




LUCY COOK

PLACEMENT REPORT

An abstract background on the left side of the page, composed of various shades of green in geometric, triangular shapes that create a sense of depth and movement.

An extremely big thank you to Megan, the UX Specialist at Cirdan, for being my mentor over the past year, answering all of my silly questions and passing on her UX knowledge. I greatly appreciate the Design team for similar reasons but most importantly for valuing my input. Regardless of being a placement student, my ideas and suggestions were always taken on board and it has been so rewarding to hear such positive feedback.

Finally, a huge thank you to the rest of the team at Cirdan. They really are a great group of people to work with, have been nothing but welcoming and friendly from my very first day. I'm so grateful for my placement year as it has certainly improved my UX knowledge, I've gained an understanding of what it's like to work in a real life setting and it has pushed me to develop my professional career more than ever. It really has been a fantastic opportunity.

Acknowledgements

Cirdan is a leading provider of innovative software known as ULTRA LIS and imaging solutions, PathLite Compact and CoreLite, that enhance and speed up the diagnosis of patients. Headquartered in Lisburn UK, with offices in Canada and Australia, Cirdan are helping to increase efficiency and streamline operations in clinical laboratories across six continents. I joined Cirdan in August 2019 as a Junior UX Designer working on the development of ULTRA alongside of their design team.

Cirdan was created in 2010, and 3 years later ULTRA was acquired from GE Healthcare to start new development. ULTRA is a Laboratory Information System used by clinicians, scientists and pathologists to input patient details, create requests and track a large number of specimen samples. ULTRA is designed for high volume data entry with minimal user input, providing fast and accurate workflows to move towards a paperless lab environment. The software was originally built as a Character User Interface, later updated to a Graphical User Interface and now we are working towards implementing it on the web.



Company Overview

Mockups & Prototypes

My two main roles at Cirdan are to conduct user research to gain a better understanding of their customers' wants/needs, and to consider the user interface design in terms of presentation and usability.

As part of the design team, we have regular workshops to map out a user's journey, problem solve any questions and brainstorm screen layouts. From here, it is up to me to digitalise these mock-ups to a high fidelity. Alongside the static mock-ups, I introduced digital prototypes to Cirdan's design process which has seen a very positive impact. These aid the understanding of how a function performs correctly, thus eliminating any confusion between the designers and developers. They also allow us designers to consider every small interaction that builds the bigger picture, for example, what feedback should occur after a button is clicked.

Collection Centre

+

Add New Request

Search By Patient ID

Patient Details

Surname *

Morris

Given Name *

Dominic

Sex *

Male

Date of Birth *

22-May-1988

30 years

Request Details

Request *

T18-1536346

Collection Centre *

A&E

Accident & Emergency

Doctor *

BCA

Dr Beth Campbell

Referred Date *

17-Jun-2018

Collected Date *

18-Jun-2018

Collected Time *

11:27

Reset

test 47, UHC

2018-03-20 12:00 4.7.0.001

Geoff May

gmay, systems

Add Panel

Panel *

Requesting Lab *

UHC

Bill *

☒ Urgent

☐ Phone

☐ Fax

☐ Email

Reset

Add Panel

Panels Added

Panel Count: 4

Delete all

Panel	Name	Master	Req. Lab	Bill	Urgent	Phone	Fax	Email	
UE-0	UREA & ELECTROLYTES	BR	INV	O	✓	✓			
7DC-0	7 DEHYDROCHOLESTEROL		INV	Y			✓		
AA-0	AMINO ACIDS SERUM/PLASMA		INV	Y	✓	✓		✓	
ABI-0	ANTIBODY INVESTIGATION		INV	N	✓	✓	✓		
ASO-0	ANTI STREPTOLYSIN		INV	N					

Print

Print Default

Reprint

Print labels to

Select a printer

New Request

Create New Request

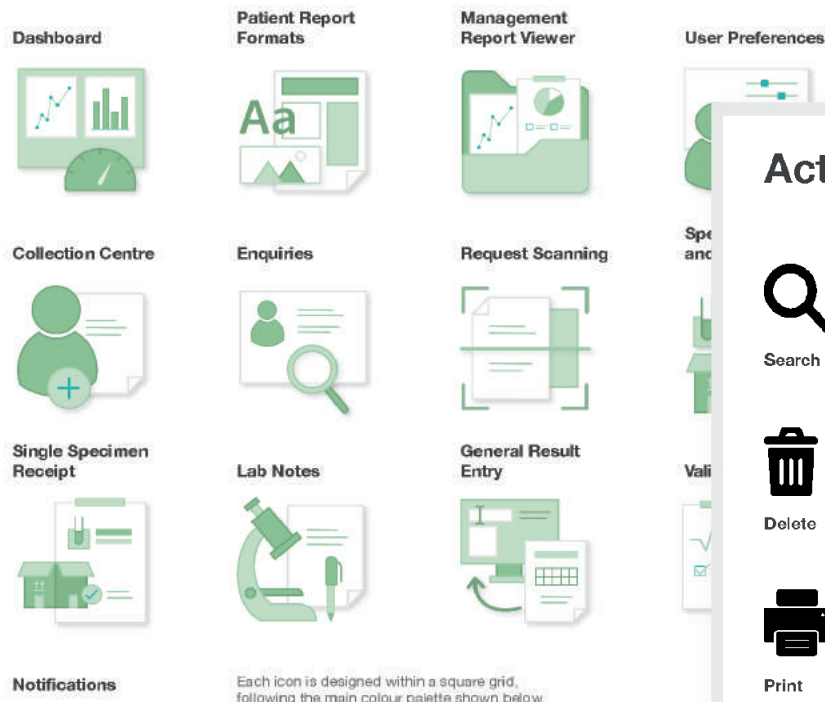
Save

My Role

Iconography

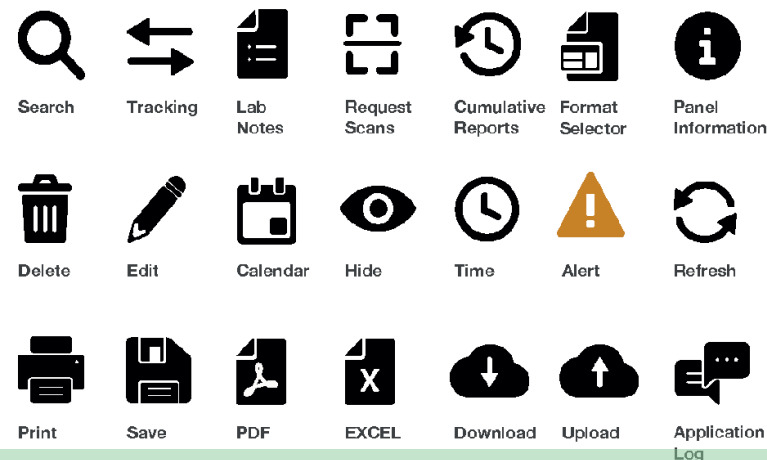
From week one, I was given responsibility for redesigning the software's icons. The existing icons required a refresh as they didn't represent their purpose and weren't consistent in design or size. To do so, I started by sketching ideas for each icon required. Followed by researching flat icon styles and carrying out 'master apprentice' exercises in order to achieve my desired style. I had creative freedom to design whatever I thought fit best, it was great to receive such a level of trust. Once I had completed a full icon set, I sent out a survey to the whole office in order to gather feedback. Later creating my first two user stories to implement the new main menu icons and new action/information icons throughout the software.

Menu Icons



#AFD3B1 #79AA79 #E5E4E4
#CEE5CD #9AC997 #FFFFFF #3BB8BB

Action/Information Icons



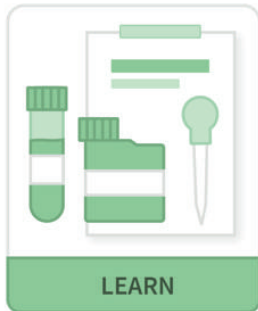
My Role

Iconography

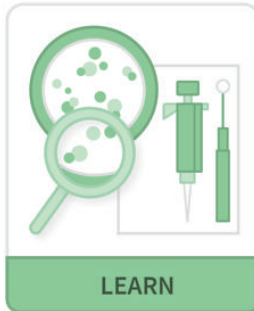
Every new icon has now been fully implemented into the ULTRA platform which is very rewarding to see my work being used. Since then I have continued to design all icons that are required, following the same style. As well as designing a variety of icon sets for our new training platform, Moodle. It is used to train internal staff and external customers, and icons were required to represent each module that is available to learn.

Moodle Module Icons

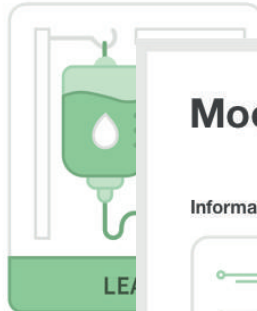
Core Module



Haematology Module



Transfusion Medicine Module



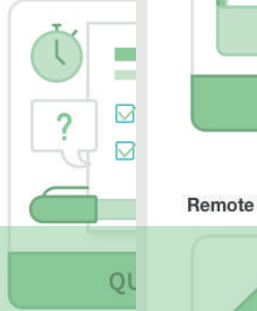
Mircobiology Module



AP Module



Quiz

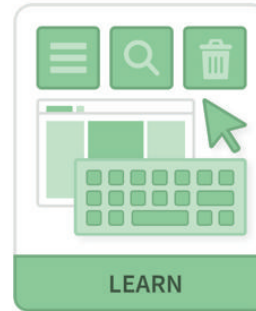


Moodle Module Icons

Information Security



Navigation



Pathlite



Remote Working



Quality Assurance



Health & Safety



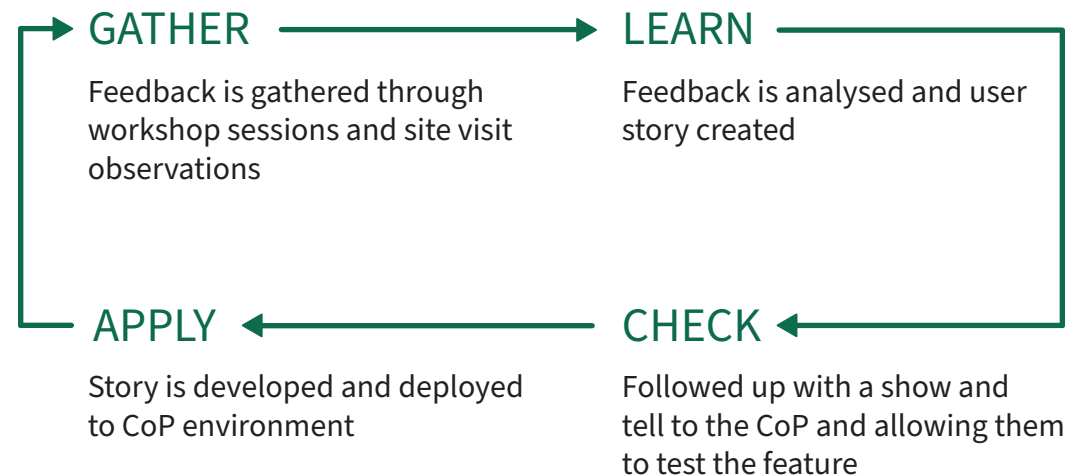
My Role

Community of Practice



Another large part of my role is the Community of Practice (CoP). This is where we set up meetings and regular trips to gain feedback from our customers regarding ULTRA. We run four different types of sessions with our user group which include demo & discussions, research sessions, show & tells and retrospectives.

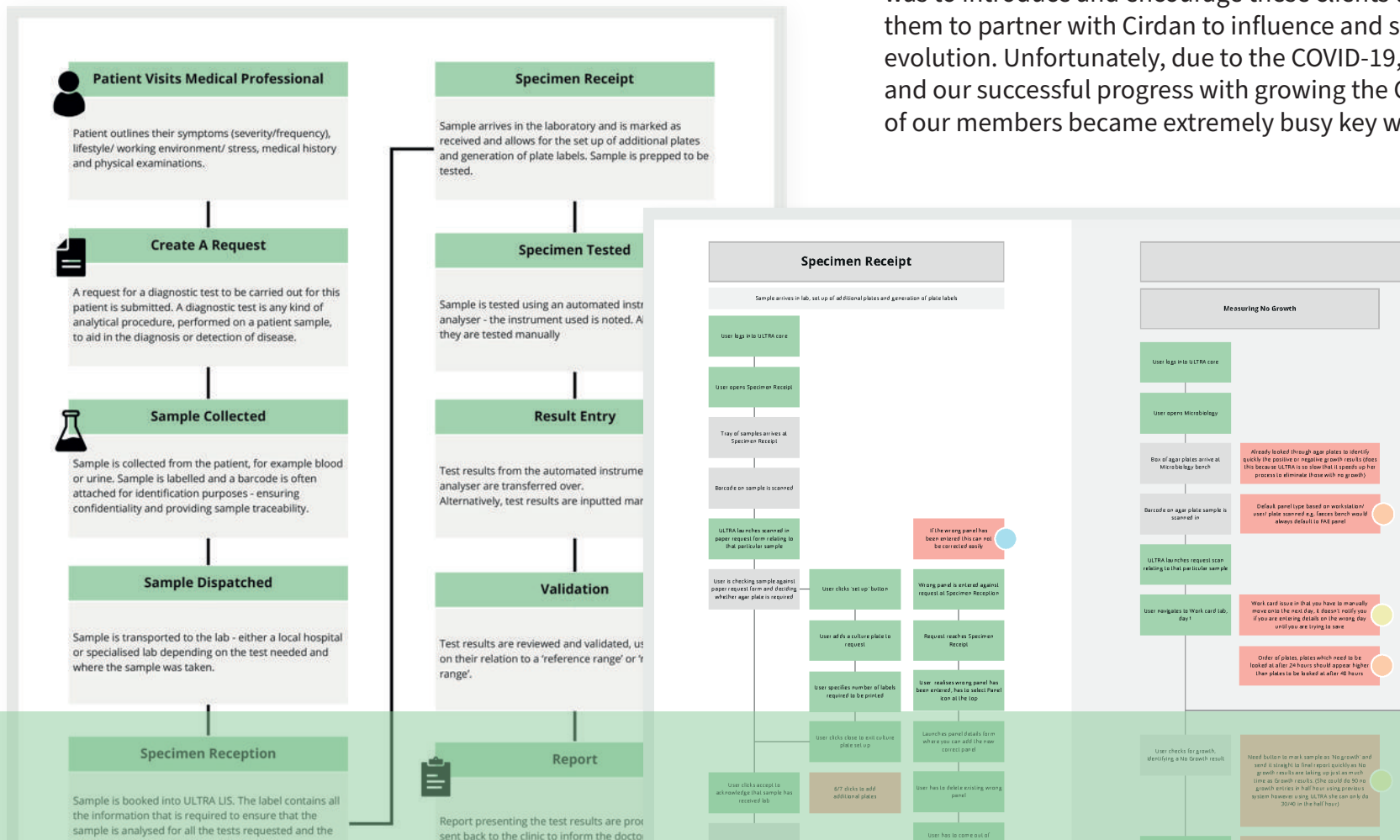
Being part of the CoP really highlighted to me the importance of designing with the end-users in mind. Understanding their wants and needs is the key to any product or service succeeding, as at the end of the day without happy users there are no customers. This works both ways, as the customers in our CoP are more than grateful for the interaction we provide. Allowing them to have input into the design of the system they use daily, helps speed up their everyday tasks.



User Journeys

In November, we visited a customer base in Inverness, Scotland to conduct an observation research session - gaining an understanding of how they were using the software. As well as holding a design workshop to gather feedback, which involved card sorting, prioritising of workflows and outlining their desired features. We gained insightful feedback and suggestions for improvement, developing our findings into a detailed user journey and empathy map of their daily workflow.

Due to the success of our Inverness trip, early this year we were meant to visit three different customer bases in Australia. The purpose of this trip was to introduce and encourage these clients to join the CoP, allowing them to partner with Cirdan to influence and shape the ULTRA product evolution. Unfortunately, due to the COVID-19, this trip was cancelled and our successful progress with growing the CoP was put on hold as all of our members became extremely busy key workers.



My Role

Design Pattern

Another major project was to review the current design pattern library with the purpose of updating it, to add new components and design a standard layout of how they are organised. Again, a very independent project which came with great responsibility that I really appreciated, seeing as I was still in my first few months. I held my first meeting through this project, to gather feedback and answer queries. After a few iterations, the new design pattern was added to ULTRA's Global Acceptance Criteria used by designers, developers and testers daily. It was my responsibility to continually add and update this file throughout my year at Cirdan.

States

Enabled

An enabled state communicates an interactive component or element.

Disabled

A disabled state communicates a noninteractive component or element.

Hover

A hover state communicates when a user has placed a cursor above an interactive element.

Focused

A focused state communicates when a user has an element, using an input method such as a key.

Selected

A selected state communicates a user choice.

Main Menu Icons

Enabled



User Preferences (UPR)
Update user preferences

Hover/Focused
Colour: #BAD7D7 Opacity: 50%



Action/Information Icons

Enabled

Disabled

Hover/Focused
Colour: #BAD7D7 Opacity: 50%



Dropdowns

Hover/Focused
Colour: #BAD7D7

Selected
Colour: #2D6A6E

Search Box

Single-Select Box

Used for small datasets, when only one option from all the values visible in the dropdown list can be selected. User can type ahead to reduce or enter choice. Selection is shown inline using text (not chip).

Before

Request Number

During

Request Number

Accession

Barcode

Doctor

Patient

After

Search Box

Allows user to search for values with sw/fuzzy matching, search starts once 2 characters have been entered. User can hit enter to insert an exactly-matched valid value, alternatively it will select the currently highlighted value from the dropdown. Should be used when there is a predefined, large set of data in the database, to prevent returning all options at once (performance considerations / security).

Before

Usual Doctor

During

Usual Doctor

AB

RHCON, MR. ABBOTT, COOPER

FARMU, MR. ABERCROMBIE, JAI

BRUG, MS. ABERCROMBIE, RACHAEL

SUBBA, MR. ABERCROMBIE, LACHLAN

My Role

Usability Testing

Further into my placement, I took part in various testing. As a design team we started conducting usability tests on each screen of ULTRA with members of Cirdan that don't regularly use the platform. We drew up instructions for the user to follow and then took note of how easy/difficult/frustrating it was for them to complete each task. We found it a beneficial exercise to help identify problem areas that required further investigation.

Occasionally, I was also required to participate in validation testing. This was something I was very new to but eager to grow my knowledge. After receiving a training session on how the testing workflow operates, I was set to conduct my own validation test for ULTRA's Web UI Access & Navigation. It was great to have some flexibility in my workdays, being assigned new tasks and different projects made every day more interesting.

ULTRA Community of Practice

Usability Test Scenarios

Scenario 1

Please find the address of the following patient:

Name: George Test
Patient ID: UHC 147852369
Date of Birth: 10/05/1957

Scenario 2

Get a list of patients who have the following patient alert:

Code: PEN
Department: Clinical Biochemistry

Scenario 3

Display a list of patients for the following doctor:

Name: Dr Hanna Dixon

Scenario 4

Find a patient with the following details:

Name: Arthur Test
Date of Birth: 19/07/1955

Access hotkey

?

Access comma

/

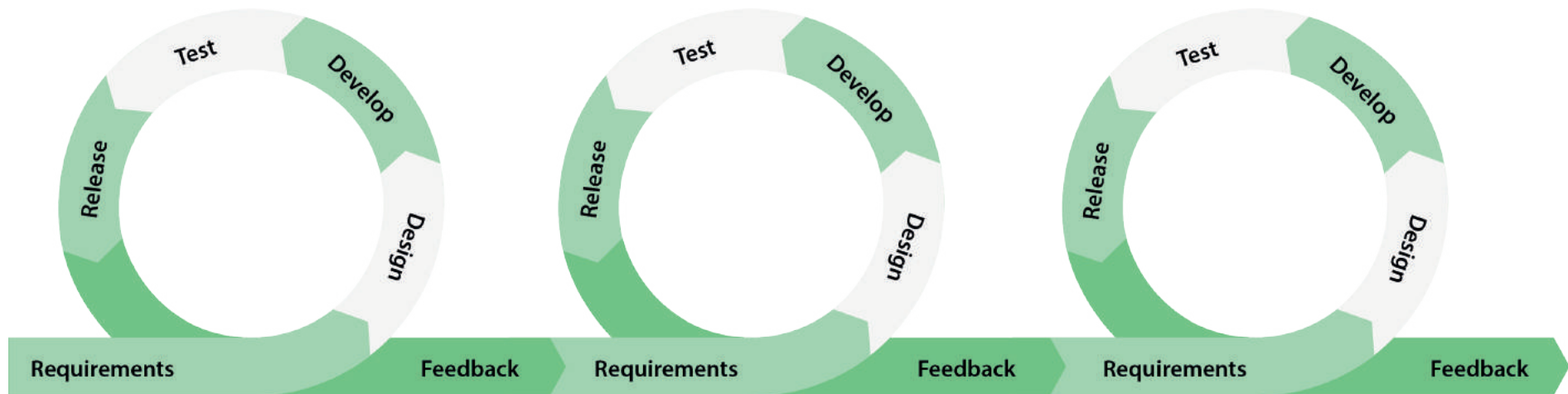
Observations & Outcomes

Scenario	Observation	Notes
Scenario 1, Scenario 4	DOB above surname field even though the surname field is the first field in focus. Have to know to tab shift to move backwards or tab through all the fields again.	Raised UCOP-144 to see if we can reorder the fields.
Scenario 1	Looked for patient ID within patient search type rather than patient ID search type.	This was due to unfamiliarity with the search types available.
General observation	Tabbed through all fields to hit search 'No F3?' instead of just pressing enter at any time.	Raised UCOP-146 to provide a consistent way for submitting forms without needing to tab to the search/submit/save button.
Scenario 1	Date formatting issues - had to be exact match.	There may have been an issue as what was entered during the test should have been valid. However, the connection to the ULTRA services went down a couple of times during the session.

My Role

I have learnt so much in my past year on placement. Something that took a while to understand was even just the structure of a professional organisation, learning new terms like scrum and agile, epics and stories. As well as the various different types of weekly meetings we had known as pre-flight, runway, sprint planning etc.

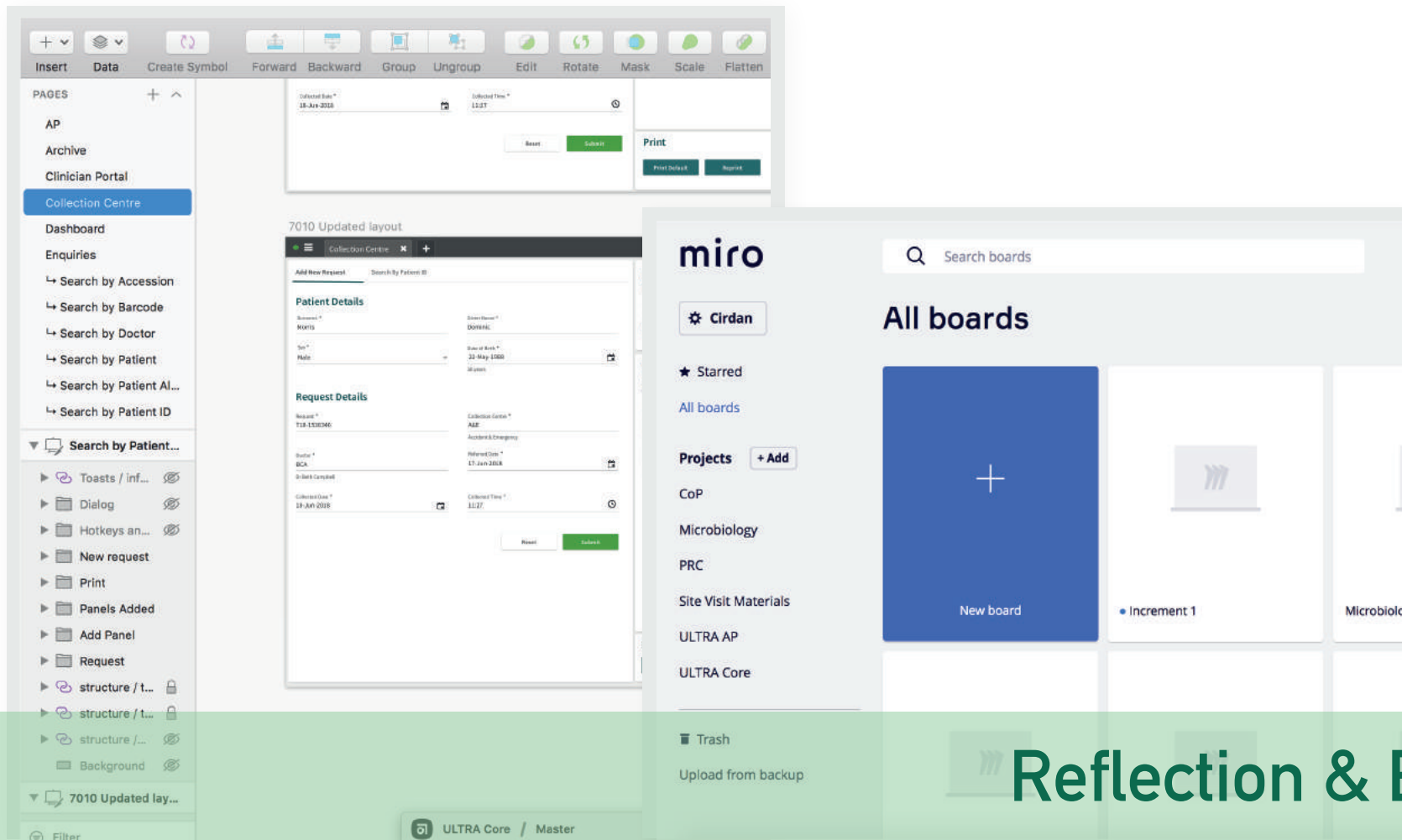
Working as part of a larger team was highlighted as extremely important. As although we can work well within the design team, we regularly need to converse ideas and knowledge with the software development and testing teams to make sure everyone is on the same page.



Reflection & Evaluation

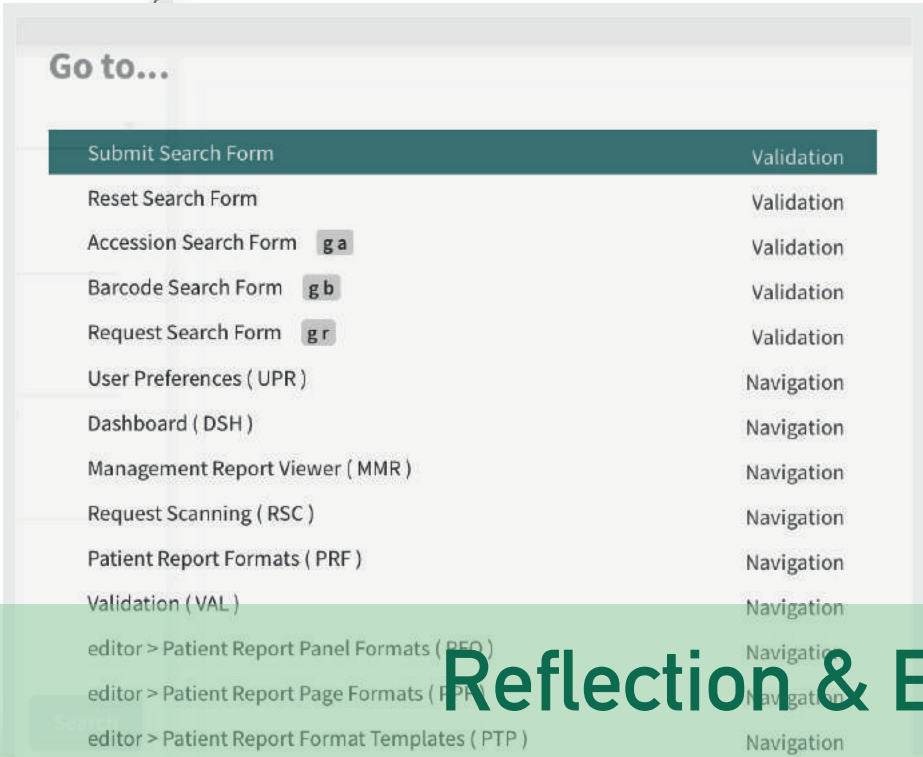
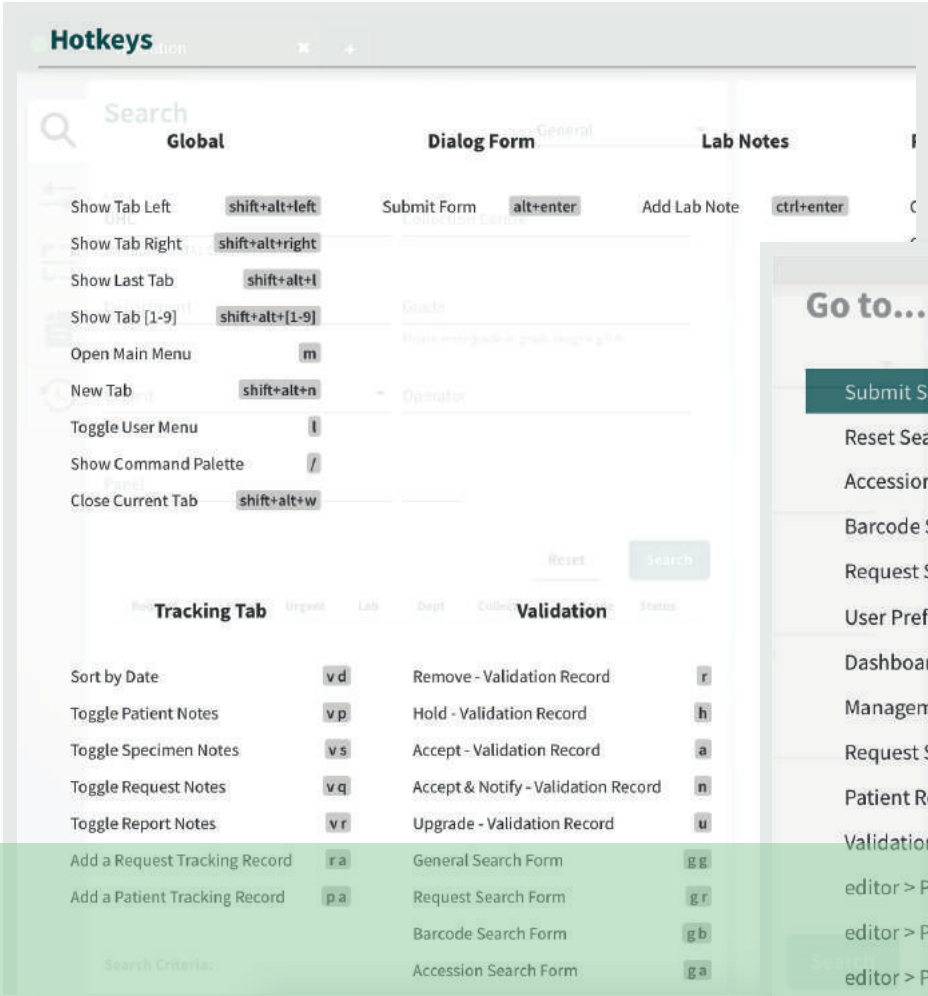
I had access to a number of new tools, most importantly Sketch as this is where all the screen mock-ups are designed. This was a program I hadn't used before, but it was refreshing to learn something different as you can often get very stuck in what you are used to using rather than exploring what's out there.

I started using Notion and Trello which are incredibly useful for keeping notes and using the Kanban board to track what work needs to be done. Another tool I now use regularly is Miro, known as a 'digital whiteboard' that allows you to easily create mind maps, journey maps and much more.



As previously mentioned, ULTRA is designed for high volume data entry with minimal user input, because of this there is a large focus on keyboard navigation. Definitely something I had never considered before but came to realise the importance. For example, clinicians booking in hundreds of requests a day under critical time pressure, there is a significant difference between one entry taking them 10 or 60 seconds, 5 or 45 clicks. Therefore, it is our job to keep their data input time and effort to a minimum, thus improving their user experience with the ULTRA platform.

To do so, we take part in workshops examining the current workflow of tabbing orders and hotkeys to explore how we can improve it. This usually involves a number of us unplugging our mouse therefore being restricted to just keyboard use. We introduced a categorised 'Hotkey Cheat Sheet' listing all the hotkeys able on the currently viewed page. As well as an intuitive 'Command Palette' which allows the user to easily navigate around the platform. And most recently, I investigated our use of hover/focused states so that the user knows where they are on the screen at all times when using keyboard navigation - a large section that was added to the design pattern.



Reflection & Evaluation

My biggest challenge was definitely having not come from a medical background. I found my training sessions extremely difficult as I had no previous knowledge of what goes on after you leave a specimen sample with your doctor. It took a long time to get to grips with typical workflows and I found myself asking many questions. Thankfully no question was a stupid question as everyone was very supportive in aiding my understanding.

Because of this initial struggle, later in the year I volunteered to develop a Cirdan Induction Pack to help with training future employees which will hopefully aid their induction period. Although it was difficult to adapt to an unknown environment, I'm very pleased at what I have achieved and hope I've provided good leadership to the new placement student following behind me.



Employee Induction Pack

WUI Core Lab Overview



User Preferences

User preferences allows individual users to define specific preferences, personalising their workspace. They currently have the ability to customise the likes of their default home screen and dashboard layouts.



Dashboard

This screen is a user configurable dashboard so users can see their outstanding/late lists or turnaround time, for example. They are created by Management Reports or BRIT Reports.



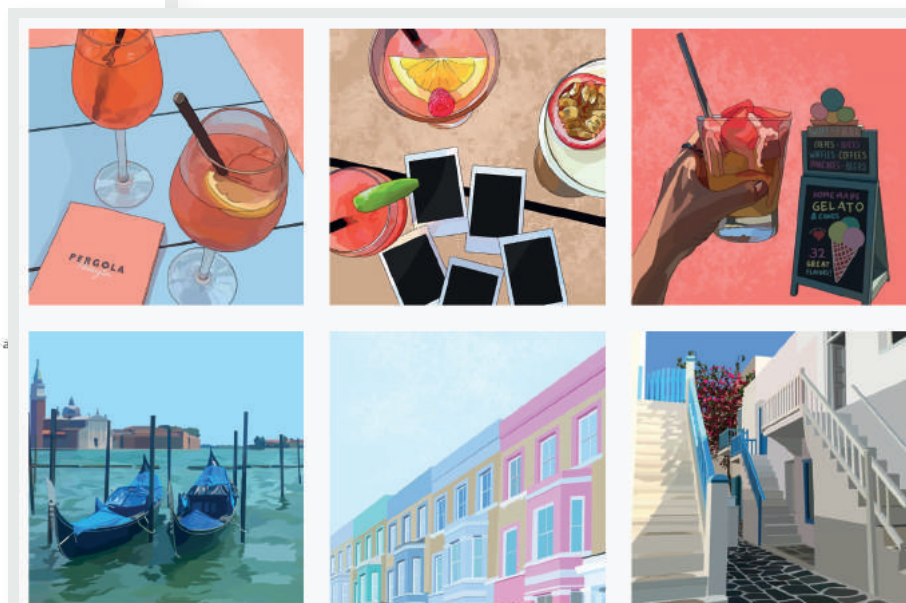
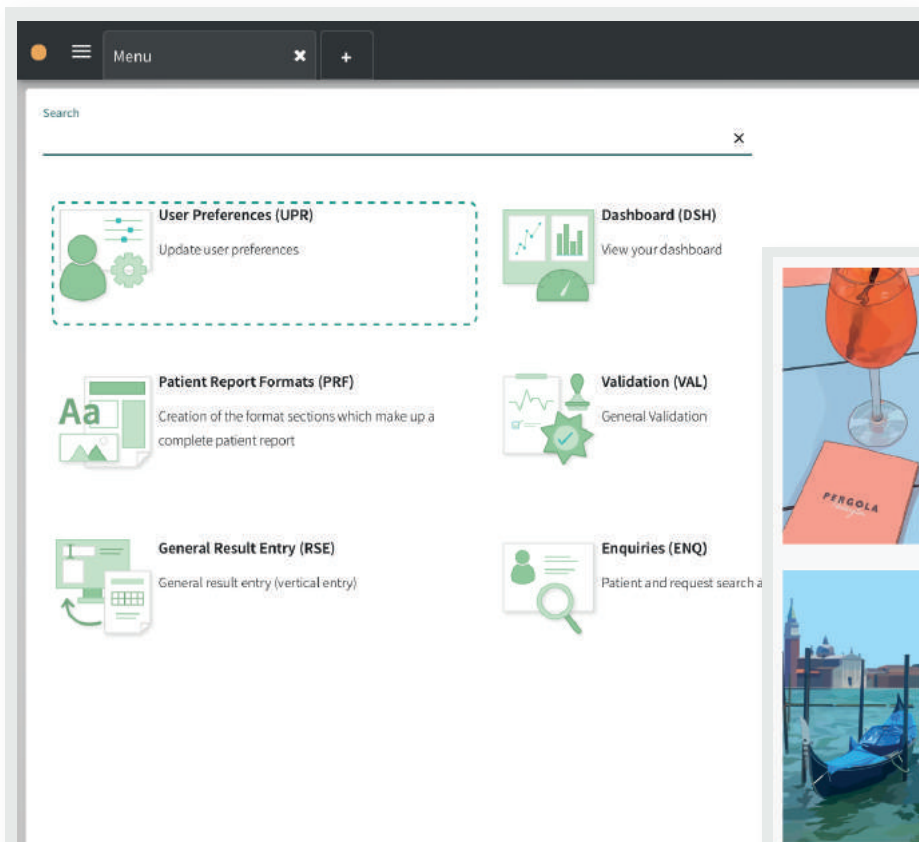
Management Report Viewer

ULTRA provide report templates and the user can customise them to suit their needs. The Management Report Viewer is used for viewing these reports. You can create profiles to filter information in management reports.

Challenges, Achievements & Disappointments

A very large achievement is seeing my ideas, icons and screen designs being implemented into the ULTRA system which is used by thousands worldwide. It's been very rewarding to receive such positive feedback from colleagues from all departments of the company, it motivates me to continually work to my best ability.

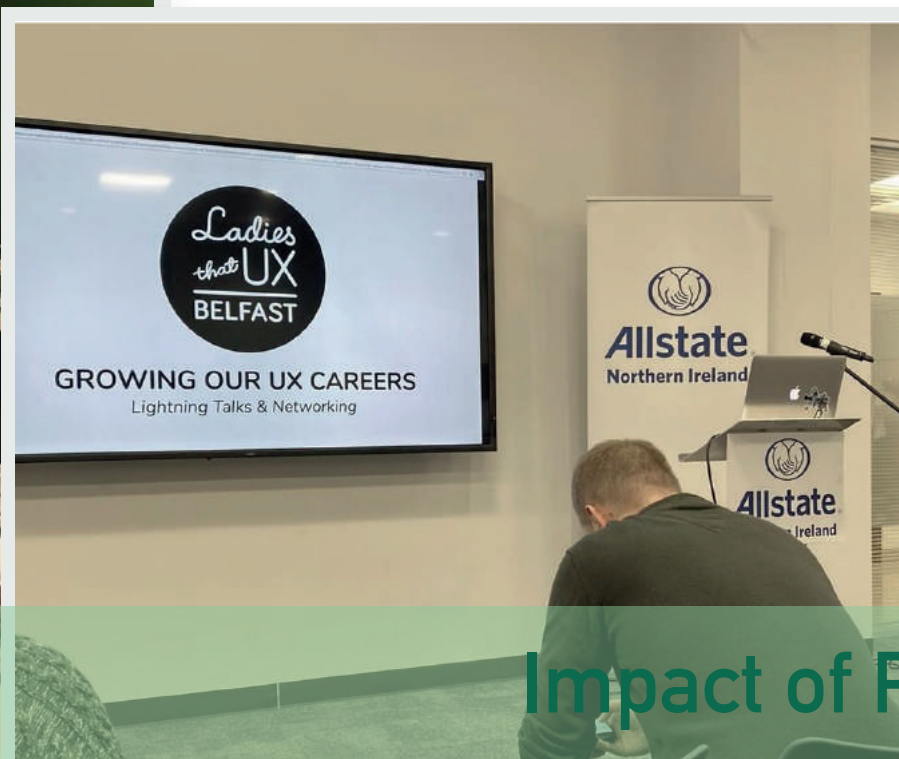
Not necessarily a disappointment but there is a lack of creative illustration work required when working in the healthcare industry. My previous projects, inside and outside of university, have always been known to be highly illustrative and although I have worked on many icons throughout this year, the colourful side of the design process does naturally lack in this type of work. Because of this, it pushes me to continue to work more illustratively outside of work through my side projects and commissions, that I've still kept up regardless of having a 9-5 job.



Challenges, Achievements & Disappointments

Placement year has filled me with a wealth of confidence that I definitely didn't have in the beginning. I started off rarely voicing my opinions in the fear that my ideas were wrong or irrelevant. However now, within the company and other ventures, I have worked really hard to put myself out there to improve on my personal development. Starting by attending more events such as the Invent Awards Night hosted by Catalyst where I represented Cirdan and got a chance to network with innovators in the industry.

In the beginning of 2020, I signed up for a number of classes at Belfast's Google Digital Garage, gaining helpful knowledge about building a personal brand. Followed by a few other design events and workshops that eventually led me to one of my biggest personal achievements. I gave a lightning talk titled 'Growing our UX careers' at the Ladies That UX Belfast event, where I spoke about how I got into UX and my experience so far. It was an nerve-racking but rewarding experience, I left full of great advice and feeling very inspired from the other 9 talks. I hope more opportunities like this will come in the future.



Impact of Placement

As well as attending events and workshops, I have tried to better my personal and professional development through a variety of other tasks. Throughout this year, I've put a large focus on developing my personal brand with a redesign of my portfolio and through social media. In order to continually improve my design knowledge, I've read various online and offline resources, and participated in a number of online courses including Google's 'Fundamentals of Digital Marketing', Antony Conboy's 'UX UI Fundamentals' and Filament's 'UX Design Masterclass'.

I've tried to keep a collection of all the important and useful information I've found along the way, allowing me to produce my own detailed yet flexible design process that should really aid me going into final year and the future.



Personal & Professional Development

I've really enjoyed my time at Cirdan, a placement year has provided me with an insight into the professional world and motivated me to continually better myself as a designer. In the beginning, I wasn't even aware there was User Experience Design roles in the healthcare industry. However, there is actually a great need for UX and for more UX professionals to join businesses in healthcare. Now going into final year, I'll be able to bring all the things I've learnt and continue to learn into a project of my own and I'm excited for what my future holds in terms of the UX design industry.

Conclusion



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