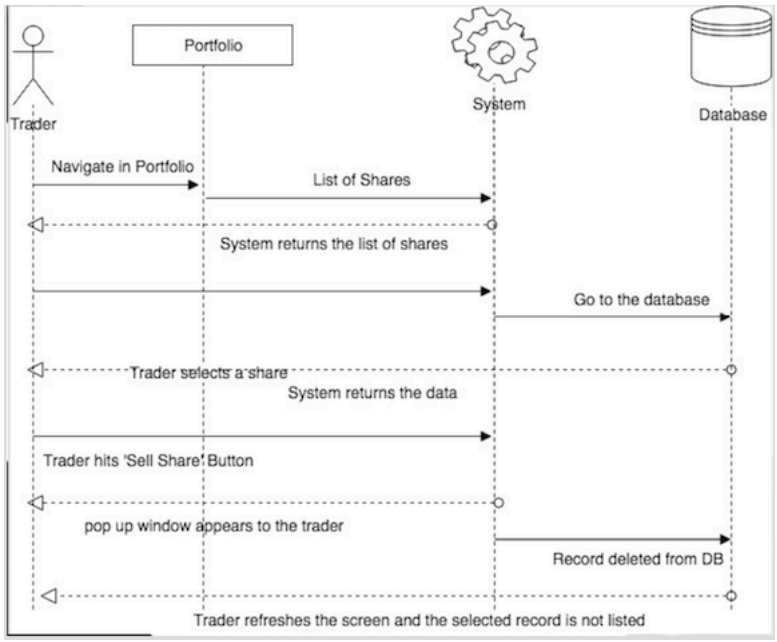
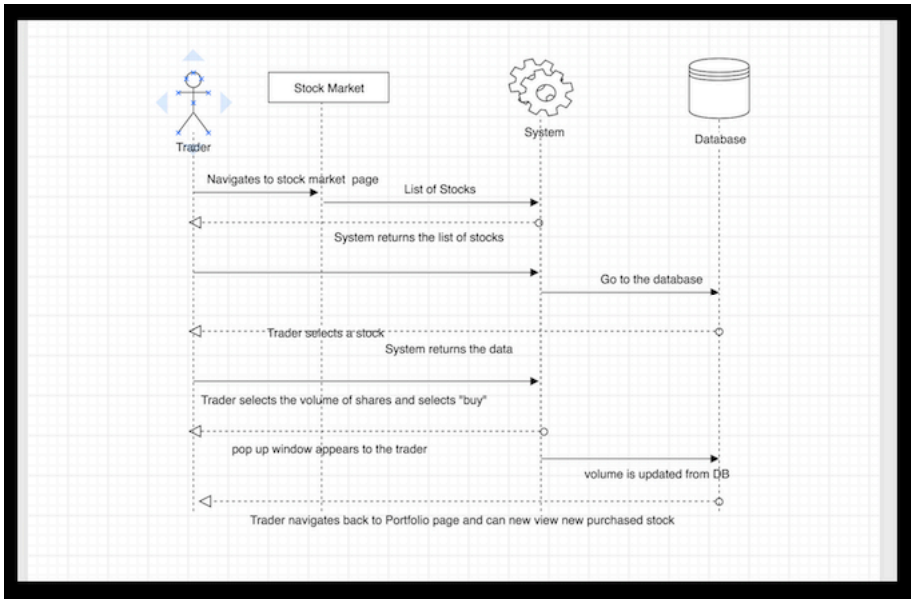
```
{
   "name": "Fusionex",
   "epic":"FXI",
   "price": 120.00,
   "quantity": 2000,
   "buyPrice": 80.00,
   "pastCloseOfDayPrices": [92.00, 89.00, 103.00, 125.00, 108.00, 98.00, 110.00],
   "buyDate":"2014-11-15"
 }
```

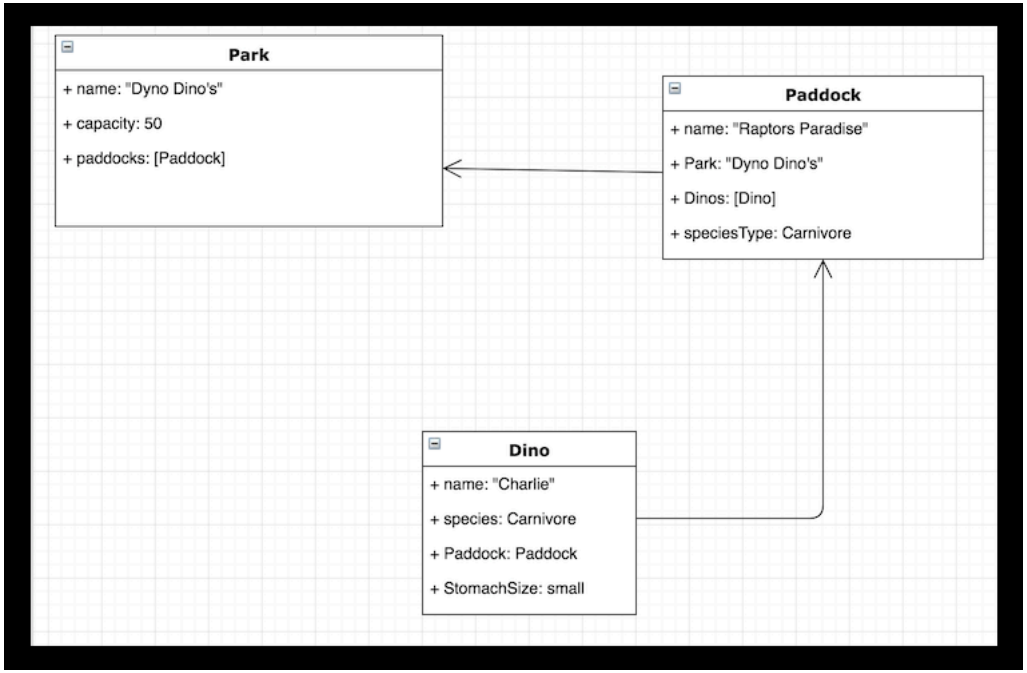
P	P 3	Provide a screenshot of the planning you completed during your group project, e.g. Trello MOSCOW board.	

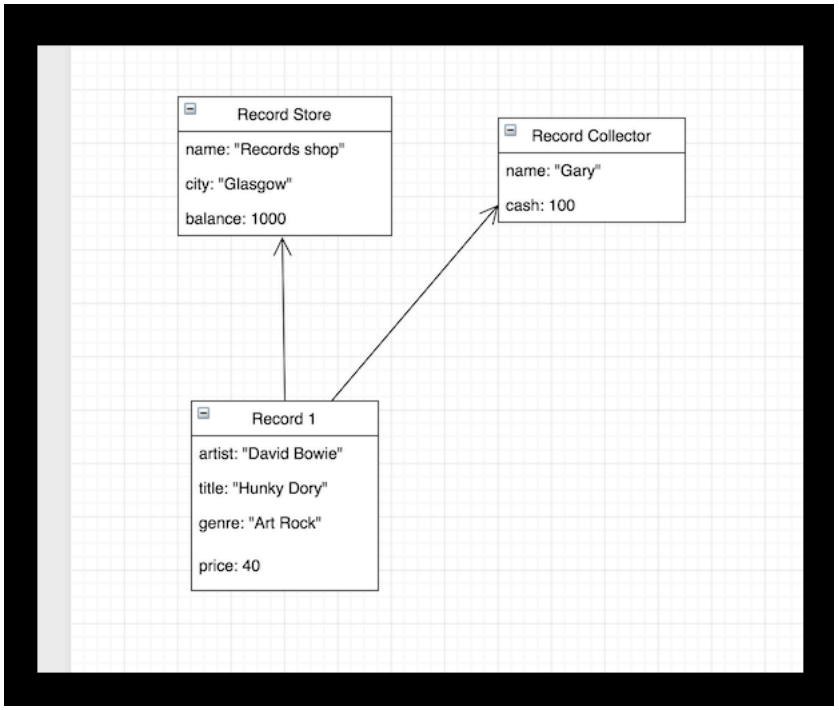

Shares App
Personal
Private
Show Menu
MVP
Add a card...
Planning
Wireframes
class diagram
object diagrams
activity diagrams
acceptance Criteria
acceptance test plan
system interaction diagrams
would
Sell by individual share
making the wallet persist in DB
select by sector
display information using charts
Completed
View total current value of the Portfolio
View information for individual shares held
Ability to 'buy'/add more stocks to the portfolio and 'sell'/remove them and update total value.
View performance trends for individual stocks and the portfolio as a whole
Add news component to app
Add a list...


APP
MAIN
DB

P	P 4	Write an acceptance criteria and test plan.	
		Acceptance Criteria | Acceptance Criteria	Expected Result/Output	Pass/Fail
---	---	---
User is able to view the total value their portfolio	When link to portfolio is clicked, user is navigated to new page which displays total value of the portfolio on the page	Pass
User is able to view an individual share that they own	On the Portfolio page, the user will select from a dropdown the desired share they want to view details of that share on screen	Pass
User can view the performance of their portfolio against the current market	When an individual share is selected, the page will display a comparison between the bought share and the current market price, showing a profit/ loss value	Pass
User can buy an amount of shares from the stock market	On the stock market page, the user can select the chosen company, Select a quantity they'd like to buy and hit submit which adds to user's portfolio	Pass		
P	P 7	Produce two system interaction diagrams (sequence and/or collaboration diagrams).	

Week 13				
				
P	P 8	Produce two object diagrams.		


Park
+ name: "Dyno Dino's"
+ capacity: 50
+ paddocks: [Paddock]
Paddock
+ name: "Raptors Paradise"
+ Park: "Dyno Dino's"
+ Dinos: [Dino]
+ speciesType: Carnivore
Dino
+ name: "Charlie"
+ species: Carnivore
+ Paddock: Paddock
+ StomachSize: small


Record Store
name: "Records shop"
city: "Glasgow"
balance: 1000
Record Collector
name: "Gary"
cash: 100
Record 1
artist: "David Bowie"
title: "Hunky Dory"
genre: "Art Rock"
price: 40

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.	

```
RecordCollector.prototype.genreValue = function (genre) {
  let filteredRecords = _.filter(this.collection, {genre: genre});
  return _.sumBy(filteredRecords, 'price');
};
```

I'd chosen to use this algorithm to calculate the total value of a record collectors collection of a particular genre.

Using Lodashes filter method the algorithm filters out the collection array and creates a new filtered array of records of the same genre.

The algorithm then returns the sum of all the filtered records prices using Lodashes sumBy method.

```
public void feedDinos(){
    for(Dino dino: this.dinosaurs){
        Random ran = new Random();
        int foodAmount = ran.nextInt((5) + 1);
        if(this.foodStock >= foodAmount) {
            dino.feed(foodAmount);
            this.foodStock -= foodAmount;
            DBHelper.saveOrUpdate(dino);
        }
    }
}
```

This algorithm was chosen to feed dinosaurs contained in a particular paddocks dinosaurs array.

The algorithm loops through the paddocks array of dinosaurs and then generates a random integer value between 1 and 5 which is set to the variable foodAmount.

It then checks if the foodAmount value is greater than the paddocks foodStock value, which is set at 0 initially, and if true the dinosaur will feed from the paddocks foodStock. The foodStock value will then be subtracted from the variable foodAmount, and then update the dinosaurs stomach value in the database.

	P	P 17	Produce a bug tracking report

Bug Tracking

Deleting all portfolio shares should return an empty drop down list but instead the screen would go blank		Added an if statement to check if array is empty	Passed
Values returned from buying/ selling should be return upto 2 decimal places		Adds code to round results to 2 decimals	Passed
Bootstrap table data should be accessed from props.		Data passed through render in route	Passed
Balance should persist throughout application after buy or sell	Failed		
Must re-render page after share has been sold	Failed		