

Mobile Business Management Web Application

Michelle Abbasipour

Department of Computer Science and Creative Technologies,
University of the West of England,
Coldharbour Lane,
Bristol

michelle2.abbasipour@live.uwe.ac.uk



Make an Appointment

Clients

Professionals

Login

Logout

1. Summary

This report will document the design, development and implementation of a web application which provides management support for mobile beauty businesses. The idea for this project came about as a result of not being able to find a suitable digital solution to help manage areas of business including stock, appointments, clients, treatments, finances and marketing. There are many types of similar software products currently available, however research has shown that these are either targeted at salon based businesses, rather than for mobile professionals or they cater for mobile businesses but not specifically for those in the beauty industry. Research has also shown that there is a lack of offline support in applications for mobile businesses.

This web application enables professional users, those who work in a beauty business, to set up and maintain a business profile where they can add their services and treatments, as well as other features. Clients, who can be existing and new customers of any of the businesses using the website, can book appointments for those treatments, as well as create and maintain their own profile. There is a registration system for both type of user, which also enables them to login and logout as well as retaining their details on the system database.

Research has been conducted with potential users in order to identify their requirements and continuous reflection and research has been undertaken throughout distributing surveys, creating personae and scenarios and holding an online focus group, as well as secondary research using offline and online resources. The research and findings are discussed more fully in sections four and five of this report and were vital in identifying users' needs and to create a list of requirements to be compiled which was subsequently sorted in order of importance to the user.

Development of the first phase began after the research was completed and focused on implementing the most important features and functionality, such as a client booking system and separate sections for professional and client users. In terms of technology, HTML, CSS, JavaScript, PHP and MySQL have all been used to create the functionality of this mobile first web application. Previous skills and experience provided a good foundation for developing this application but further research was necessary throughout the implementation in order to create the functionality required.

Once the first phase was completed, this was distributed via a web server for user testing and, as a result of this exercise, the web application was developed further some issues were highlighted which could be changed to benefit the user.

Research and high fidelity prototypes have been completed with regards to the design of the project, but the focus at this stage has been more on the functionality in order to meet users' needs.

2. Biography

Working as a front end developer is a career goal, so this project is very helpful in terms of using skills and gaining experience in this field. As there has also been previous experience as a mobile nail technician, and will continue to do so whilst seeking permanent employment after graduation, this mobile web app will also help to manage this business and to enable clients to book appointments.

To access the web app, please go to this URL using a mobile device:
<http://www.prettyhorizontal.com/charm/public/pages/index.php>

The code is uploaded at GitHub here: <https://github.com/MichelleAbbasipour/charm>

The database can be downloaded as SQL here: <http://www.prettyhorizontal.com/ctp/database.sql>

Once downloaded, the SQL file may be opened and read in code format using a text editor or can be opened with MySQL Workbench (<http://mysqlworkbench.org>) to be viewed in table and model format.

Alternatively, the database can be viewed at this link:

http://79.170.44.133/phpmyadmin/index.php?token=73bb5a03a769bc64080316a761e8be6f#PMAURL-3:db_structure.php?db=cl30-charm&table=&server=1&target=&token=73bb5a03a769bc64080316a761e8be6f

username: cl30-charm

password: password

The video is here: <http://www.prettyhorizontal.com/ctp/video>

High fidelity, interactive mockups: <https://invis.io/V55G67B8C>

Interactive mockups: <https://invis.io/F55FLCVYQ>

3. Introduction

The aim of the project is to research, design and develop a web application to assist in the management of mobile beauty businesses. Personal experience has highlighted the lack of suitable, affordable software to help manage some aspects of a mobile business. In addition, feedback from clients expressing an interest in viewing their previous treatment and appointment details, as well as being able to book appointments online has contributed to the development of this project. Being able to create this application is would be a good way to use the skills and knowledge gained from this course, as well as giving the opportunity to learn new technologies and how to implement different functionality.

From the research conducted earlier in the process, several key functionalities were identified which would enable the application to meet the most important users' needs and requirements. The time constraints for the first phase of development did not allow all of these to be researched and implemented. Therefore, they were categorised by importance using feedback from the research participants through surveys, focus groups and discussion, in addition to analysis of similar products and other secondary research methods. More detail can be found with regards to the research process of this project in Appendix I.

For the professional user, the application will enable them to create a business profile to be viewed by clients, as well as to use the administrative system to manage the treatments they offer, their clients and employees, working hours and other aspects of their business. There are several other software products available which offer the same, or similar, services for businesses but they can be very expensive and there was an opportunity to create a bespoke product which provided multiple services needed for a small mobile beauty business. An important part of the website, and the functionality that would make it unique, would be the ability to use and access data when offline and this was made a priority during the initial stages of research. Additional functionality would include managing stock, employees, working hours, treatments and services offered, client records and appointments.

Although the concept of the app originally began to provide services on a personal basis, there are many other businesses which could also benefit from this product so colleagues within the industry were contacted and a group of professionals was established which would be willing to assist with this project.

Existing clients and potential new client users were asked to participate in the research and their needs were also identified from this. Although not as many requirements were identified as for professional users, the clients who took part felt that they would be more inclined to use a business if it provided an online booking facility, the ability to keep all treatments for multiple businesses in one system and if previous treatments and appointments could be referred to. As a result, the client users would use this application to search for treatments and services available by location and then book appointment slots for these using the application. In addition, clients can manage their data stored on the application, view previous and upcoming appointments and contact professionals.

The first phase of development for this web application will be to implement the most important features and functionality as identified by the research.

4. Methodologies

When planning this project, the following questions helped to direct the research, establish users' needs and how to implement the functionality required:

- Who is my user?
- What features and functionality does my product need?
- What technology is needed to meet the user requirements?
- Who are my competitors and what are their strengths and weaknesses?

The research methods used comprised primary research with a group of professional and client participants involving distributing and analysing two surveys, holding an online focus group and ad-hoc conversations and discussion. Secondary research carried out involved using online and offline resources including books, articles, blogs, journals and research papers.

Asking the first two questions to the research group, and conducting extensive secondary research, identified typical users and their requirements, as well as helping to create two personae and scenarios which further developed the list of features and functionality required. A summary of the findings from the research report can be found in Appendix I.

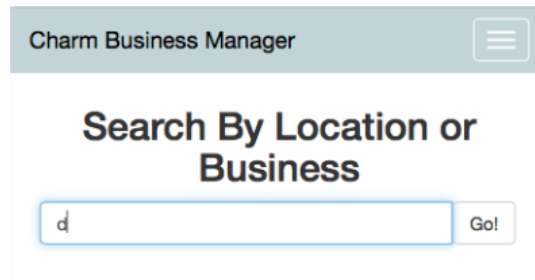
Carrying out research on the technology required to implement the user requirements helped to create a development plan for the website allowing for previous skills and experience, as well as identifying new skills which would be needed such as using advanced Structured Query Language (SQL) and PHP: Hypertext Preprocessor (PHP).

Looking into software available which is similar to this application identified common features which were offered and those which were more unique. From this, and the list of requirements gathered through the research group, a comprehensive list of features and functionality for the website was created and categorised by importance and can be found in Appendix II.

The first phase of this project has been successful in implementing several of the main user requirements identified from the research. Creating a responsive website, using a mobile first approach which Moboom.com (2016) explains is a "responsive design: design for smaller screens first, then add more features and content for bigger and bigger screens", was one of the most important user requirements and this has been achieved by applying the Bootstrap framework (Mark Otto, 2016) which utilises a row and column system in order to create elements on a web page which then act responsively for different screen sizes. Bootstrap was chosen as it has been used previously and was therefore easier to implement and further research into how to use it was not required.

Applying the PHP appointment booking and calendar system was challenging and therefore involved researching and testing several different methods before implementing the current functionality.

Possible solutions included purchasing a ‘ready-to-use-system’ such as the Availability Calendar from PHPJabbers (Calendar, 2016), downloading a free system, for example from PlanetPHP (Planetphp.co.uk., 2016) or creating a bespoke system using tutorials and other references. The majority of development time to date has been spent on this area of the website and the final calendar system has been implemented using tutorials and previous skills and experience, rather than a system devised by a third party. Figures 1-9 show screenshots of the calendar and booking system currently implemented on the project prototype.



The screenshot shows a web interface for 'Charm Business Manager'. At the top, there is a header bar with the text 'Charm Business Manager' and a hamburger menu icon. Below the header, the main heading reads 'Search By Location or Business'. Underneath this heading is a search input field containing the letter 'd', followed by a 'Go!' button.

Figure 1: searching for a business



Search Results

Search term: d

Found: 14 results

Search Again

ID: 2

NAME: Orci LLC

ADDRESS: P.O. Box 719, 158 Lorem Road

EMAIL: Donec@risusDonec.ca

Select Business

ID: 4

NAME: Pede Ultrices A Consulting

ADDRESS: 919-1878 Egestas. St.

EMAIL: mattis.Integer.eu@risusNunc.co.uk

Select Business

ID: 6

NAME: Ac Incorporated

ADDRESS: 762-1022 Vel Rd.

EMAIL: consectetuer.euismod.est@cursus.ca

Select Business

Figure 2: Business search results



Search for Treatment

Search for Another Business

Business ID: 2

Business Name: Orci LLC

Business Address: P.O. Box 719, 158 Lorem Road

Business Email: Donec@risusDonec.ca

Show All Treatments for Orci LLC

or search for a specific treatment offered by Orci LLC

Go!

Figure 3: Search for treatments offered by selected business



Search Results

Search term:

Found: 4 results

[Search for Another Treatment](#)

Business ID: 2

ID: 86

NAME: nunc

DESCRIPTION: Cras non velit nec nisi vulputate nonummy. Ma

DURATION: 73

PRICE: £61.21

[Select Treatment](#)

Business ID: 2

ID: 110

NAME: sapien cum

DESCRIPTION: Cras mi pede, malesuada in, imperdiet et, com

DURATION: 82

PRICE: £34.80

[Select Treatment](#)

Business ID: 2

Figure 4: Display treatment search results

Charm Business Manager

Calendar

Start Search Again

BUSINESS

Business ID: 2

Business Name: Orci LLC

Business Address: P.O. Box 719, 158 Lorem Road

Business Email: Donec@risusDonec.ca

TREATMENT

Treatment ID: 110

Treatment Name: sapien cum

Treatment Description: Cras mi pede, malesuada in, imperdiet et, com

Treatment Duration: 82

Treatment Price: £34.80

Refresh Calendar

Today's date: 14th April 2016

<	April 2016					today	>
SUN	MON	TUE	WED	THU	FRI	SAT	
					1	2	
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	

Figure 5: Shows selected business and treatments along with date selection facility

Business Address: P.O. Box 719, 158 Lorem Road

Business Email: Donec@risusDonec.ca

TREATMENT

Treatment ID: 110

Treatment Name: sapien cum

Treatment Description: Cras mi pede, malesuada in,
imperdiet et, com

Treatment Duration: 82

Treatment Price: £34.80

Refresh Calendar

Today's date: 14th April 2016

April 2016						
SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Request Appointment for
Friday 15th April 2016

Select preferred appointment time slot:

Morning Appointment

First name

Last name

Email

Phone (XXXXX XXXXXX)

Go

Figure 6: Select date and complete basic details input form

Request Appointment for
Friday 15th April 2016

Select preferred appointment time slot:

- ✓ Morning Appointment
- Afternoon Appointment
- Evening Appointment

Figure 7: Show appointment time slot dropdown selection functionality

Select preferred appointment time slot:

Afternoon Appointment

Michelle ✓

Abbasipour ✓

michelle2.abbasipour@live.uwe.ac.uk ✓

01234567891 ✓

business This is a message to the ✓

Go

Figure 8: Input form for user's basic details

Thanks, Michelle

**Your appointment is not
confirmed until you receive an
email from your consultant.**

**Please allow up to 24 hours for
this email to arrive.**

**The details of your appointment are as
follows:**

CLIENT

Client Name: Michelle Abbasipour

Client Phone Number: 01234567891

Client Email Address: michelle2.abbasipour@live.uwe.ac.uk

Client Notes: This is a message to the business

BUSINESS

Business ID: 2

Business Name: Orci LLC

Business Address: P.O. Box 719, 158 Lorem Road

Business Email: Donec@risusDonec.ca

TREATMENT

Treatment ID: 110

Treatment Name: sapien cum

Treatment Description: Cras mi pede, malesuada in,
imperdiet et, com

Treatment Duration: 82

Treatment Price: £34.80

APPOINTMENT

Appointment Unique ID: 570f455c07d34

Appointment ID: 10

Appointment Date: Friday 15th April 2016

Appointment Time: Afternoon Appointment

Date Booked: 14th April 2016

[Return to Home Page](#)

Figure 9: Show data to user for their appointment request

The database, which holds all of the data for the system, was created using phpMyAdmin (contributors, 2016) and with reference to the data model produced from the research, see Figure 10. However, as the calendar functionality was being implemented, it became apparent that the data model was incorrect and a new structure was put into place as shown in Figure 11. This was much more effective in terms of storing, retrieving and linking the data.

The main difference between the two database models is pulling data from the *professionals*, *businesses*, *employees*, *clients* and *treatments* tables into the *appointments* table, rather than using the *appts_treatments* table from the original model. There are also many more fields in all of the tables in the new model which were added as the database was being created and tested.

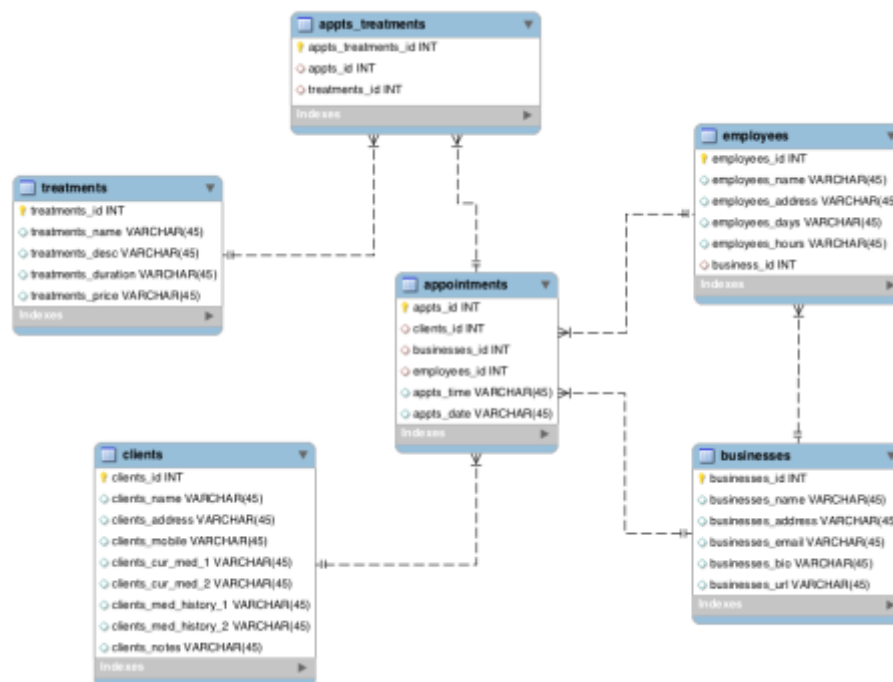


Figure 10: Original Entity Relationship Diagram

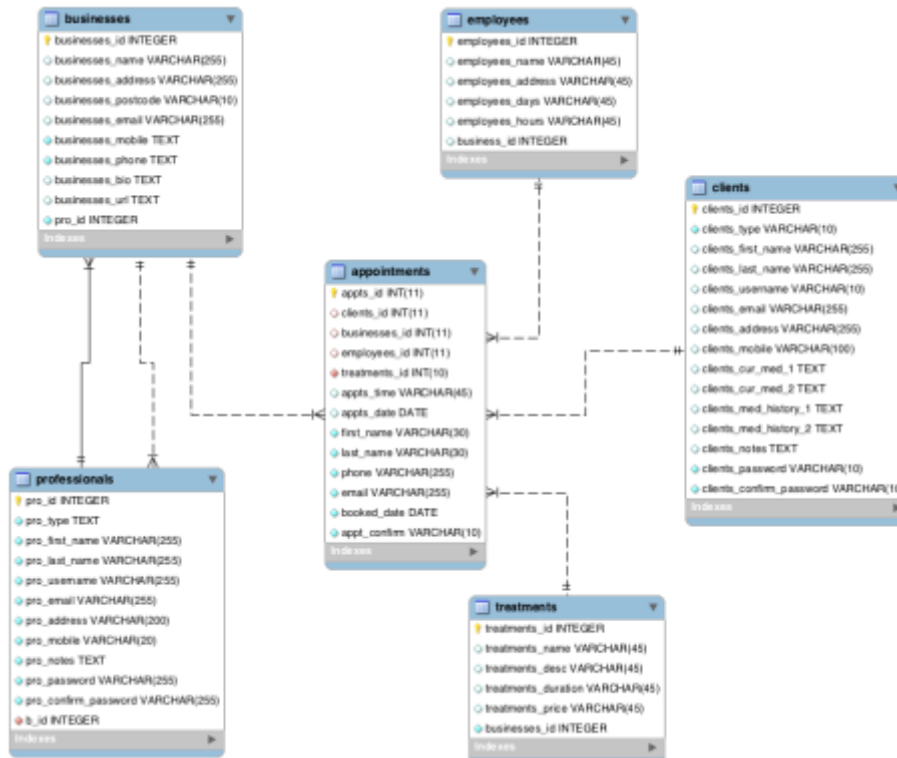


Figure 11: Final Entity Relationship Diagram

Having previously used SQL and PHP to create, read, update and delete data from a database, this functionality was easier to implement than the calendar system. However, due to not having developed this type of application previously, there were some challenges with some SQL statements including the facility for clients to search and select businesses and treatments. These were very complicated queries and involved using SQL expressions not used previously, as well as using dummy data. The final query used is shown in the code sample below.

This query selects any row in the specified table where the indicated fields contain any text matching the PHP variable, \$business_search, which holds the text input by the user.

```

$query = "
SELECT businesses_name, businesses_address, businesses_email, businesses_id
FROM businesses
WHERE businesses_postcode LIKE '%$business_search%'
OR businesses_address LIKE '%$business_search%'
OR businesses_name LIKE '%$business_search%'
";

```

As similar functionality is used when the user is searching for treatments offered, this query can then be duplicated and amended as per those requirements.

There are multiple SQL statements used throughout the web application which conduct queries on the database to register users, login and logout of the system as well as to search for businesses and treatments for the chosen business.

In terms of programming language, PHP was chosen alongside Hypertext Markup Language (HTML5) (W3.org, 2016) and Cascading Stylesheets (CSS3) (W3.org, 2016) due to the interactivity provided by using PHP and the ability to use it with HTML, CSS, SQL and JavaScript. When conducting the initial research, the intention was to use Object Oriented PHP (OOP) as the main coding language, however time constraints did not allow for learning how to use and implement OOP and therefore procedural PHP was used as an alternative.

JavaScript has been used where PHP is not appropriate due to requiring client side interactivity, for example when the countdown displays before the user is being redirected to a different page.

Login Successful!

Welcome Margaret, you are now logged in!
Redirecting to the Professionals Home Page in 0
seconds

Figure 11: Demonstrating the JavaScript used to produce a countdown timer

5. Results

The research report was a good foundation to use for the design and development of the app. However, creating the structure of the app has been where planning has caused delays and, as a result, the final prototype structure deviates from the planned structure. Although research was used to create the structure, lack of experience in developing a site map and database models led to issues when it came development, despite having an interactive, hi-fidelity mockup created in InVision (InVision, 2016) which can be viewed using the links provided in section 2 of this report.

As a result of this, when working on a similar project, or developing this one further, more research into the database models will be carried out and more development will be spent on the structure before implementation. Additional research into the technology required would also have given an indication of the amount of time involved in applying new technologies and languages, such as OOP, to a project before having any knowledge or understanding of that particular technology.

With regards to research organisation, it would have been more effective to have separated the participants into user types however, the user research and competitive research was successful in compiling a list of features and functionality for the users when then led onto the implementation phase.

The first prototype of the web app meets the most important user requirements where clients can book an appointment (as seen in figures 1-9) both sets of users can register, login and then logout of the system. The app also recognises which type of user they are logged in as and restricts their access to other sections based on this. For the professional user, there is functionality which allows them to create their business profile, which can subsequently be edited. The services businesses offer can also be added to their profile to enable their clients to book treatments.

To use the booking system, a user searches for a business using a keyword or term which is part of the business name or address and this search facility was identified as a priority during the proposal stage of the project. They can then search for a specific treatment using a keyword search, or they can view all services offered by their selected business. Once the business and treatment have been chosen, this data is shown on the booking page and the user selects a date and time slot using the calendar and form functionality. This, along with the user's inputted personal details, is sent to the business via email and shown on the website to the user. All of the functionality is implemented using SQL and PHP.

Additional features include the registration system where users can register as a professional or client. Client users are able to register for free, and registration is not necessary to be able to make a booking.

After registering, clients and professionals are able to login to the system which matches the input data with the data on the database and uses PHP sessions to carry the data from one page to another so that the user is always logged in, until they end the session by logging out.

Testing and development is an ongoing process and additional functionality from the original user requirements, as well as new features, are listed and ready to be implemented. As an example, professional users would be required to purchase a license prior to registration which is not implemented on the prototype but representational pages are in place to help with the flow of the website.

As a fully functioning mobile business management system, there are many more elements which can be researched and implemented before this application is able to be used effectively, however the main functionality is in place and can be built on and developed.

6. Discussion

The concept for this application was created from a lack of suitable software for mobile beauty businesses and research shows that this is still the case. Current software is targeted at beauty businesses based in salons or mobile businesses which have constant internet access and these are two of the scenarios regarding mobile business discussed in the summary of the research report in Appendix I. In terms of other software in the market, these can be very expensive to small businesses, especially those where there is one employee. They are often aimed at larger businesses and research shows that they attempt to provide too many services which makes them unusable for some businesses who need a simpler product.

As has been previously discussed, one of the unique and innovative features of this software will be to enable offline access for professional users who will not have to rely on mobile internet services in order to use the application. Additionally, due to the web application being developed for beauty businesses by a developer who understands this type of business, this will provide more insight into how it can be used effectively for clients and professional users. Having access to potential users who will utilise the application in different ways will also be of great benefit for further development, and as this research is conducted on a more personal level, the product will be more successful in appealing to smaller, mobile businesses.

The intention was always to continue developing this project beyond the deadline for the professional users who assisted with the project research. Having issues with the implementation and elements of this being more difficult than anticipated has led to a revision of some aspects of the project and how to proceed with additional implementation, such as changes to the booking system in terms of time slots, rather than specific appointment times.

For further development, a new plan will be researched and created, as well as dividing the users into two groups and looking into a more detailed and tested site structure. Also included will be: researching and implementing the offline functionality, providing a form for users to contact the developer, creating a page about the application, changing the design of the project inline with the mockups created, making adjustments to the navigation system as per feedback from the user testing enabling professional users to manage their employees and working hours, adding the purchase functionality and developing a support system for all users.

With regards to future projects, more specific details are required when conducting research into the technologies needed and to understand what is achievable within the time constraints given. For example, it was important to recognise that being able to use this application offline would be a vital and unique feature but lack of understanding of the technology required to implement this was not advanced enough and time constraints did not allow for this functionality to be researched, learned and implemented.

7. Conclusion

This project has been successful in implementing the appointment slot booking system, as well as the registration, login and logout functionality and other features.

In terms of designing the structure of the project, this needs to be carried out in much more detail and tested thoroughly using mockups before starting any implementation. It would also be beneficial to conduct more user testing and evaluation to ensure that the workflow is suitable.

Overall, this project has been successful in terms of a user and as a developer, and it has helped to focus future career plans on working with this technology and on these types of products. In addition, having a working prototype, code and documentation to feature in a digital portfolio is an advantage and will help to showcase skills and experience.

8. References

- Calendar, A. (2016). *Availability Calendar | PHP Availability Calendar Script | PHPJabbers*. [online] Phpjabbers.com. Available at: <https://www.phpjabbers.com/availability-calendar> [Accessed 14 Apr. 2016].
- contributors, p. (2016). *phpMyAdmin*. [online] phpMyAdmin. Available at: <https://www.phpmyadmin.net> [Accessed 14 Apr. 2016].
- contributors, p. (2016). *phpMyAdmin*. [online] phpMyAdmin. Available at: <https://www.phpmyadmin.net> [Accessed 14 Apr. 2016].
- InVision. (2016). *Free Web & Mobile Prototyping (Web, iOS, Android) and UI Mockup Tool | InVision*. [online] Available at: <https://www.invisionapp.com> [Accessed 14 Apr. 2016].
- MAMP. (2015). Open Source: appolute.
- Mark Otto, a. (2016). *Bootstrap · The world's most popular mobile-first and responsive front-end framework*. [online] Getbootstrap.com. Available at: <http://getbootstrap.com> [Accessed 14 Apr. 2016].
- Moboom.com. (2016). *What is Mobile First Design, and Why Should I Care? | Moboom*. [online] Available at: <http://moboom.com/blog-post/what-is-mobile-first-design-and-why-should-i-care/e14c121f-f539-aa88-23a1-5217e7b71283> [Accessed 14 Apr. 2016].
- MySQL Workbench. (2005).

Planetphp.co.uk. (2016). *Free PHP Booking Slots Calendar | PHP*. [online] Available at: <http://www.planetphp.co.uk/free-php-booking-slots-calendar> [Accessed 14 Apr. 2016].

W3.org. (2016). *Cascading Style Sheets*. [online] Available at: <http://www.w3.org/Style/CSS/> [Accessed 14 Apr. 2016].

W3.org. (2016). *HTML5*. [online] Available at: <http://www.w3.org/TR/html5/> [Accessed 14 Apr. 2016].

9. Bibliography

Accessibility at Penn State. (2015). *Font Face*. [online] Available at: <http://accessibility.psu.edu/legibility/fontface/> [Accessed 22 Dec. 2015].

Acunetix. (2015). *What is Cross-site Scripting and How Can You Fix it?*. [online] Available at: <https://www.acunetix.com/websecurity/cross-site-scripting/> [Accessed 9 Oct. 2015].

Airbnb. (2015). *Holiday Rentals, Homes, Apartments and Accommodation - Airbnb*. [online] Available at: <https://www.airbnb.co.uk> [Accessed 10 Oct. 2015].

Atwood, J. (2007). *Your Code: OOP or POO?*. [online] Blog.codinghorror.com. Available at: <http://blog.codinghorror.com/your-code-oop-or-poo/> [Accessed 19 Jan. 2016].

Awwwards.com. (2015). *Trendy Web Color Palettes and Material Design Color Schemes and Tools*. [online] Available at: <http://www.awwwards.com/trendy-web-color-palettes-and-material-design-color-schemes-tools.html> [Accessed 13 Dec. 2015].

Bannatyne.co.uk. (2016). *Medical Contraindications - Bannatyne Spa*. [online] Available at: <http://www.bannatyne.co.uk/spa/medical-contraindications/> [Accessed 17 Jan. 2016].

Beard, R. (2013). *Competitor Analysis Template*. [online] Client Heartbeat Blog. Available at: <http://blog.clientheartbeat.com/competitor-analysis-template/> [Accessed 12 Oct. 2015].

Beauty Salon Marketing Ideas. (2014). *Choosing The Right Software For Your Beauty Salon*. [online] Available at: <http://www.yoursuccessfulsalon.com/2014/04/10/choosing-the-right-software-for-your-beauty-salon/> [Accessed 10 Oct. 2015].

Biškup, Z. (2010). *Simple search with PHP, jQuery and MySQL - CodeForest*. [online] CodeForest. Available at: <http://www.codeforest.net/simple-search-with-php-jquery-and-mysql> [Accessed 19 Dec. 2015].

Bonneville, D. (2010). *Best Practices of Combining Typefaces – Smashing Magazine*. [online] Smashing Magazine. Available at: <http://www.smashingmagazine.com/2010/11/best-practices-of-combining-typefaces/> [Accessed 22 Dec. 2015].

Boudreaux, R. (2013). *A checklist for web accessibility issues - TechRepublic*. [online] TechRepublic. Available at: <http://www.techrepublic.com/blog/web-designer/a-checklist-for-web-accessibility-issues/> [Accessed 15 Dec. 2015].

Business News Daily. (2012). *1.3 Billion Workers to Go Mobile by 2015*. [online] Available at: <http://www.businessnewsdaily.com/1863-mobile-workforce-2015.html> [Accessed 11 Oct. 2015].

Businessmobiles.co.uk. (2015). *Mobile Usage Research and Statistics*. [online] Available at: <http://www.businessmobiles.co.uk/mobile-statistics.html> [Accessed 8 Oct. 2015].

Businesswire.com. (2012). *Mobile Worker Population to Reach 1.3 Billion by 2015, According to IDC*. [online] Available at: <http://www.businesswire.com/news/home/20120105005455/en/Mobile-Worker-Population-Reach-1.3-Billion-2015#.Vhac6K7b8c> [Accessed 8 Oct. 2015].

Buylandingpagedesign.com. (2016). *best-software-product-template-psd-008 | Software Website Template PSD preview.* [online] Available at: <https://www.buylandingpagedesign.com/preview/best-software-products-attractive-and-appealing-software-product-website-template-design/1080> [Accessed 4 Jan. 2016].

Cable.co.uk. (2014). *Mobile broadband in my area | Providers, speeds, coverage*. [online] Available at: <https://www.cable.co.uk/guides/how-to-check-mobile-broadband-coverage/> [Accessed 8 Oct. 2015].

Capterra.com. (2015). *Best Salon Software | 2015 Reviews of the Most Popular Systems*. [online] Available at: <http://www.capterra.com/salon-software/#infographic> [Accessed 8 Oct. 2015].

Capterra.com. (2015). *Reviews of Front Desk : Free Pricing and Demos : Club Management Software*. [online] Available at: <http://www.capterra.com/club-management-software/spotlight/134172/Front%20Desk/Front%20Desk> [Accessed 9 Oct. 2015].

Capterra.com. (2015). *Reviews of MINDBODY : Free Pricing & Demos : Salon Software*. [online] Available at: <http://www.capterra.com/salon-software/spotlight/40229/MINDBODY/MINDBODY> [Accessed 11 Oct. 2015].

Capterra.com. (2015). *Reviews of Phorest Salon Software : Free Pricing & Demos : Salon Software*. [online] Available at: <http://www.capterra.com/salon-software/spotlight/113530/Phorest%20Salon%20Software/Phorest%20Salon%20Software> [Accessed 11 Oct. 2015].

Capterra.com. (2015). *Reviews of Salon Iris : Free Pricing and Demos : Salon Software*. [online] Available at: <http://www.capterra.com/salon-software/spotlight/9167/Salon%20Iris/DaySmart%20Software> [Accessed 8 Oct. 2015].

Carter, W. (2015). *How to choose a database for your mobile apps*. [online] InfoWorld. Available at: <http://www.infoworld.com/article/2887754/mobile-technology/how-to-choose-a-database-for-your-mobile-apps.html> [Accessed 8 Oct. 2015].

Chapterthree.com. (2015). *Wireframing Template for Sketch | Chapter Three*. [online] Available at: <https://www.chapterthree.com/blog/wireframing-template-sketch> [Accessed 24 Dec. 2015].

Client Profile. (2016). 1st ed. [ebook] Available at: <http://new.bannatyne.co.uk/spa/downloads/Medical%20Questionnaire%20Form.pdf> [Accessed 17 Jan. 2016].

Clients.imodules.com. (2015). *iModules Client Community - July 2014 Product Release Overview*. [online] Available at: <http://clients.imodules.com/s/1333/03-cc/interior-hybrid.aspx?sid=1333&gid=3&pgid=2917> [Accessed 19 Dec. 2015].

Colorsafe.co. (2015). *Color Safe - accessible web color combinations*. [online] Available at: <http://colorsafe.co> [Accessed 29 Dec. 2015].

ComputerWeekly. (2015). *The future of the tablet computer in the enterprise*. [online] Available at: <http://www.computerweekly.com/feature/The-future-of-the-tablet-computer-in-the-enterprise> [Accessed 8 Oct. 2015].

Couchdb.apache.org. (2015). *Apache CouchDB*. [online] Available at: <http://couchdb.apache.org> [Accessed 12 Oct. 2015].

Crunchbase.com. (2015). *Phorest | CrunchBase*. [online] Available at: <https://www.crunchbase.com/organization/phorest#/entity> [Accessed 9 Oct. 2015].

Designmodo.github.io. (2015). *Flat UI - Free Bootstrap Framework and Theme*. [online] Available at: <http://designmodo.github.io/Flat-UI/> [Accessed 28 Dec. 2015].

Designshack.net. (2015). *7 Tips for Choosing the Best Web Font for Your Design | Design Shack*. [online] Available at: <http://designshack.net/articles/typography/7-tips-for-choosing-the-best-web-font-for-your-design/> [Accessed 22 Dec. 2015].

Digital Accessibility, R. (2015). *How to make fonts and typefaces accessible for people with disabilities*. [online] Tiresias.org. Available at: <http://www.tiresias.org/research/guidelines/fonts.htm> [Accessed 22 Dec. 2015].

Dillon, A. (2001). User Acceptance of Information Technology. *Encyclopedia of Human Factors and Ergonomics*. [online] Available at: <https://www.ischool.utexas.edu/~adillon/BookChapters/Dillon-acceptance.htm> [Accessed 11 Dec. 2015].

DiscoverCloud Blog. (2015). *Spotlight on Front Desk: Scheduling, Accounting, Email Marketing, and So Much More*. [online] Available at: <http://blog.discovercloud.com/?p=292> [Accessed 10 Oct. 2015].

DuPaul, N. (2014). *Data Security*. [online] Veracode. Available at: <http://www.veracode.com/security/data-security> [Accessed 9 Oct. 2015].

Easyaccountancy.co.uk. (2015). *How to Become a Freelance, Selfemployed, Mobile Hairdresser - Easy Accountancy - Accountants for Freelancers, Sole traders and SME's*. [online] Available at: <http://www.easyaccountancy.co.uk/how/how-become-freelance-self-employed-mobile-hairdresser> [Accessed 9 Oct. 2015].

Easycounter.com. (2015). *Phorest.com: Salon Software - Hair and Beauty - UK for Spa Manage...* [online] Available at: <http://www.easycounter.com/report/phorest.com> [Accessed 10 Oct. 2015].

Email marketing consultant | Emailmonday. (2015). *The ultimate mobile email statistics overview.* [online] Available at: <http://www.emailmonday.com/mobile-email-usage-statistics> [Accessed 8 Oct. 2015].

End Poverty in South Asia. (2015). *Revisiting the Rules of the Game: Modular Approach to Project Design.* [online] Available at: <http://blogs.worldbank.org/endpovertyinsouthasia/revisiting-rules-game-modular-approach-project-design> [Accessed 12 Oct. 2015].

Entrepreneur. (2010). *How to Name a Business.* [online] Available at: <http://www.entrepreneur.com/article/21774> [Accessed 13 Dec. 2015].

Entrepreneur. (2005). *8 Mistakes To Avoid When Naming Your Business.* [online] Available at: <http://www.entrepreneur.com/article/76958> [Accessed 13 Dec. 2015].

Evolved.net. (2015). *PayPal PHP Website Integration Tutorial | Think Tank.* [online] Available at: <http://www.evolved.net/thinktank/web-development/paypal-php-integration> [Accessed 17 Dec. 2015].

Farris, F. (2014). *Responsive Web Design and the Acceptability Threshold: What You Should Know | DeepBlue.* [online] DeepBlue. Available at: <http://www.deepblue.com/blog/2014/05/27/responsive-web-design-and-the-acceptability-threshold-what-you-should-know/> [Accessed 15 Dec. 2015].

Ferguson, M. (2013). *14 Ways to Do Competitive Marketing Analysis.* [online] Writtent Blog Available at: <http://writtent.com/blog/competitive-marketing-analysis-14-ways-to-monitor-and-beat-your-competitors/> [Accessed 11 Oct. 2015].

Firebase.com. (2015). *Account - Firebase.* [online] Available at: <https://www.firebase.com/account/#/> [Accessed 12 Oct. 2015].

Firebase.com. (2015). *AngularFire Quickstart - Firebase.* [online] Available at: <https://www.firebase.com/docs/web/libraries/angular/quickstart.html> [Accessed 8 Sep. 2015].

Fontspace.com. (2015). *Prida02Calt font by gluk - FontSpace.* [online] Available at: <http://www.fontspace.com/gluk/prida02calt> [Accessed 13 Dec. 2015].

Foolproof.co.uk. (2014). *Making product comparison work on mobile.* [online] Available at: <http://www.foolproof.co.uk/thinking/making-product-comparison-work-on-mobile/> [Accessed 17 Dec. 2015].

Forbes.com. (2015). *Forbes Welcome.* [online] Available at: <http://www.forbes.com/sites/markfidelman/2012/05/02/the-latest-infographics-mobile-business-statistics-for-2012/> [Accessed 8 Oct. 2015].

Forbes.com. (2015). *Forbes Welcome.* [online] Available at: <http://www.forbes.com/sites/allbusiness/2014/11/17/heres-why-your-business-needs-its-own-mobile-app/> [Accessed 9 Oct. 2015].

Formget.com. (2015). *PayPal Express Checkout in PHP for Single Product | FormGet.* [online] Available at: <http://www.formget.com/paypal-express-checkout/> [Accessed 19 Dec. 2015].

Foundation, N. (2015). *Node.js.* [online] Nodejs.org. Available at: <https://nodejs.org/en/> [Accessed 9 Oct. 2015].

Freepik. (2015). *Free vectors, +78,600 files in .AI, .EPS, .SVG format.* [online] Available at: <http://www.freepik.com/popular-vectors> [Accessed 15 Dec. 2015].

FrontdeskHQ.com. (2015). *Mobile Business Manager.* [online] Available at: <http://www.frontdeskHQ.com/> [Accessed 11 Oct. 2015].

Gandy, D. (2015). *Font Awesome Cheatsheet.* [online] Fortawesome.github.io. Available at: <https://fortawesome.github.io/Font-Awesome/cheatsheet/> [Accessed 27 Dec. 2015].

GetApp. (2015). *MINDBODY Reviews, Pricing & Comparison of Alternatives.* [online] Available at: <https://www.getapp.com/customer-management-software/a/mindbody/> [Accessed 11 Oct. 2015].

GetApp. (2015). *Phorest Reviews, Pricing and Comparison of Alternatives.* [online] Available at: <https://www.getapp.com/customer-management-software/a/phorest-salon-software/> [Accessed 10 Oct. 2015].

Getbootstrap.com. (2015). *Bootstrap · The world's most popular mobile-first and responsive front-end framework..* [online] Available at: <http://getbootstrap.com> [Accessed 28 Dec. 2015].

Git-scm.com. (2015). *Git.* [online] Available at: <http://git-scm.com> [Accessed 11 Oct. 2015].

Gmazzocato.altervista.org. (2015). *Accessibility Color Wheel.* [online] Available at: <http://gmazzocato.altervista.org/colorwheel/wheel.php> [Accessed 22 Dec. 2015].

GrayGrids. (2015). *8+ Free Bootstrap UI Kits to Simplify Web Design Journey* | GrayGrids. [online] Available at: <https://graygrids.com/best-free-bootstrap-ui-kits/> [Accessed 28 Dec. 2015].

Gube, J. (2009). *Breadcrumbs In Web Design: Examples And Best Practices* – Smashing Magazine. [online] Smashing Magazine. Available at: <http://www.smashingmagazine.com/2009/03/breadcrumbs-in-web-design-examples-and-best-practices/> [Accessed 30 Dec. 2015].

Habia.org. (2015). *Industry Overview*. [online] Available at: <http://www.habia.org/industry/overview> [Accessed 10 Oct. 2015].

Heng, C. (2015). *How to Improve the Accessibility of Your Website (thesitewizard.com)*. [online] Thesitewizard.com. Available at: <http://www.thesitewizard.com/webdesign/improve-accessibility.shtml> [Accessed 22 Dec. 2015].

HJi. (2010). *How Salon Software can Benefit Your Salon Business*. [online] Available at: <http://www.hji.co.uk/hair/how-salon-software-can-benefit/> [Accessed 10 Oct. 2015].

How To Tutorials. (2015). *MySQL naming / coding conventions: tips on mySQL database*. [online] Available at: <http://anandarajpandey.com/2015/05/10/mysql-naming-coding-conventions-tips-on-mysql-database/> [Accessed 18 Jan. 2016].

HQ, F. (2015). *Front Desk Reviews, Pricing and Comparison of Alternatives*. [online] GetApp. Available at: <https://www.getapp.com/customer-management-software/a/front-desk-inc/#reviews> [Accessed 11 Oct. 2015].

HTML Atoms | HTML Tutorials, Tips, and Code Examples. (2011). *Creating Credit Card Payment Forms With HTML5 - HTML Atoms | HTML Tutorials, Tips, and Code Examples*. [online] Available at: <http://www.htmlatoms.com/elements/creating-credit-card-payment-forms-with-html5/> [Accessed 17 Dec. 2015].

Ibisworld.co.uk. (2015). *Hairdressing and Beauty Treatment in the UK Market Research*. [online] Available at: <http://www.ibisworld.co.uk/market-research/hairdressing-beauty-treatment.html> [Accessed 11 Oct. 2015].

Illustrator. (2010). Adobe.

Inc.com. (2011). *The Best Front Office Software for Running Your Business*. [online] Available at: <http://www.inc.com/guides/201107/the-best-front-office-software-for-running-your-business.html> [Accessed 12 Oct. 2015].

Inc.com. (2015). *How to Write a Great Business Plan: Competitive Analysis*. [online] Available at: <http://www.inc.com/jeff-haden/how-to-write-a-great-business-plan-competitive-analysis.html> [Accessed 11 Oct. 2015].

Intuit.co.uk. (2015). *QuickBooks Mobile Apps For Small Businesses | QuickBooks UK*. [online] Available at: <http://www.intuit.co.uk/quickbooks/accounting-software/online/mobile-accounting-software.jsp> [Accessed 7 Sep. 2015].

Ionic.io Documentation. (2015). *Quick Start · Ionic.io Documentation*. [online] Available at: <http://docs.ionic.io/v1.0/docs/io-quick-start> [Accessed 14 Oct. 2015].

JUST™ Creative. (2011). *An Introduction to Font Accessibility | JUST™ Creative*. [online] Available at: <http://justcreative.com/2011/01/26/an-introduction-to-font-accessibility/> [Accessed 22 Dec. 2015].

Kanth, K. (2015). *Zenoti helps spas, salons manage daily activities*. [online] Business-standard.com. Available at: http://www.business-standard.com/article/companies/zenoti-helps-spas-salons-manage-daily-activities-115100500296_1.html [Accessed 10 Oct. 2015].

Kissane, E. (2011). *The elements of content strategy*. New York: A Book Apart.

Knowledge.hubspot.com. (2015). *How to set up your site's navigation menus*. [online] Available at: <http://knowledge.hubspot.com/website-user-guide/how-to-set-up-your-sites-navigation-menus> [Accessed 15 Dec. 2015].

Kolowich, L. (2015). *12 Critical Elements Every Website Homepage Must Have [Infographic]*. [online] Blog.hubspot.com. Available at: <http://blog.hubspot.com/blog/tabid/6307/bid/31097/12-Critical-Elements-Every-Homepage-Must-Have-Infographic.aspx> [Accessed 15 Dec. 2015].

Kossmann, S. (2013). *The Costs and Benefits of Running a Mobile Business*. [online] US News and World Report. Available at: <http://money.usnews.com/money/personal-finance/articles/2013/08/07/the-costs-and-benefits-of-running-a-mobile-business> [Accessed 8 Oct. 2015].

Krill, P. (2015). *Google's Firebase mobile platform accommodates offline usage*. [online] InfoWorld. Available at: <http://www.infoworld.com/article/2929853/mobile-development/google-s-firebase-mobile-platform-accommodates-offline-usage.html> [Accessed 9 Oct. 2015].

Langhorn, D. (2015). *Business trends for 2015: the mobile workforce and BYOD maturing*. [online] TechRadar. Available at: <http://www.techradar.com/news/world-of-tech/business-trends-for-2015-the-mobile-workforce-and-byod-maturing-1279975> [Accessed 7 Oct. 2015].

Lengstorf, J. (2011). *Object-Oriented PHP for Beginners - Envato Tuts+ Code Tutorial*. [online] Code Envato Tuts+. Available at: <http://code.tutsplus.com/tutorials/object-oriented-php-for-beginners--net-12762> [Accessed 17 Jan. 2016].

Loempixel.com. (2015). *loempixel - placeholder images for every case*. [online] Available at: <http://loempixel.com> [Accessed 30 Dec. 2015].

Lynda.com - A LinkedIn Company. (2016). *Introducing the concept and basics of OOP from the Course PHP with MySQL Beyond the Basics*. [online] Available at: <http://www.lynda.com/MySQL-tutorials/Introducing-concept-basics-OOP/653/47356-4.html> [Accessed 18 Jan. 2016].

Mail Online. (2014). *Looking to upgrade? Map tells you which network is best in YOUR area*. [online] Available at: <http://www.dailymail.co.uk/sciencetech/article-2830284/Looking-upgrade-phone-Interactive-map-reveals-mobile-coverage-UK-tells-network-best-area.html> [Accessed 7 Oct. 2015].

Makos, J. (2015). *What Is Marketing Competitor Analysis and How to Do it*. [online] PESTLE Analysis. Available at: <http://pestleanalysis.com/marketing-competitor-analysis/> [Accessed 12 Oct. 2015].

Maps.ofcom.org.uk. (2015). *Mobile Coverage Map 2013*. [online] Available at: <http://maps.ofcom.org.uk/mobile-services/> [Accessed 8 Oct. 2015].

McGivry, A. (2015). *200+ Ionic Framework Resources*. [online] Andrew McGivry. Available at: <http://mcgivry.com/100-ionic-framework-resources/> [Accessed 17 Oct. 2015].

Media.ofcom.org.uk. (2014). *Ofcom publishes 4G and 3G mobile broadband speeds research*. [online] Available at: <http://media.ofcom.org.uk/news/2014/3g-4g-bb-speeds/> [Accessed 6 Oct. 2015].

Mediacurrent. (2015). *5 simple things you can do to make your site more accessible*. [online] Available at: <http://www.mediacurrent.com/blog/5-simple-things-you-can-do-make-your-site-more-accessible> [Accessed 15 Dec. 2015].

Medium. (2014). *Typography in Sketch 3: Linked Text Styles — .Sketch App*. [online] Available at: <https://medium.com/sketch-app/typography-in-sketch-3-linked-text-styles-9946a32af688#omekd36d> [Accessed 24 Dec. 2015].

meta.og.site. (2015). *meta.og.title*. [online] Available at: <http://tyba.com/company/phorest-salon-software/about/> [Accessed 9 Oct. 2015].

Mindmeister.com. (2015). *MindMeister*. [online] Available at: <https://www.mindmeister.com/624742814#> [Accessed 15 Dec. 2015].

Mobiforge.com. (2015). *Tutorial: Your First Mobile HTML5 App - Offline Storage / The Local SQL Database | mobiForge*. [online] Available at: <https://mobiforge.com/antenna/tutorial-your-first-mobile-html5-app-offline-storage-the-local-sql-database> [Accessed 12 Oct. 2015].

Modernuicons.com. (2015). *Modern UI Icons*. [online] Available at: <http://modernuicons.com> [Accessed 29 Dec. 2015].

Netmba.com. (2015). *Competitor Analysis*. [online] Available at: <http://www.netmba.com/strategy/competitor-analysis/> [Accessed 12 Oct. 2015].

Nngroup.com. (2015). *The Difference Between Information Architecture (IA) and Navigation*. [online] Available at: <http://www.nngroup.com/articles/ia-vs-navigation/> [Accessed 15 Dec. 2015].

Northcentralball.com. (2016). *North Central Basketball Club powered by GOALLINE.ca*. [online] Available at: http://northcentralball.com/page.php?page_id=52350#PRRz0EtBQuQZsOT o.97 [Accessed 4 Jan. 2016].

Npmjs.com. (2015). *ionic*. [online] Available at: <https://www.npmjs.com/package/ionic> [Accessed 14 Oct. 2015].

Owasp.org. (2015). *Top 10 2013-Top 10 - OWASP*. [online] Available at: https://www.owasp.org/index.php/Top_10_2013-Top_10 [Accessed 8 Oct. 2015].

Perkins School for the Blind. (2015). *Three tips to make your website accessible for people with disabilities*. [online] Available at: <http://www.perkins.org/stories/blog/three-tips-to-make-your-website-accessible> [Accessed 15 Dec. 2015].

Phorest.com. (2015). *Home Page*. [online] Available at: <http://www.phorest.com/> [Accessed 11 Oct. 2015].

Popular Mechanics. (2012). *10 Apps for the Self-Employed*. [online] Available at: <http://www.popularmechanics.com/technology/how-to/g1013/10-apps-for-the-self-employed/> [Accessed 8 Oct. 2015].

Pragmaticmarketing.com. (2015). *Competitive Analysis: Ready When They Are*. [online] Available at: <http://pragmaticmarketing.com/resources/competitive-analysis-ready-when-they-are> [Accessed 12 Oct. 2015].

PRWeb. (2015). *ProSolutions Software Announces Launch of Transcend Online, A Cloud-Based Management Solution for Salons and Spas*. [online] Available at: <http://www.prweb.com/releases/2015/09/prweb12943503.htm> [Accessed 8 Oct. 2015].

Sachdeva, K., Haller, A. and Tichanovich, A. (2015). *Firestore Tutorial: Building a Realtime App with Firestore*. [online] Airpair.com. Available at: <https://www.airpair.com/firestore/posts/firestore-building-realtime-app> [Accessed 9 Oct. 2015].

Salon Evolution. (2015). *The Advantage of Technology in Salons - As Seen In Fitness and Beauty Professional - Salon Evolution*. [online] Available at: <http://www.salonevolution.co.uk/fitness-beauty-professional-share-our-thoughts-on-the-advantage-of-technology-in-salons/> [Accessed 9 Oct. 2015].

SalonGeek. (2015). *Best salon software for 2-3 staff?*. [online] Available at: <http://www.salongeek.com/threads/best-salon-software-for-2-3-staff.283243/#post-2369547> [Accessed 11 Oct. 2015].

Screenfont.ca. (2015). *What's wrong with Tiresias? (Screenfont.ca)*. [online] Available at: <http://screenfont.ca/fonts/today/Tiresias/> [Accessed 22 Dec. 2015].

SearchMobileComputing. (2015). *What's motivating enterprise tablet adoption?*. [online] Available at: <http://searchmobilecomputing.techtarget.com/feature/Whats-motivating-enterprise-tablet-adoption> [Accessed 7 Oct. 2015].

Setter, M. (2015). *What is User Acceptance Testing (UAT testing)?*. [online] Usersnap Blog. Available at: <http://usersnap.com/blog/user-acceptance-testing-right/> [Accessed 15 Dec. 2015].

Sevilleja, C. (2015). *Build a Real-Time Scheduling App using AngularJS and Firestore*. [online] Scotch. Available at: <https://scotch.io/tutorials/build-a-real-time-scheduling-app-using-angularjs-and-firestore> [Accessed 15 Oct. 2015].

SitePoint. (2002). *An Introduction To Accessible Web Design*. [online] Available at: <http://www.sitepoint.com/accessible-web-design/> [Accessed 15 Dec. 2015].

SitePoint. (2012). *Offline Capabilities: Native Mobile Apps vs. Mobile Web Apps*. [online] Available at: <http://www.sitepoint.com/offline-capabilities-native-mobile-apps-vs-mobile-web-apps/> [Accessed 10 Oct. 2015].

Siwicki, B. (2015). *Mobile Commerce Sales will be nearly half of e-commerce by 2018*. [online] Internetretailer.com. Available at: <https://www.internetretailer.com/2014/03/10/mobile-commerce-will-be-nearly-half-e-commerce-2018> [Accessed 7 Oct. 2015].

Small Business - Chron.com. (2015). *About Mobile Hair Salons*. [online] Available at: <http://smallbusiness.chron.com/mobile-hair-salons-45506.html> [Accessed 10 Oct. 2015].

Smashing Magazine. (2012). *Finger-Friendly Design: Ideal Mobile Touchscreen Target Sizes – Smashing Magazine*. [online] Available at: <http://www.smashingmagazine.com/2012/02/finger-friendly-design-ideal-mobile-touchscreen-target-sizes/> [Accessed 29 Dec. 2015].

Smashing Magazine. (2012). *Finger-Friendly Design: Ideal Mobile Touchscreen Target Sizes – Smashing Magazine*. [online] Available at: <http://www.smashingmagazine.com/2012/02/finger-friendly-design-ideal-mobile-touchscreen-target-sizes/> [Accessed 29 Dec. 2015].

Stackoverflow.com. (2016). *MySQL: multiple tables or one table with many columns?*. [online] Available at: <http://stackoverflow.com/questions/9774715/mysql-multiple-tables-or-one-table-with-many-columns> [Accessed 17 Jan. 2016].

Start Up Salon. (2014). *Starting a Mobile Beauty Business: Perfect 10 - Start Up Salon*. [online] Available at: <http://startupsalon.co.uk/advice/starting-a-mobile-beauty-business/> [Accessed 7 Oct. 2015].

Techopedia.com. (2015). *What is Modular? - Definition from Techopedia*. [online] Available at: <https://www.techopedia.com/definition/24771/modular> [Accessed 8 Oct. 2015].

Typekit.com. (2015). *Full Library | Typekit*. [online] Available at: <https://typekit.com/fonts> [Accessed 22 Dec. 2015].

Typewolf. (2015). *Top 10 Favorite Fonts That Are Underused in 2015* → Typewolf. [online] Available at: <https://www.typewolf.com/top-10-favorite-fonts> [Accessed 22 Dec. 2015].

Usability.gov. (2015). *User Experience Basics*. [online] Available at: <http://www.usability.gov/what-and-why/user-experience.html> [Accessed 15 Dec. 2015].

Usabilityfirst.com. (2015). *About Usability | Usability First*. [online] Available at: <http://www.usabilityfirst.com/about-usability> [Accessed 15 Dec. 2015].

VagueWare.com. (2014). *Top 10 Salon Software To Streamline Your Beauty Business*. [online] Available at: <http://www.vagueware.com/best-salon-software/> [Accessed 8 Oct. 2015].

Vanity Van. (2015). *Vanity Van the UK's leading mobile beauty supplier for events*. [online] Available at: <http://vanityvan.co.uk/> [Accessed 7 Oct. 2015].

Virginamerica.com. (2015). *VirginAmerica.com's New Look*. [online] Available at: <https://www.virginamerica.com> [Accessed 12 Oct. 2015].

W3.org. (2015). *Introduction to Web Accessibility*. [online] Available at: <http://www.w3.org/WAI/intro/accessibility.php> [Accessed 15 Dec. 2015].

W3schools.com. (2015). *CSS3 @font-face Rule*. [online] Available at: http://www.w3schools.com/cssref/css3_pr_font-face_rule.asp [Accessed 22 Dec. 2015].

W3schools.com. (2015). *CSS Fonts*. [online] Available at: http://www.w3schools.com/css/css_font.asp [Accessed 22 Dec. 2015].

Wakeman, L. (2015). *Fonts and accessibility in web pages*. [online] Lois.co.uk. Available at: <http://lois.co.uk/web-design/articles/font-access.asp> [Accessed 22 Dec. 2015].

Wave.webaim.org. (2015). *WAVE Web Accessibility Tool*. [online] Available at: <http://wave.webaim.org> [Accessed 22 Dec. 2015].

WBS Online. (2015). *Mobile businesses gaining popularity - Big Solutions for Small Business*. [online] Available at: <http://www.wbsonline.com/resources/Mobile-businesses-gaining-popularity/> [Accessed 12 Oct. 2015].

We Are Social. (2015). *Digital, Social & Mobile Worldwide in 2015*. [online] Available at: <http://wearesocial.net/blog/2015/01/digital-social-mobile-worldwide-2015/> [Accessed 8 Oct. 2015].

Webaim.org. (2013). *WebAIM: Fonts*. [online] Available at: <http://webaim.org/techniques/fonts/> [Accessed 22 Dec. 2015].

Webhostingsearch.com. (2011). *25 Ways To Make Your Website Accessible*. [online] Available at: <http://www.webhostingsearch.com/articles/25-ways-to-make-your-site-more-accessible.php> [Accessed 15 Dec. 2015].

WPMU DEV Blog. (2015). *How to Make Your Website More Accessible (and 10 WordPress Sites That Are Leading the Way)*. [online] Available at: <https://premium.wpmudev.org/blog/make-wordpress-accessible/> [Accessed 15 Dec. 2015].

www.thesaurus.com. (2015). *synonyms and antonyms of words*. [online] Available at: <http://www.thesaurus.com> [Accessed 13 Dec. 2015].

www.tutorialspoint.com. (2016). *Object Oriented Programming in PHP*. [online] Available at: http://www.tutorialspoint.com/php/php_object_oriented.htm [Accessed 17 Jan. 2016].

Young, K. (2016). *A Beginner's Guide to HTTP Cache Headers*. [online] Mobify. Available at: <http://www.mobify.com/blog/beginners-guide-to-http-cache-headers/> [Accessed 26 Jan. 2016].

YouTube. (2016). *How to make a PHP Login System*. [online] Available at: <https://www.youtube.com/watch?v=d2Jmp1ZBg1Y> [Accessed 21 Jan. 2016].

Appendix I:

The research report was completed for this project in October 2015 and was a collation of the methods and findings. As identified in this final report, the main aim of the research was to answer the four research questions:

- Who is my user?
- What features and functionality does my product need?

What technology is needed to meet the user requirements?
Who are my competitors and what are their strengths and weaknesses?

Primary research was conducted using a group of participants from both the professional and client user types and secondary research was carried out using online and offline resources.

Part of the process to identify my user was to create user profiles, or personae, and to follow their journey through the website to ensure that their needs were met. The user profiles were created from results gathered after distributing surveys, conducting online focus groups and from conversations and discussion with the research participants.

The features and functionality required were also identified by using these same methods, as well as using research from analysing competitor software.

From the research, a plan was devised to implement the prototype in terms of technology required and the process to follow:-

1. Design the database and relational models, using MySQLWorkbench (MySQL Workbench, 2005)
2. Create the database using SQL, a local server (MAMP (MAMP, 2015)) and phpMyAdmin (phpMyAdmin, 1998)
3. Planning and script organisation (Object-oriented programming)
4. Create front end of app (using HTML, CSS and PHP)
5. Create back end functionality (using PHP and MySQLi)
6. Create interactivity (using JavaScript and AJAX)

The participants helped to develop a clear picture of the two user types and two personae were created as a result of this. A comprehensive list of features and functionality has been developed from all of the research conducted which is subsequently divided into three tiers of priority and key functionality has been removed which would have been implemented within the software if the time constraints allowed this.

A process was developed and refined for the technological aspect of the project and was followed after the design element of the software was completed. This process was researched using online sources, journals, blogs reports and books. Conducting the comparative analysis was helpful in refining the features and functionality list as well as forming some design concepts for the software.

Appendix II:

Going through the transcript of the focus group, the first survey and the comparative analysis again with the list of essential features from the second survey, I was able to further define the list to develop a three tiered list of 'must have', 'should have' and 'could have' features and functionality which is as follows:-

'Must Have'

- allow clients to be able to make, remove or amend a booking with their preferred technician
- allow clients to access and manage their own client record, including previous treatments
- allow clients to receive automated reminders of their appointments
- allow professionals to manage their appointments - including making allowances for location of appointment for mobile businesses

- be fully secure to prevent malicious attacks on the personal data stored on the databases and to not allow unauthorised users to access any personal information
- allow professionals to print their schedules either daily or weekly
- online documentation which can be printed and searched which includes video tutorials

‘Should Have’

- allow professionals to create a loyalty scheme for their clients
- initial set up assistance
- allow clients to contact their beautician from the app and vice versa
- to enable professionals to manage their stock and re-order supplies automatically
- to be able to work fully offline
- assist with accounting for professionals

‘Could Have’

- allow professionals to create a loyalty scheme for their clients
- allow professionals to send special offers to their clients
- a payment website for the app to be sold from
- allow professionals to advertise and market their business through the app