



IDPHONE

Professional Practice in IT Project Report

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Project Links

GitHub: https://github.com/allend4/PPIT_project

Contains all project and documentation.

OneNote: [https://galwaymayoinstitute-](https://galwaymayoinstitute-my.sharepoint.com/:o/g/personal/g00374920_gmit_ie/Eim6p_8fo5JEj0QWwEPSxacB8qBe-SNQx3b4QImaxofMZg?e=1ZC34a)

[my.sharepoint.com/:o/g/personal/g00374920_gmit_ie/Eim6p_8fo5JEj0QWwEPSxacB8qBe-SNQx3b4QImaxofMZg?e=1ZC34a](https://galwaymayoinstitute-my.sharepoint.com/:o/g/personal/g00374920_gmit_ie/Eim6p_8fo5JEj0QWwEPSxacB8qBe-SNQx3b4QImaxofMZg?e=1ZC34a)

Week by week documentation of the project. Scrum Process.

Link to screencast video:

https://github.com/allend4/PPIT_project/tree/main/documents/DA%20video

Screencast video about the project

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Introduction

Project Ideas

For the project we got together and brainstormed some ideas. We quickly decided to build an e-commerce website. In second year, we built a mobile phone website and decided we wanted to build upon that idea and see how much we had improved.

We discussed our idea with our supervisor Joeeph Corr and how we wanted to implement technologies in current and previous modules.

Objectives

“IDphone” is an e-commerce website that sells mobile phones. It will be an easy-to-use website, where the owner can sell their goods and the user can purchase goods online. The main goals of the website are:

- To develop an easy-to-use website, where the user can browse products provided
- The Owner or Admin can sell phones.
- Allow the user to buy phones.

Project Components

Design – Design was done jointly. That way we could come to a consensus on what was wanted for the project. While IC dealt with the logo (see **Appendix A**), DA took on the wireframe and mock-up (see **Appendix B**). We were in constant communication to share the workload.

Coding – based on scrum the requirements were broken down into user stories (see **Appendix C**) and individual tasks. These tasks were listed as part of Kanban fixes on GitHub (see **Appendix D**). All fixes can be tracked as part of the automated Kanban on GitHub. All members worked as a team sharing the workload. No member did one individual thing.

Testing – Majority of testing was performed by DA. Although there was a lot of errors across the project that required both members to deal with. Details of the testing is across GitHub and OneNote (see **Appendix E**).

Report – Majority of the report was done by DA. Critical errors appeared in project. Team members divided, with one to fix the code and the other to do the report. IC looked over report and made amendments as well as adding details.

System Requirements

Hardware Requirements

Should run on standard pc or laptop with basic functionality. Such as the following:

CPU: Intel or AMD processor with 64-bit support; Recommended 2.8 Ghz or faster.

RAM: 4 Gb.

Hard disk space: 30 GB+ of free disk space.

Software Requirements

OS: Windows 7 +; Recommended Windows 10.

Software: HTML/CSS/React/Node/MongoDB/Mongoose/Express/EJS

Internet: Internet connection required. Browser of choice.

User requirements

User requirements are essentially the user stories created in the scrum and can be viewed in the appendix.

The website is targeted for age groups 16 and up. For the first release the website will be based in English only.

Customers will find site navigation, registration, sign in, product information and product ordering. The owner will be able to maintain the data about the products directly. Being able to create, edit and delete data.

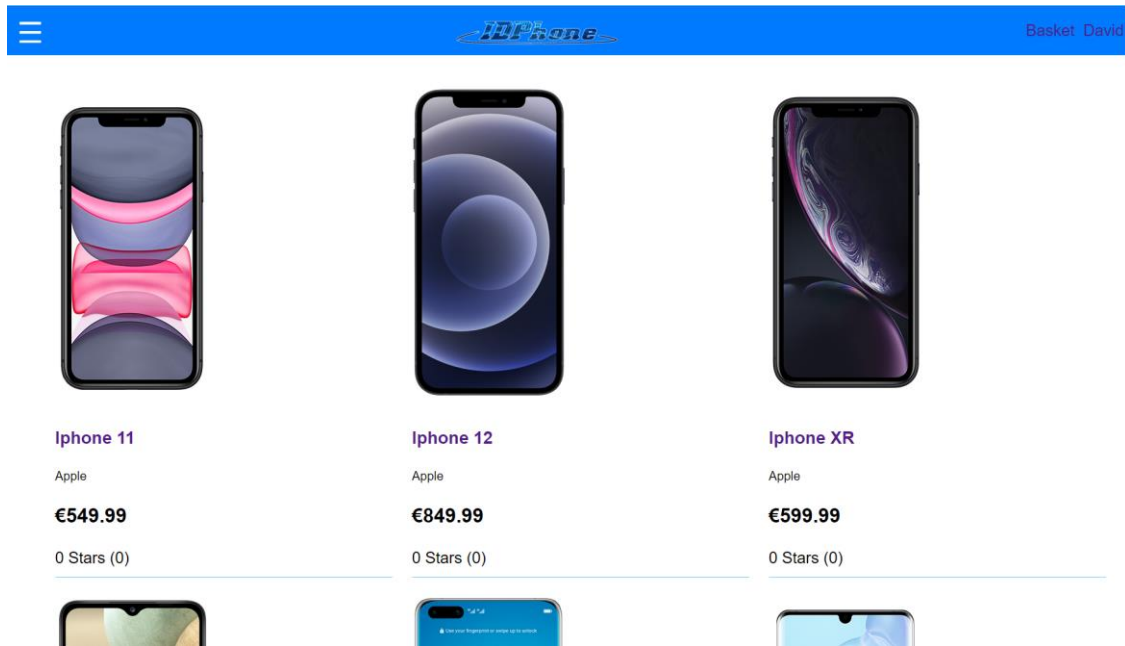
Project Specification

The project we are creating is “IDphone” an ecommerce website that lets the user buy goods and the seller sell. It is a phone shop that allows the user to browse a range of phones and to register/log in, to purchase their chosen product. The owner who is the admin, allows them to add products to the site for purchase.

User

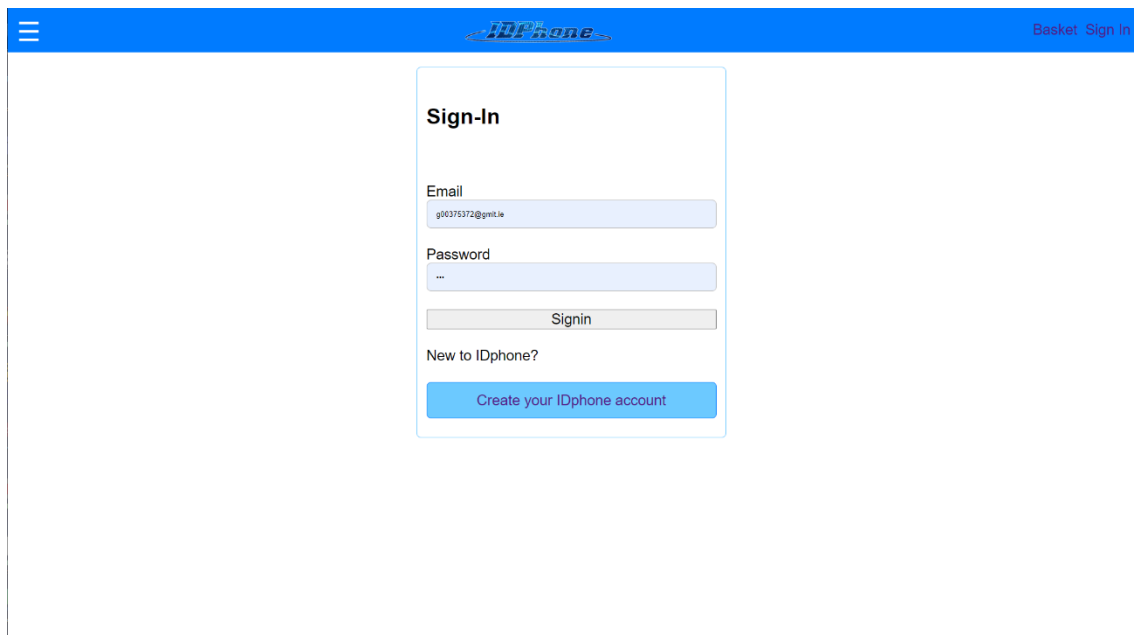
Homepage

The homepage is the introduction to the website. The page shows a selection of the products on offer. It contains a navbar that shows off the company logo. Also contained within the navbar are links to the basket and sign in, which give the user the opportunity to sign In or register.





Sign in

On the sign in page, it allows the user to enter their details to log into the website.



Or

Register if it is their first time in use.

  [Basket](#) [Sign In](#)

Create Account

Name

Email



Password

Confirm Password


Already have an account?
[Create your IDphone account](#)

Product Page

The products page shows of the product. Containing an image of the products as well as details, such as name, brand, price, quantity, and description. Its gives insight into the product on sale and allows the user to add to cart.

  [Basket](#) [David](#)

[Back to result](#)



Galaxy A12

0 Stars (0 Reviews)

Price: **€179.99**

Description:
Featuring a compact design with smooth curves and a comfortable grip, the Galaxy A12 combines Samsung's best smartphone features in an affordable package. Whether you're a content creator looking for a versatile quad camera or a gamer looking for an immersive display, the Galaxy A12 has it all.

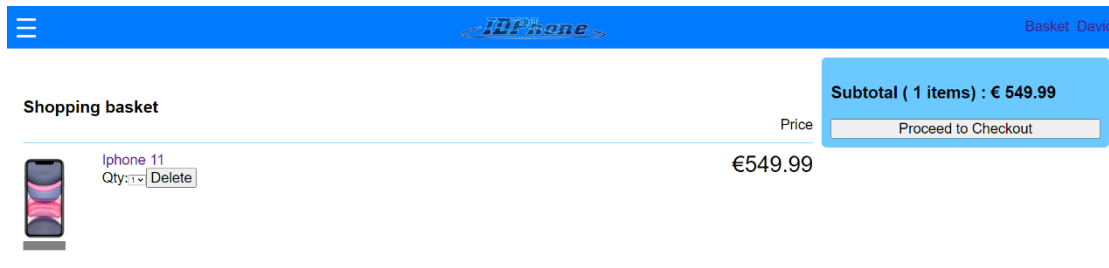
Price: 179.99

Status: In Stock


Qty:

My Basket page

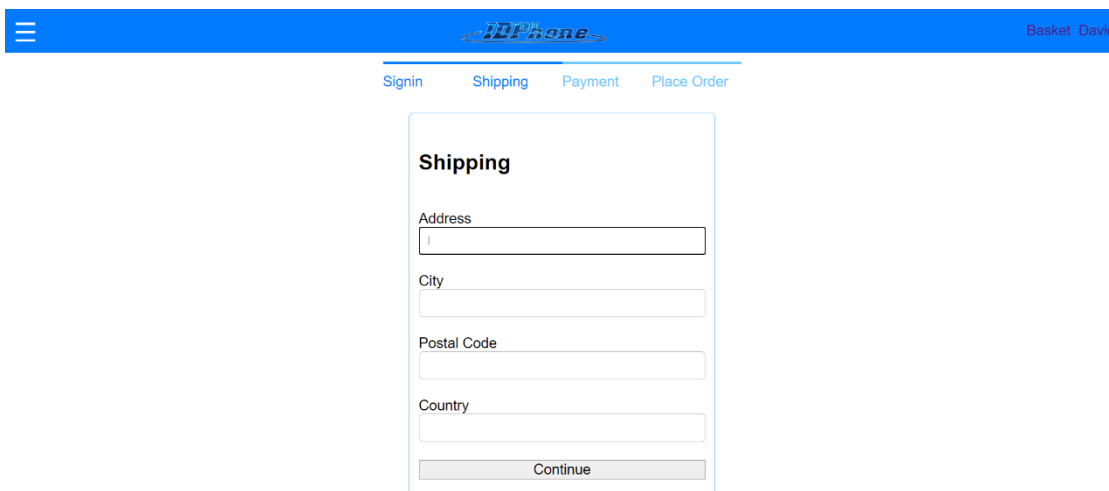
Shows an empty basket. Unless the user adds products to the basket. It lists the users chosen products and shows an image, price, and quantity. My basket enables the user to delete the product or amend the quantity if needed. A total price is tallied based on price and quantity but will not allow the user to proceed with their purchase until they are signed in.



The screenshot shows the 'My Basket' page. At the top, there is a blue header with the 'iPhone' logo and a 'Basket David' link. Below the header, the page is titled 'Shopping basket'. On the right, a blue box displays 'Subtotal (1 items) : € 549.99' and a 'Proceed to Checkout' button. The main content area shows a table with one item: 'Iphone 11' with a quantity of 1 and a price of €549.99. There is a 'Delete' button next to the quantity.

	Price
 Iphone 11 Qty: 1 Delete	€549.99

Once logged in. Users may proceed with their purchase by entering their delivery address and allowing payment through PayPal.



The screenshot shows the 'Shipping' page. At the top, there is a blue header with the 'iPhone' logo and a 'Basket David' link. Below the header, there are navigation links: 'Signin', 'Shipping', 'Payment', and 'Place Order'. The 'Shipping' link is highlighted. The main content area is a form titled 'Shipping' with fields for 'Address', 'City', 'Postal Code', and 'Country'. A 'Continue' button is at the bottom of the form.

Shipping

Address



City

Postal Code

Country

[Continue](#)

Payment Option

Basket David

[Signin](#) [Shipping](#) [Payment](#) [Place Order](#)

Payment

☐ Paypal

Continue

Admin

Sign in.

Sign in lets Admin who have previously been established, sign in and have access to a level above a normal user which gives the ability to see all Products that are on place and update if it requires.

Basket David

Create Product

Products						
ID	Name	Price	Category	Brand	Action	
608227ea95d1853a14dbbffe	Iphone 11	549.99	phones	Apple	Edit	Delete
60822dcb95d1853a14dbc000	Iphone 12	849.99	phones	Apple	Edit	Delete
6082a0310ad8bc64b0d8e8d3	Iphone XR	599.99	phone	Apple	Edit	Delete
6082b84f2248ac485406f28b	Galaxy A12	179.99	Phones	Samsung	Edit	Delete
6082d04f1b166b5bc0e31edf	P40 Pro	899.99	Phones	huawei	Edit	Delete
6082d0a91b166b5bc0e31ee0	P30	239.99	Phones	huawei	Edit	Delete
6082d0fe1b166b5bc0e31ee1	Moto G Plus	229.99	phones	Motorola	Edit	Delete
6082d1601b166b5bc0e31ee2	S20 FE	599.99	Phones	Samsung	Edit	Delete
6082d1a11b166b5bc0e31ee3	Galaxy A71	769.99	Phones	Samsung	Edit	Delete
6082d1df1b166b5bc0e31ee4	S20 5G	839.99	Phones	Samsung	Edit	Delete

Create

Admin can create new product details on the site.

IDPhone

Basket: David

Create Product

Products

Create Product

Name

Price

Image

Brand

inStockCounter

Category

Description

Create

Back

Edit

Admin can edit products. Admin can delete products from the database.

IDPhone

Basket: David

Create Product

Products

Create Product

Name

lphone 11

Price

549.99

Image

Images/ApplePhone11.png

Brand

Apple

inStockCounter

8

Category

phones

Description

A new dual-camera system captures more of what you see and love. The fastest chip ever in a smartphone and all-day battery life let

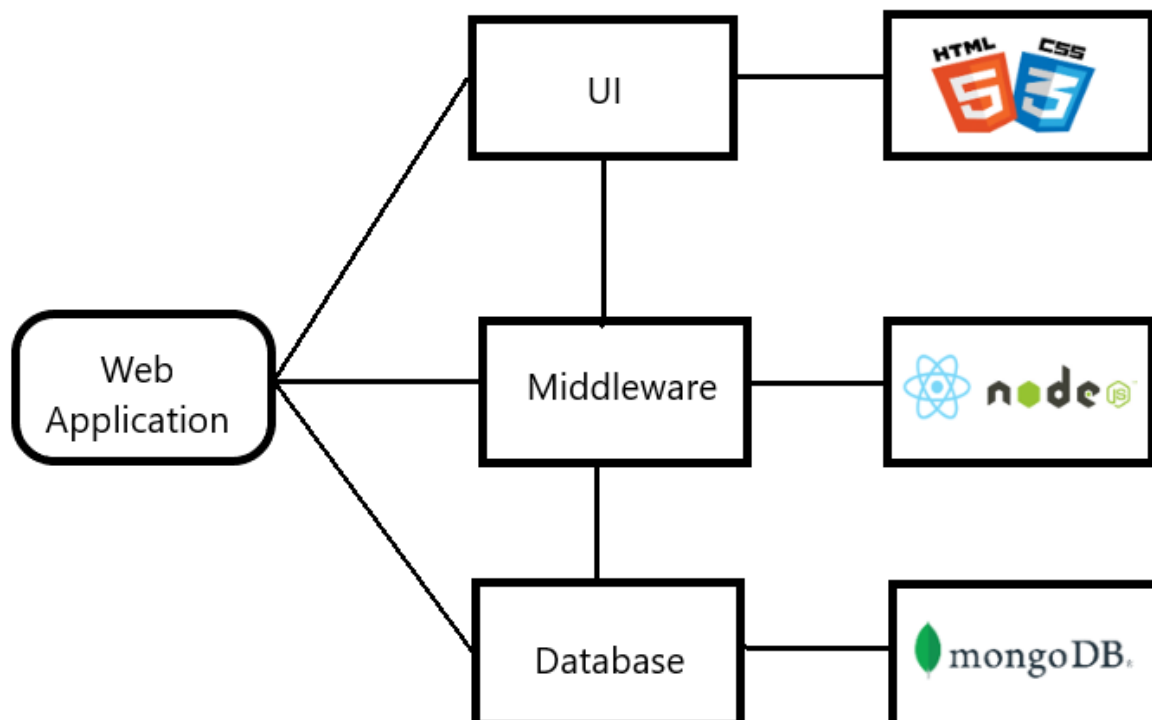
Update

Delete

Admin can delete products from the database.

Products						Basket: David	
ID	Name	Price	Category	Brand	Action	Create Product	
608227ea95d1853a14dbbffe	Iphone 11	549.99	phones	Apple	Edit Delete		
60822dcb95d1853a14dbc000	Iphone 12	849.99	phones	Apple	Edit Delete		
6082a0310ad8bc64b0d8e8d3	Iphone XR	599.99	phone	Apple	Edit Delete		
6082b84f2248ac485406f28b	Galaxy A12	179.99	Phones	Samsung	Edit Delete		
6082d04f1b166b5bc0e31edf	P40 Pro	899.99	Phones	huawei	Edit Delete		
6082d0a91b166b5bc0e31ee0	P30	239.99	Phones	huawei	Edit Delete		
6082d0fe1b166b5bc0e31ee1	Moto G Plus	229.99	phones	Motorola	Edit Delete		
6082d1601b166b5bc0e31ee2	S20 FE	599.99	Phones	Samsung	Edit Delete		
6082d1a11b166b5bc0e31ee3	Galaxy A71	769.99	Phones	Samsung	Edit Delete		
6082d1df1b166b5bc0e31ee4	S20 5G	839.99	Phones	Samsung	Edit Delete		

Architecture



UI

Allows the creation of visual interfaces for software using HTML, CSS and bootstrap

Middleware

Node JS is used for the back-end server side allowing the creating of a runtime environment for executing JavaScript code. It allows a web app to run within a browser. For the front-end JavaScript will also be used. JavaScript for both front-end and back-end will make the code cleaner and more consistent. Middleware is described as the glue between the data and the UI.

Database

MongoDB will be used as a database. With Node it will connect to MongoDB, which allows data to be returned based on promises and call backs.

Technology

The technology used and why. All the technology used was from the current and previous semesters.

HTML5

Hypertext Markup language is the standard for web pages. It is used to structure a webpage and its content. Used all around the world, every website used today would have some form of HTML code within in.

Why HTML? Html is easy to use and supported by all browsers. Its integrated together with other languages easily and defines the structure of the website.

CSS

Cascading style sheets is used to style HTML documents.

Why CSS? it enhances the look and feel of the website by giving a wider range of design options.

NODE

Node.js is a backend JavaScript runtime environment.

Why Node.js? it supports JavaScript for both front end and backend. Node is built for scalability and is fast. Not to mention the npm registry contains more than a million tested packages that can be used.

EXPRESS

Express allows the generation of HTML with JavaScript.

Why Express? Is a framework built to work on node.js. It adds routing to divert to different parts of the application based on the client request, with middleware support.

EJS

Embedded JavaScript is a templating language with generates HTMNL with plain JavaScript. Why EJS? EJS is easy to use and part of the npm registry. It helps to embed JavaScript within HTML and integrates with Express.

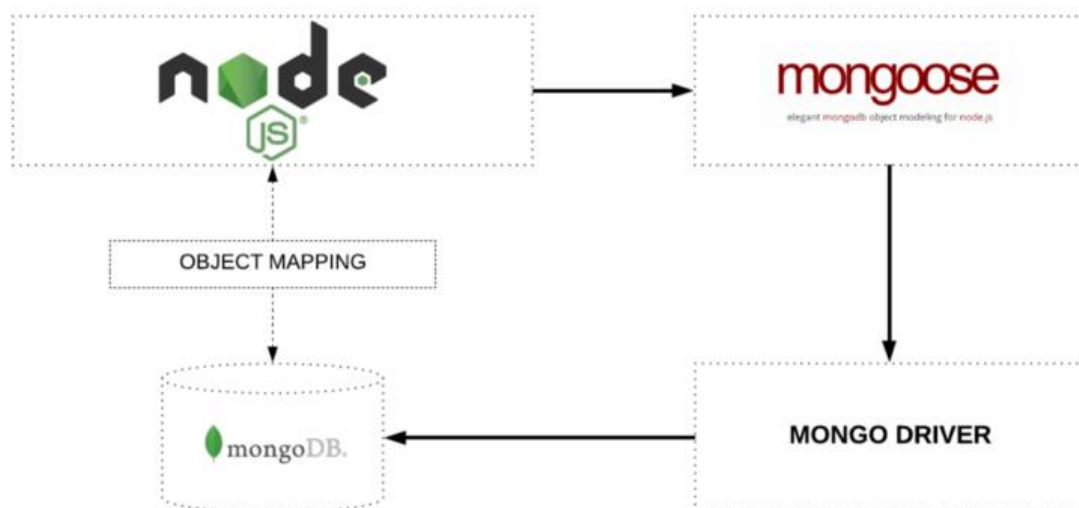
MONGODB

Is an opensource NoSQL database management program. It supports various forms of data and being NoSQL is useful for large sets of data.

Why MongoDB? MongoDB is a simple way of storing JavaScript objects into a database. Its flexible and has unlimited scalability. Which made it a perfect match to work with Node.js.

Mongoose

Mongoose is an object data modelling library for mongo DB and Node.js. it manages relationships between data, provides schema validation, and is used to translate between objects in code and the representation of those objects in MongoDB.



Why Mongoose? Mongoose has built in validation and defines a schema for your data model, as mongo Db is schema less.

Design Methodology

Scrum, which is an offset of Agile is the methodology used in the design for the web-app, which is fully documented on One note and noted in the appendix. For the design of the web-app we investigate what is required for the project and taken approach.

Collection of Quantitative and Qualitative Data which was collected from different resources From World Wide Web mostly along with our previous learning outcome from semester one.

Data Collection

Based on the development Industry in Online Section that is in scalability in special now where all goes online based, we had consensus that will be great to be focused on Designing something that will be noticed and successful in the market for both as Investor and Buyer.

Gendered Information of which Smart Phones are the most common for each human been at this stage.

Analysis

We checked for the requirements we need and for the outlier going by “Hoaglin & Iglewicz, 1987” which take place the scalability and scope preference which the process was based on Quantitative and Qualitative Collection:

- Qualitative

Language

Images

Interpretations

Templates

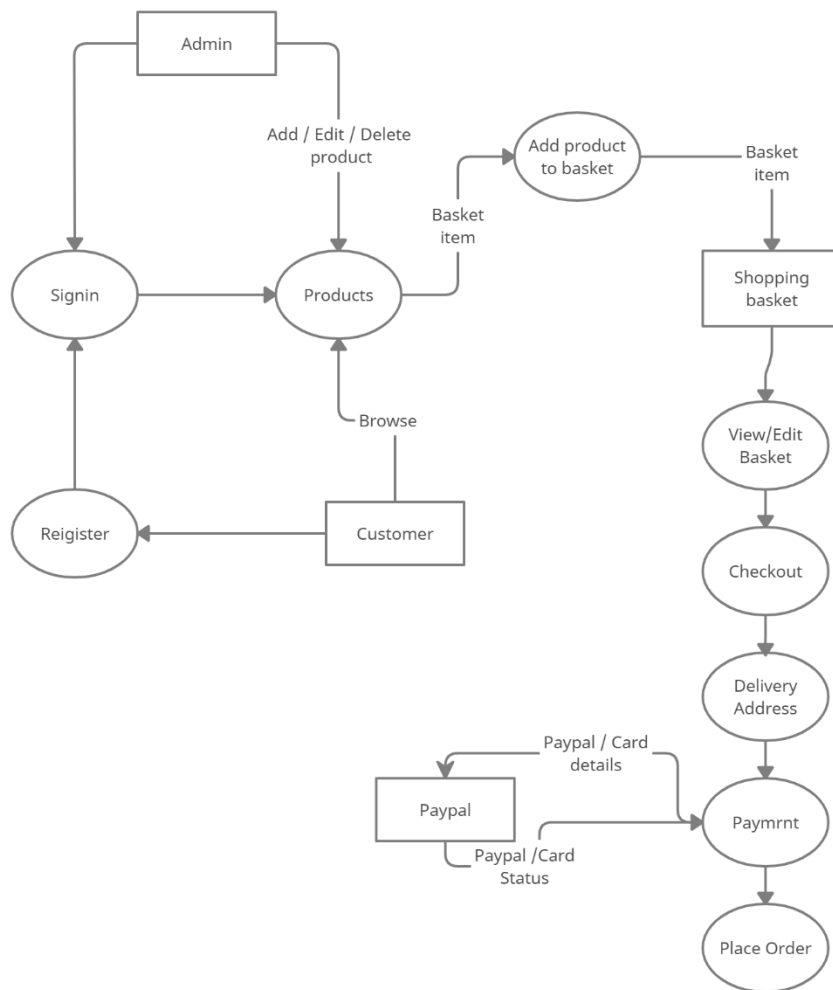
- Quantitative

Data Preparation

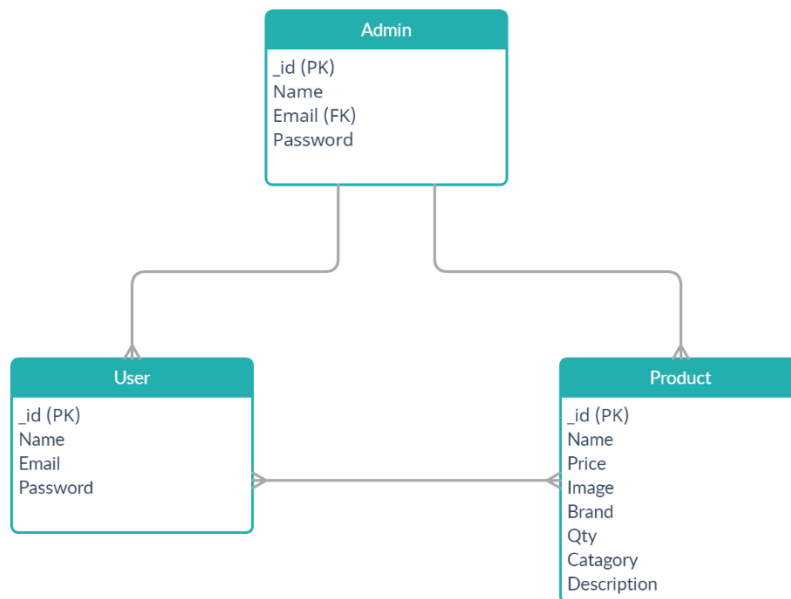
Software need

Statistical methods

Dataflow diagram



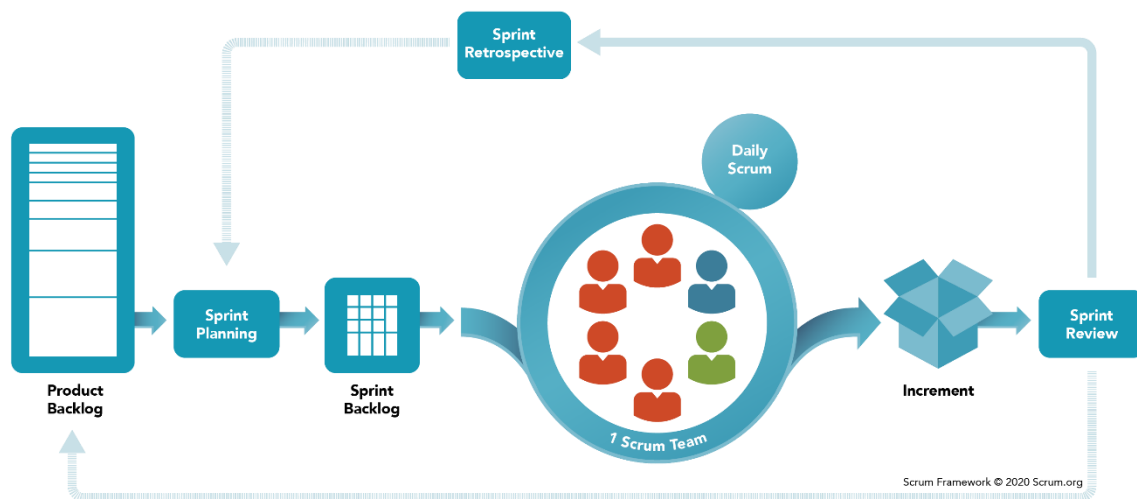
Database Schema



Software Development Lifecycle

For the software development we investigated various development styles and came to a consensus that we would go down the agile route. Unlike the waterfall model that focus heavily on documentation. Agile focus on adaptability and customer satisfaction based on rapid delivery.

Scrum (see **Appendix F**) is a subset of agile. Scrum is fast, flexible and the most widely used agile framework. It was previously used last year in a project, so we thought it was best to stick to a practice we knew about, that way we would be able to implement it faster.



The Scrum methodology makes the information transparent, so that all on the team can inspect and adapt based on the current conditions. It allows constantly changing requirements, unlike the waterfall model. Scrum ensures certain standards, so the user gets what is expected. User requirements are broken down into stories of what the user/owner requires and put into a product backlog. Each story is broken down into smaller tasks for each sprint, which is a time boxed period in which the team works to complete the set tasks, within a set time. So many tasks are put into a sprint plan based on what the team can commit to in that time frame, while the rest of the tasks are put into a backlog for the next sprint. The sprint commences and all tasks are worked on including testing and implementation. At the end of each sprint, the sprint is reviewed, and a retrospective takes place to reflect on what happened and improvements that can be made.

Daily stand-up meetings are held between members, so everyone is on the same page. Everyone knows what they are working on and any issues that have occurred. This whole process allows the project to adapt and deliver based on defined goals.

Scrum assumes that requirements will change and that is why it was the methodology of choice. So that as we progressed, we could adapt to and change the requirements.

Features of the implementation

We believe the implementation of technology used was the right choice. The technology used in the web-app allowed for the creation of an ecommerce website that allowed the user to sell and buy products. MongoDB was the only way to go with databases with it being nearly 100 times faster than a traditional database system, but the main thing is that it is free. Its opensource and available to all with no cost.

The performance of the website is currently based locally and runs on a minimum system. For testing everything was localised and there was no strain on the system. For retail use the system will need to be deployed to a cloud service. Web services such as AWS, google cloud and Microsoft Azure all have their own pros and cons, depending on requirements and price range. But it is a far cheaper alternative than trying to purchase the hardware yourself. These web services offer reliable, scalable, and inexpensive cloud services.

Any scalability issues will also be handled by the cloud services. You will not need to rely on hardware, these services are setup to consider spike in demand. They will automatically be able to cover the demand in resources needed with the changing demands of the website.

The web-app was built with a multiuser system in mind. There's no use for an online shop that can only be used by a single user at a time.

The web app was built to be dynamic. The content of the website is stored on a Mongo database, meaning that as the content is updated, it changes on the website. The main reason it was dynamic is for the purpose of storing and updating the product range.

Limitations and Known Bugs

However, our project had limitations. The main restriction was the experience of the team involved. Coding and practice are extremely important, and the team lacked in areas. All issues have been highlighted under each sprint on OneNote. But the team ran into issues with software along the way that caused delays, meaning to meet the scheduled release, lesser requirements were put on the backlog for future a future update/release.

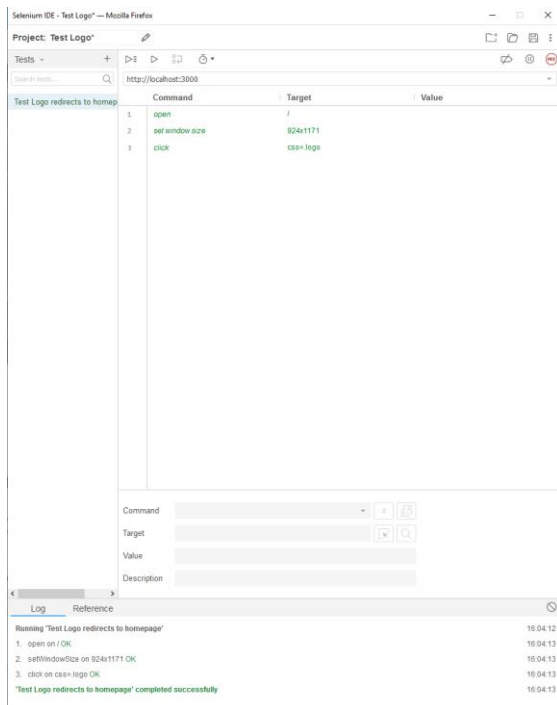
An example of lack of experience was GitHub. The team have used GitHub for source code management, but initially the team messed with the forks of the code and broke the main repository. After searching for a solution and even collaborating with an expert, it was determined it was easier to start again. Learning from past mistakes the team had enrolled in a GitHub tutorial to ensure it would be used to its potential. Although it caused a considerable delay and caused sprint 1 to be pushed back. Overall, it worked out for the best, as it made the team aware of GitHub potential with automated Kanban to enable automatic workflow to keep the project status up to date with associated issues.

Testing

Test Cases with test plans

A	B	C	D	E	F	G	H	I	J	K	L
		Purpose:	This set of tests is intended to check main functionality developed								
Test Run - Sprint 1				Microsoft Internet Explorer 9 Windows 7 Microsoft Internet Explorer 10 Windows 7 Microsoft Internet Explorer 11 Windows 7 Microsoft Internet Explorer 8 Windows XP Microsoft Internet Explorer 7 Windows XP Firefox latest version Apple Safari Windows XP Apple Safari Google Chrome Windows XP Opera Windows XP							
Requirement ID	Sprint	Test Case Ref	Test Case Name	Descriptions	Search Parameters / Instructions	Checks	Expected Result	Actual Result	Results Pass/Fail	Bug #	Comments
1.00	1	TC.001	Logo check	GUR	1. Launch localhost:3000	Company logo is displayed on the top left hand side of page.	Company logo is displayed on the top left hand side of homepage.	Company logo is displayed on top left hand corner of website.	PASS		
1.00	1	TC.002	Logo check	GUR	1. Launch anypage localhost:3000 2. click the logo	Homepage is displayed	Loads homepage	Homepage loaded	PASS		
2.00	1	TC.003	Navbar	GUR	1. Launch localhost:3000	Navbar should be displayed giving option to sign in and go to basket	Navbar and options loaded	Navbar and options for user	PASS		
3.00	1	TC.004	Side-menu	GUR	1. Repeat steps in TC.001 2. click on sidemenu	sidemenu should open allowing options for user	side menu opens giving option to brands	Side menu opens and give user choice of brands to search	PASS		
4.00	1	TC.005	Products	GUR	1. Launch localhost:3000 2. various products should be displayed	Products should be displayed for user to view	Various products appear	Multiple products appear on page	PASS		
4.00	1	TC.006	Products	GUR	1. Repeat steps in TC.005 2. click on product	Product page should load with showing product details	product page loads with product information	product page loaded with details of product	PASS		
4.00	1	TC.007	Products	GUR	1. Repeat steps in TC.006 2. click on product	product image, name, quantity and price should be displayed	Product details should be available to user	User can see product image, name, quantity, price and description	PASS		
5.00	1	TC.008	Add to basket	GUR	1. Repeat steps in TC.005 2. choose quantity 2x 3. Add to basket	2x products are added to your basket	2x products are added to basket	Basket now contains 2x products	PASS		

Let us write tests scripts. Instructions that can automated and tested in web browsers.



Acceptance Testing

For acceptance testing we wanted user acceptance testing. The aim was to get users to use the website, as they will be using the website and give their feedback. This way we get honest feedback on what is works well and what may need improvement.

On a scale of 1-10, How would you rate the following											
Num	Acceptance Requirements	Test Results (10-excellent / 1-very poor)									
		10	9	8	7	6	5	4	3	2	1
1	Useability	10	9	8	7	6	5	4	3	2	1
2	Navigation	10	9	8	7	6	5	4	3	2	1
3	interface	10	9	8	7	6	5	4	3	2	1
4	perfomance	10	9	8	7	6	5	4	3	2	1
5	content	10	9	8	7	6	5	4	3	2	1
6	signin	10	9	8	7	6	5	4	3	2	1
7	register	10	9	8	7	6	5	4	3	2	1
8	purchasing	10	9	8	7	6	5	4	3	2	1
What did you like the most?											
Easy on the eyes and easy to use.											
What did you like the least?											
Lack of content											
Ang suggestions for improvements											
Add more products											
Thank your for your time.											

Future development

IDphone web app sells mobile phones, but only offers the basic functionality of purchasing products online. There are many updates planned without even considering branching out product lines and increasing product range. The next user requirements once launched will aim to implement:

- Now we only accept PayPal payment, so a future update would be adding a direct secure card payment.
- Customer details are only saved in the User schema of name, email, and password. We would like to enhance on customer details to include delivery address and even payment details.
- You can view all products or view by category. We would like to incorporate a search bar, so customers can directly search for what they want.+

Currently the project content is adapted to the UK, Ireland region. The webapp is setup in English and for phones that will work in these regions. Localization known as i10n; a future development would be to localize the project into more than one language as the project grows in scalability. Users prefer to shop in their own native language, and it removes barriers. Also localized product descriptions will improve search engine rankings. Internationalization often referred to as i18n will be introduced as the web-app grows. One of the main benefits of Node is that npm offers a wide variety of tested packages including frameworks for localization and internationalization.

Conclusion

Overall, we have failed in creating a web app “IDphone”. Assisted by various links, tools, and supervisor. We stand by the decisions made in this project, as looking back now the decisions made for the project were right, but due to lack of experience within the team, they were not implemented to their full potential.

The scrum methodology was used and we benefitted from this as it allowed the members to be flexible, with a greater ability to incorporate changes. As with any code, issues occurred along the project and with scrum we could adapt to changes in the project and release.

Technologies used were fit for purpose and we would not change our choice. Part of the reason they were chosen was due to their link with other modules, so we could gain experience. One of the main reasons to build a website was to show how we have improved over time. Last year we built a website, but it was basic and static. This project we managed to create a dynamic website that changes based on changes made to the database, which is a success.

There were various issues along the way that have all been documented on One note, which documents the progress of the project. Team communication was great, but team progression was not. Our one regret was not scheduling our time better. Other projects, exams came up and

we allowed ourselves to be distracted. Although we allocated time for issues, we underestimated the importance of consistently working on the project and the amount of time spent on small errors. That was our downfall, that led to reduced user requirements and a failed release. It is said through failure, you learn from your mistakes. So, on a positive note with the problems we had, it did make us rethink, reconsider, and attempt to find new ways to achieve our goals. It was a learning experience that will lead to future project success.

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Software.

Creately. Draw, diagrams, and whiteboard – used for flow diagrams and database schema
<https://app.creately.com/>

Issues or Problems – Any errors or needed help understanding
[reddit: the front page of the internet](#)
[Stack Overflow - Where Developers Learn, Share, & Build Careers](#)

Appendix

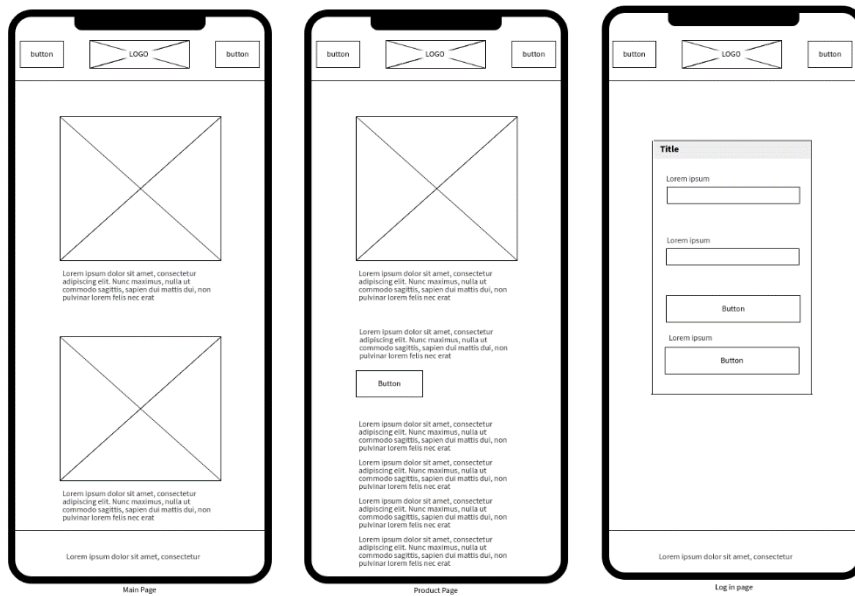
Appendix A

logo

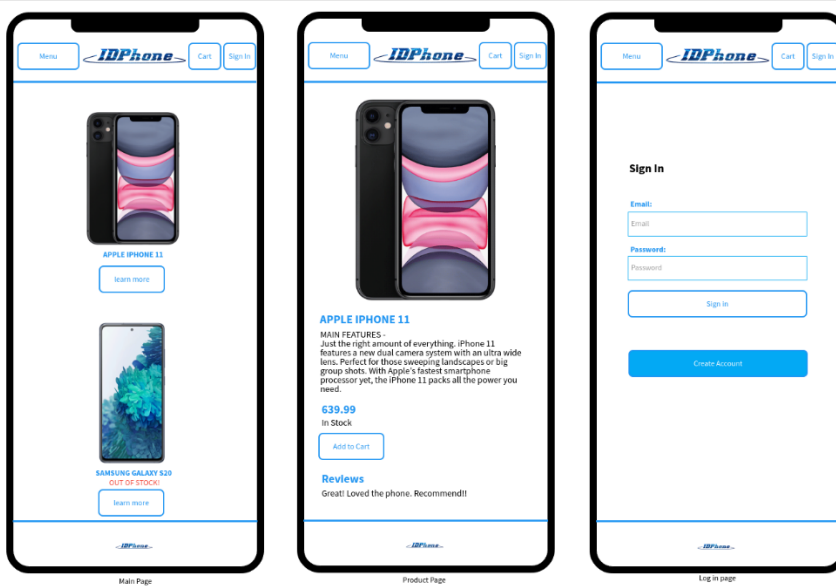


Appendix B

Wireframe

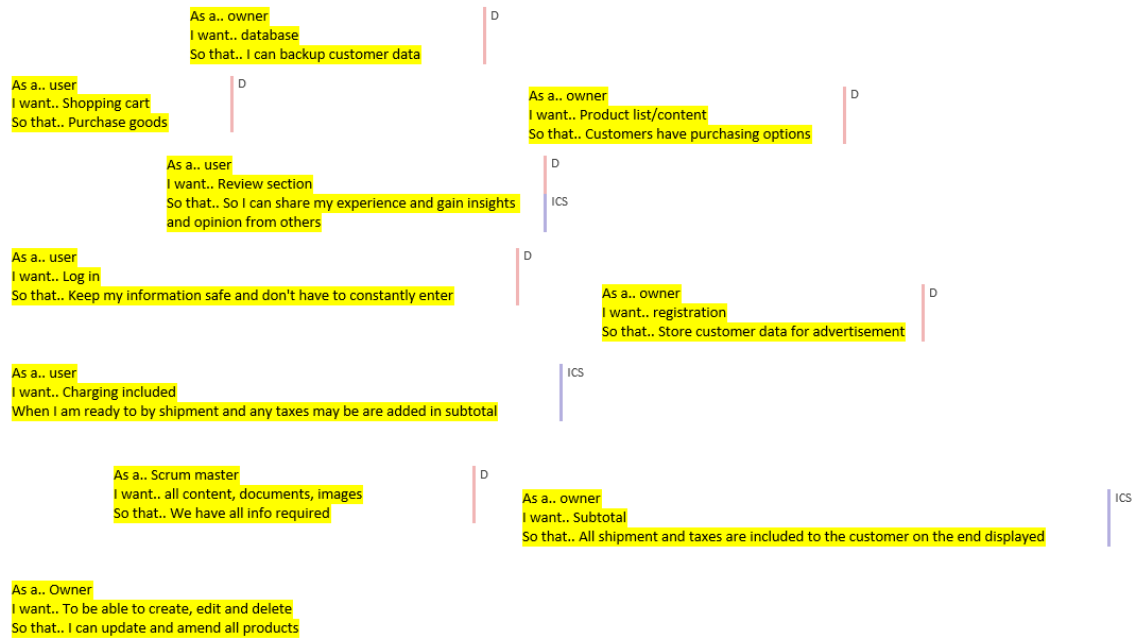


Mock-up



Appendix C

user stories brainstorm



Appendix D

GitHub Link: https://github.com/allend4/PPIT_project

Commits on Apr 8, 2021

Merge pull request #10 from allend4/fix/1 Verified f056403 <>

ion-cimici committed 16 days ago

fixes #1 98b97c6 <>

allend4 committed 16 days ago

Commits on Apr 7, 2021

Merge pull request #5 from allend4/fix/3 Verified 1c877e2 <>

ion-cimici committed 16 days ago

Commits on Apr 5, 2021

Switched to frontend React Fixes #3 e40e440 <>

ion-cimici committed 18 days ago

Commits on Apr 4, 2021

Merge pull request #4 from allend4/fix/2 Verified 6a21f74 <>

allend4 committed 19 days ago

Commits on Apr 2, 2021

fixes #2 5ae1dc9 <>

allend4 committed 21 days ago

Commits on Mar 29, 2021

Appendix E

All testing is documented on GitHub and OneNote.

GitHub Link: https://github.com/allend4/PPIT_project/tree/main/documents/Testing

Appendix F

We used the agile method Scrum to manage our project. Full details are available:

OneNote link: https://galwaymayoinstitute-my.sharepoint.com/:o:/g/personal/g00374920_gmit_ie/Eim6p_8fo5JEj0QWwEPSxacB8qBe-SNQx3b4QImaxofMZg?e=1ZC34a