



# Silicon Croft

Cultivating Digital Skills

**The cunning plan as of Feb 2022**

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# Overview

Silicon Croft supports the development of digital skills across Shetland, with the goal of rolling out across 50% the Scottish Highlands and Islands by Dec 2023. Our approach focuses on educator engagement and collaboration, whilst sharing a wide range of resources to raise awareness and develop digital skills. We aim to integrate digital skills across the curriculum and support the development of rural digital economies

**Note: This is a live document. Where notes are highlighted in yellow, these are to be expanded further.**

## Objectives

- To promote the benefits of rural digital economies alongside founding partners, Mesomorphic.
- To develop an engagement pipeline that supports the development of both hard and soft digital skills
- To develop a sustainable model that can be rolled out across our Islands and Highlands

## What have we done so far?

1. Held CodeClub in two south mainland primary schools
2. Worked with SDS to create apprenticeship in Digital technology + Software Development
3. Engaged with schools about NASA project
4. Been active members with a variety of groups focusing on skills development
5. Developed skills hub in Dumfries as part of their digital skills hub program
6. Supported the development of a new technology apprenticeship program with SDS
7. Provided a training session in Cybersecurity to educators alongside SDS and Converged around Cyber Security - [link to article](#)

## Founding Partner

[Mesomorphic](#) - Software development based in Shetland.

## Technology Partners expectations

To support the development of engagement pipeline by sharing educational resources, and advise on upcoming technologies and skills within respective industries.

They will have the Silicon Croft logo included displayed on their website and actively highlight the movement as part of their marketing.

## Partnerships expectations

To support the development of engagement pipeline by sharing resources, and support the delivery where required. This may include assistance with developing educator engagement sessions.

They will have the Silicon Croft logo included displayed on their website and actively highlight the movement as part of their marketing.

## Raving fans expectations

To eat, sleep and breathe Silicon Croft!

To raise awareness of the movement, and to drive people to the website or other business pages. They will be ambassadors for Silicon Croft and are passionate about support digital skills and understand the potential for digital economies in rural areas.

## What is the engagement pipeline?

Our engagement pipeline starts at P5 and follows students through to Higher and Further education. A visual representation of the current pipeline is found in Appendix A

Engagement has been split into three phases:

- **Plant (P5-P7)**- Supporting initial discovery of digital skills and introduce the concepts of mapping different areas of the curriculum to digital careers.
- **Cultivate (S1-S3)**- Provide opportunities to build on basic digital skills, and get introduced to different digital careers through our virtual cafe.
- **Grow (S4 upwards)** - Create opportunities for students to put their skills into practice outside of educational environment and share pathways into chosen digital careers.

The important thing to remember here is that educator engagement is not just limited to teachers. It includes anyone who works with any of the ages identified above e.g. guide & scout leaders, youth workers, church workers etc.

## How does the Silicon Croft model work?

The pipeline has been designed to provide as many intervention points as possible to inject digital skills with the of integrating digital skills at a curriculum level. In order to do this, we have designed a number of core activities designed for the different stages of the pipeline.

## Ethos

Where possible, apprenticeship opportunities will be provided to provide additional opportunities to grow skills. There will be opportunities in at least digital marketing and

business admin. There may be opportunities for games development when developing more resources and space for probationers to become involved in the project.

## Plant phase

### Developing resource groupings

- Identify key themes such as software development, cybersecurity, digital marketing etc.
- Expand on the collaboration work we have been doing.

### 30 min educator sessions (Scratch)

Partnered with My World of Work, we deliver 6 x 30 minute sessions via WebEx. This approach removes organisation permission issues experienced with Teams. Attendance is monitored with the aim of these being counted towards CPD qualifications.

At the end of each session, each attendee receives a lesson plan (see Appendix 2) that uses the skills covered during the training session. The lesson plans use planning, implementation, demo and retrospective terminology to follow Agile methodology concepts as well as mapping Metaskills terminology found in the [SDS Metaskills](#) document to activities covered in the session.

Max of 10 participants per session to allow for conversation/Q&A. We aim to build a community of learning for our primary school educators who will be able to support each other during their learning journeys. Attendees will be required to attend 5 out of 6 sessions to benefit from the online learning approach.

### 30 min educator sessions (Maddie online)

Alongside Dr Konstantina Martzoukou from Robert Gordon University. We will deliver 6 x 30 minute sessions online using the [Maddie Is Online](#) resources.

Sign up will be closed 2 weeks ahead of start date so that hard copies of the resources are sent to attendees ahead of training.

Sessions will review learning materials and provide a space for educators to ask questions before delivering them into their learning environment.

### KPIs

- Number of attendees signing up for sessions
- Number of students submitting examples of their work into the Mesomorphic Scratch Studio

- Attendees confidence in using Scratch before and after 6 sessions.(collected by questionnaire)

## TechSheCan

## SmartSTEM

## Collaboration events

### SDS

We will continue to work alongside SDS to support the delivery of materials within schools and engage with students about different digital careers.

### Robert Gordon University

Primary school students will have the opportunity to create their own cybersecurity based stories following the principles learned through Maddie Is Online resources.

### Primary school mini hackathons

Towards the end of the school year, primary schools are invited to attend an online mini hackathon (an afternoon duration?). This will provide them opportunities to use their skills learned throughout the year on a wider project. Educators who have participated in the online training sessions will be encouraged to participate in these sessions as it will provide them extra opportunities to practice their own skills.

### KPIs

- Student enjoyment (Happy / Sad face)
- Number of schools joining in on Mini Hackathon

### Future plans:

1. Create a video for educators to give overview of agile methodology principles. There's lots of stuff out there aimed at those in a technical role but not really for our P5-P7 target audience.
2. We will start to introduce short lessons looking at how digital skills tie in with different areas of the curriculum e.g. English skills in content writing.
3. Hold competition in primary schools that can focus on creating scratch projects to be used in future engagement sessions.

## Cultivate phase

At this point we start to see several students drop off as we move into the more traditional curriculum set up.



We can use after school code clubs, we can support teachers to identify where digital skills tie into different curriculum areas. The key here is to keep the momentum going before they get to work experience level and choosing subjects/qualifications to study for.

## Moving on from Scratch - phase 1

Students will begin to change some of their Scratch projects they have worked on in P5-P7 into Block text to start to familiarise themselves with Python Code. Raspberry Pi foundation offers free courses that support educators in how to encourage this in their learning environments.

## Moving on from Scratch with Micro:Bits - phase 2

Each secondary school has Micro:Bits in their libraries, and these can be used as a stepping stone from Scratch through to block text.

Delivery of these sessions will need to be thought out more as at this point we start to see more structure in the curriculum.

## Digital Career Cafe

Our online digital careers cafe will be held during lunch times with contacts from across our networks. It will provide the opportunity for students to meet professionals and ask them questions. Attendees will be directed to the appropriate videos in My World Of Work, and encouraged to attend our Nybble courses starting in Sept 2022.

SDS career advisers will be encouraged to attend the session also to support the integration of students into the SDS engagement pipeline. It's important that this does not duplicate the work done by SDS and that Silicon Croft is not a careers advisor course. There are however opportunities to provide training opportunities for aspiring career advisors and use this as a training opportunity for those who are undergoing courses in this field.

## Nybble courses

Nybble is the name of a half byte in the hexadecimal.

We have been speaking with Shetland UHI about the development of Nibble courses that we can tie into the different careers using the National Progression Award framework. We will provide Silicon Croft / Mesomorphic certificates for students who participate to add to their progression award through school. We have a template for the certificate so that's a good starting point!

For scalability, we can look at delivering these online or as a hybrid model. Given Euans experience in delivering online lessons I think this is worth exploring.

## SDS / Digital World

### Cybersecurity resources

### Expand on the open data project

#### KPIs

- Number of students attending digitally related career cafe sessions
- Awareness of students knowledge about digital career paths
- Number of students participating in Bytesize courses and retention rates.
- Number of students doing the one day a week college sessions

## Grow phase

### Work experience (S4ish)

Traditionally we have offered slots to one or two students either in the office or online. Low numbers remotely can be quite draining, so we are now changing the model to have numerous students work together either within the same room or online (COVID-19 depending).

Students will have a week to create and run a company, based on a theme that is randomly selected at the start of the week. During the week they will need to create a strategy, a marketing strategy, a prototype and present at the end of the week.

DYW have had similar ideas for this year and we will look at how we can work together.

### Digital Xtra funding - laptops

#### KPIs

- Number of students doing work experience in Mesomorphic
- Number of students who have completed work experience and then attend hackathon

## Hackathon

We plan to launch our first S4 upwards hackathon in Shetland in Jul 2022. Location is to be determined as is the theme.

#### KPIs

- Number of students signing up
- Enjoyment (happy sad face)

## S6 course at Shetland UHI

Shetland UHI are putting together a course that looks at software & games development, and a separate course looking at digital graphics. The course is scheduled to run from August 2022 through to March 2023, where Mesomorphic will support Shetland UHI to deliver the course. Support will come in the form of workshops and learning lunches to support the students and the delivery of the material.

## Foundation and Modern Apprenticeships

There are noticeably fewer students going into Foundation and Modern Apprenticeships in digital subjects. At present this is not available in Shetland, however other highland providers offer this opportunity.

## Graduate Apprenticeships

Apprentice week is coming up in March and we will be supporting DYW Shetland / RGU with regards to Graduate Apprenticeships. We continue to be advocates for the Graduate Apprenticeship scheme and work with groups across Scotland to engage and encourage employers to

## Higher / Further Education

Ultimately we want to see more students move into apprenticeships or FE around digital careers. One challenge we have is that when we have lots of students moving into apprenticeships they may not be able to get employment due to there not being enough opportunities locally.

Currently exploring into any way we can get the work experience modules signed off using student projects /participation in career clubs etc. I quite like the idea of students creating their own companies which are then mentored by local employers if they are unable to offer them employment. Currently being explored

Open University also offer a YASS course which offer additional qualifications for schools unable to offer subjects

- Introduction to Computing and Information Technology 1 (30 credits) - [www.open.ac.uk/courses/modules/tm111](http://www.open.ac.uk/courses/modules/tm111)
- Technologies in Practice (30 credits) - [www.open.ac.uk/courses/modules/tm129](http://www.open.ac.uk/courses/modules/tm129) - Higher Computing required
- Contemporary Topics in Science (10 credits) - [www.open.ac.uk/courses/modules/sxm150](http://www.open.ac.uk/courses/modules/sxm150)
- Physics and Space (30 credits) - [www.open.ac.uk/courses/modules/sm123](http://www.open.ac.uk/courses/modules/sm123) - Higher Maths or Physics required

Inverness college offer remote FA in Software Development and have developed a course which supports teachers from a different backgrounds to [teach computing science](#).

## CodeClan

We have a regular slot with CodeClan to provide engagement sessions with their students studying both software development and cybersecurity. We use these sessions to meet current students and share with them best practises for after graduation.

## University Engagement

We are in regular contact with universities across Scotland to ensure that we are up to speed with Graduate Apprenticeships and also to provide support to students where we can with regards to resources, formal presentations

## Shetland UHI

HND & HNC students to create website

## KPIs

- Number of students going into apprenticeships or FE for digital careers

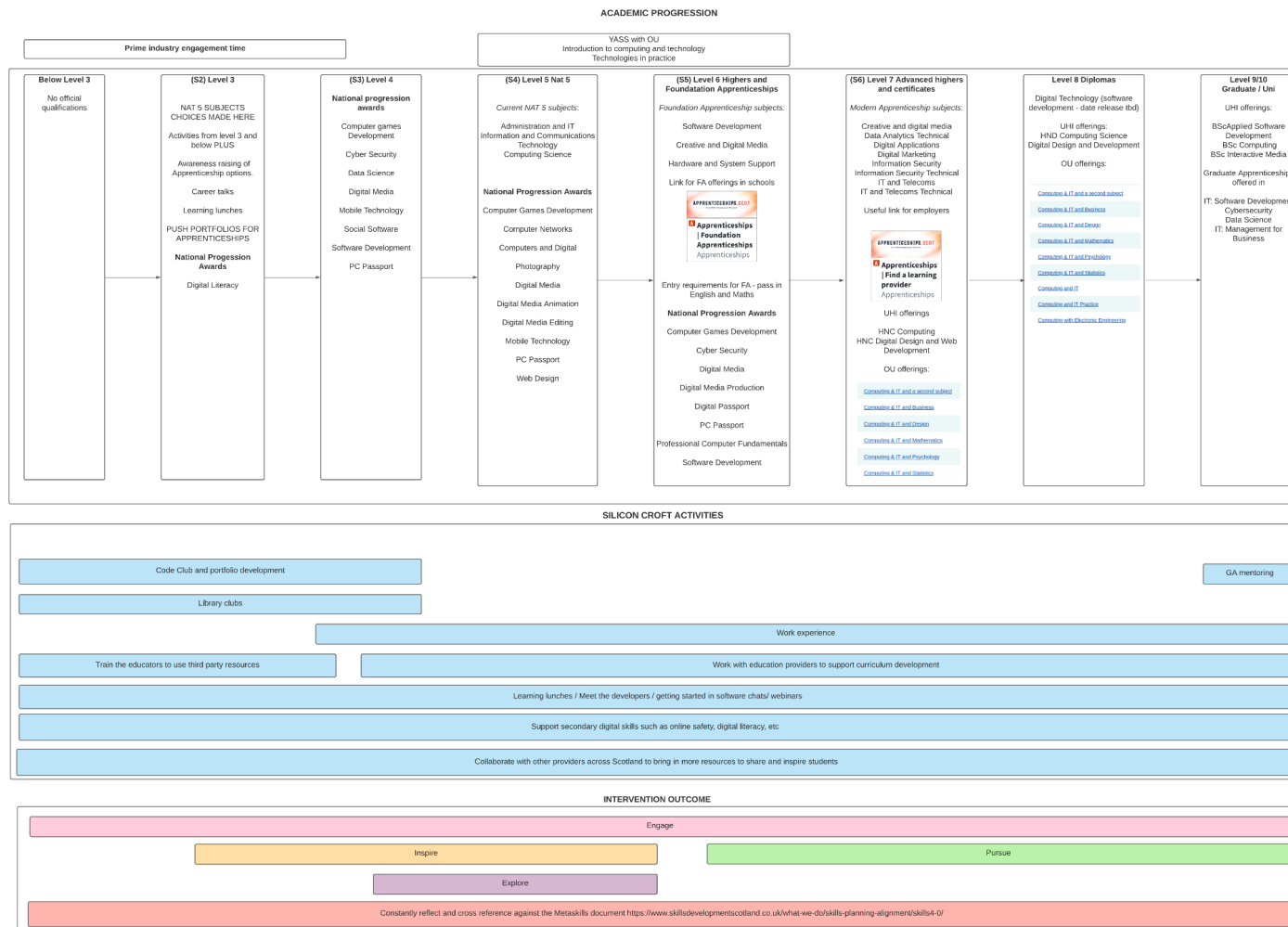
## Next steps for Silicon Croft:

- Confirm S4+ hackathon dates and location ahead of the marketing strategy meeting early Feb.
- Create a YouTube channel covering some of the content in the engagement course

## Future plans

- Use Silicon Croft as a way to tackle digital poverty in rural scotland
- Support the development of digital clusters in rural environment - Developing our franchise idea.
- College students to develop the worksite

# Appendix 1 - visual representation of Silicon Croft



## Appendix 2 - Example lesson plan

# Digital Postcard - session 2

## Final deliverable

Students will create a digital postcard based on a theme currently being covered in other classes e.g:

- Science - climate change,
- Geography - a foreign country
- English - a book currently being studied.

This can be done individually or in pairs.

## Equipment needed:

- Laptop & browser based Scratch
- Pen and paper for planning (or post-it notes!)

## Agile terminology

<b>Plan</b>	Students reflect on the chosen topic, and create user stories/design points which are captured on a KanBan board
<b>Develop</b>	Create Scratch project following the details outlined in planning
<b>Demo</b>	Share with the class
<b>Retrospective</b>	Students choose 2 things that went well, 2 things that didn't go well and 2 things that would do better next time.

## Scratch skills

### **Starting off - all these skills are covered in session #2**

- Adding a Sprite ( more advanced users could perhaps create their own?) and animating them
- Adding and animating letters
- Adding a background

### **Next steps**

- Transitioning backgrounds
- Conversing sprites (using timings or messages)

### *Potential challenges*

- Lack of imagination - students may struggle to think of a theme for their digital postcard.
- Lack of desire to plan - students often want to get stuck into the coding and not spend much time thinking about the planning. Placing a time limit on the amount of time spent planning will help focus students' attention towards thinking about their project. It may be worth getting the laptops out after this phase rather than before.
- Students use skills outside of your own skillset - use this as an opportunity to develop research and analytical skills by asking them to use Google as a tool to find answers to their questions. If there is something they cannot find the answer for, they can contact us and we will be able to help.

Agile component	Metaskill	Outcome
Planning	Focusing (Attention, Filtering)	A list of user stories ( minimum of 5) are written by students and then placed onto a KanBan board.
	Adapting (Openness)	
	Initiative (Independent thinking, Decision making, delg motivation, responsibility)	They are then placed in an order of priority, and moved from To Do → Done once they have been developed.
	Collaborating (Team work and collaboration)	Encourage students to get creative and challenge themselves through the planning phase. They may create a user story that pushes their boundaries and requires research.
	Leading (Influencing, motivating others, change catalyst)	Don't encourage too much detail at this stage, as students often find that what they planned and what they implement are two different things. These need to be captured and reflected upon during retrospective.
	Creativity (Imagination, visualising, idea generation)	
	Sense making (Opportunity recognition)	
	Critical thinking (Logical thinking)	
Develop	Focusing (Sorting and filtering)	Students refer to the user / development stories created during planning. They develop the functionality within Scratch based on their plan.
	Adapting (Self learning, openness, critical reflection)	They are to take note if their plan doesn't include a particular function or meets the requirements of final lesson deliverable. This needs to be referenced in the retrospective phase.
	Initiative (Courage, independent thinking, decision making, self belief, enterprising)	
	Communicating (Listening, Giving information and story telling)	Where students run into any challenges, encourage them to discuss with their peers, research on the internet or to simply experiment and



	Collaborating (Relationship building, team work, social perceptiveness)	<p>understand that coding can sometimes be an experiment. They can also refer back to previous examples of coding if they have any, to see if any solutions are available here.</p> <p>Students working in pairs or groups are to be encouraged to communicate, discuss and collaborate. Pair and group work is common practice within industry, regardless of the size of company.</p> <p>Encourage students to provide peer support, especially when you have students who are more confident than others.</p>
	Leading (Inspiring others, influencing, motivating others)	
	Curiosity (information sourcing, questioning, problem recognition)	
	Creativity (Imagination, Idea generation, visualising, maker mentality)	
	Critical thinking	
Demo	Adapting (Openness, Resilience, Openness)	<p>Once students have finished their projects, they submit them to a studio and they can then present their project to the class.</p> <p>Some students get quite enthusiastic when presenting, so we suggest putting a time limit on presentations to make sure that there is enough time left over for a retrospective.</p>
	Integrity (Self awareness)	
	Initiative (Courage, Self belief)	
	Communicating (Receiving Information, listening, giving information, story telling)	
	Feeling (Empathy)	
	Collaborating (Team working)	
	Leading (Inspiring others, motivating others, developing others, Influencing)	
	Creativity (Imagination, Idea generation)	

Retrospective	Focusing (Attention)	<p>Retrospectives allow students to critically review their work and identify areas they can improve on. These points can then be taken forward into their next project. Encourage your students to reflect on previous projects and demonstrate where they have improved over time.</p> <p>If they have experienced any challenges that they were unable to solve, is there any one in the classroom who can offer a solution?</p>
	Integrity (Self control, Self awareness)	
	Adapting (Openness, Self-learning, Resilience)	
	Communicating (Receiving information, listening, giving information)	
	Curiosity (Questioning, problem recognition)	
	Creativity (imagination, Idea generation)	
	Sense making (opportunity recognition, analysis)	
	Critical Thinking (logical thinking, judgment)	

## Appendix 3 - Brand report



### BRAND CREATION REPORT

<b>Client Name/s:</b>	Maria Bell		
<b>Company Name:</b>	Silicon Croft		
<b>Brand Consultant:</b>	Giles Etherington		
<b>1-2-1 Session Date:</b>	October 2021	<b>Report Date:</b>	23 <sup>rd</sup> November 2021

### SUMMARY

Dear Maria,

It was great to do the 1-2-1 session with you. I hope you found it thought-provoking. I found it really useful. I believe, from what we discussed, there is a clearer way of positioning Silicon Croft that your target audiences will find interesting and relevant.

It was also really useful to talk with Douglas, Louise and Emma. Hearing their thoughts and experiences has helped me come to some of my conclusions in this report.

Here is a summary of what we talked about. This report is designed to help you define your brand and focus on communicating the most effective messages to your target audience.

*Note: This document is designed to complement the Brand Creation Questionnaire you completed, not replace it. This report is about adding to the information you wrote down in that document, not just repeating it. It is a summary of the Brand Creation Session. So, keep both documents safe and continually refer to them.*

I have deliberately kept this report as short as possible. Your brand and key messages should be easy to explain, so a long-winded document shouldn't be required. By keeping it on the short side, it is also more likely to be read, reread, and revisited.

### Where you are now

I think the timing of this brand creation process is spot on. It is clear that the time and energy you have put into this project has been reaping benefits and Silicon Croft has grown arms and legs.

Along with that growth, the ambitions for the 'concept' have grown too. Now is a good time to bring all of those ambitions together and create a brand that all stakeholders can buy into. Different ambitions will attract different audiences to the concept.

I believe those ambitions to be:

- Raise awareness of the digital sector amongst young people in Shetland
- Raise awareness of the pathways to a career in the digital sector
- Create a sustainable pipeline of homegrown, engaged candidates for Mesomorphic (and other businesses within the digital sector in Shetland)
- Be the link between the digital sector and education/skills development agencies
- Enhance the reputation of the digital sector within Shetland
- Put Shetland on the map for its digital sector
- Make Silicon Croft the gold standard model for other rural economies around Scotland/the UK/the world.

### **Silicon Croft v Mesomorphic**

We started the brand creation session by discussing the link between Mesomorphic and Silicon Croft. Following our discussion (and discussions with the stakeholders you put me in contact with), I believe Silicon Croft has outgrown the Mesomorphic project it started out as.

I believe that Silicon Croft has developed into the ambitious 'concept' I described above.

My conversations with the stakeholders have further endorsed that belief.

Douglas said: "I think the concept is important. I'm equally as passionate about things that we can do to try and bring businesses to the Highlands and to show that, certainly as far as tech and software development is concerned, you can do it from here just as easily so you can do it from anyone else. I think the concept is important because I do see a lot of quite fractured activity. There are lots of different people all with similar kind of ideas. If we could get everyone working together, under one banner, it would probably have more impact. The fact that the Silicon Croft idea is separate to Mesomorphic is important, because I think that if you've got people who are promoting that message and they're doing so from a private business then I don't think it's got quite the same impact or it might you may struggle to get the same level of buy-in. So yes, I think having that as a separate concept that isn't a business owned by someone is probably an important thing. But, at moment, I don't know where Mesomorphic ends and Silicon Croft begins."

Louise said: "We are involved with STEM projects and things like that, not necessarily the people who run them. For example, we've done things with Skills Development Scotland on STEM projects, but it's the project we do rather than the people. Silicon Croft being the idea would be the sort of thing that we'd be able to attach ourselves to. We couldn't necessarily do things for Mesomorphic, but you could do various things for Silicon Croft."

Emma said: "If that's the concept, then it would be great for me in a way because I haven't had the opportunity or the time to reach out to the other companies that we have here. So, if there is a one-stop-shop where I could just be like I've got a session today and I would really like if we could get a real-life programmer to just spend 10-15 minutes talking to the kids at the end

of the session, then that would be great. That's the absolute ideal. From that point of view, it would be great to have just one place to go to, so it was more like a cooperative."

Emma also said: "I have to confess, I struggle myself with the concept of what Silicon Croft is. I think of it as something to do with Mesomorphic, but also to do with - don't laugh - walking and chickens.

This comment comes from your LinkedIn feed. There needs to be a clear distinction between your personal posts, posts about Mesomorphic and post about Silicon Croft.

One easy solution that will help towards this is to add another 'Experience' section to your LinkedIn profile: Founder of Silicon Croft.

This will help to separate the two and allow you to talk about the concept of Silicon Croft without it feeling like a Mesomorphic project.

You are always going to be synonymous with Silicon Croft as it is your baby and you will always be the key spokesperson and energy behind it.

We can position Mesomorphic as Founding Partner, so it is clear that it was devised by Mesomorphic. Other tech businesses can come on board as Partners, so Mesomorphic will always have top billing.

Here is a possible hierarchy:

Founding Partner: Mesomorphic

Partners: Other tech businesses

Stakeholders or Partnerships: Education establishments, youth organisations (guides, scouts, cadets, youth clubs, etc), careers advisors, young person/skills development agencies.

Sponsors: People giving you money.

Supporters: People who want to be seen as supporting, but not necessarily actively getting involved. Maybe Shetland Council and the Space Port fit into this category.

## **Your target audiences**

I like to start with your target audience/s because it is important that all thinking is aimed at them.

It is really important to identify your key target audiences and understand what is driving their purchasing decisions.

I know the trend at the moment is to niche, niche, niche. I am more of a fan of honing. I don't think you have to niche down too much, you just have a really clear idea about who you are talking to, so they think that you are talking to them.

On the brand creation questionnaire, you listed the following target audiences: Educators, policymakers, career advisers, aspiring developers, industry members.

It is good to have an idea of what each target audience is thinking and feeling. OK, without proper research, these are only our assumptions. But it is better to have thought about it, than not thought about it.

**Educators:** We can assume that educators want the best for the young people in their care. They are also overworked, under a lot of pressure, and probably don't want too much more responsibility put on them. They need to see Silicon Croft has something that is helping them guide their students, rather than adding to the workload/burden. It is important that it is seen as an opportunity.

**Policymakers:** As you mentioned, organisations like Toni Scullion are pushing for a change in curriculum with the introduction of computer science being taught in all schools. This may be the solution in the long term, but many policymakers are under pressure to make things happen quickly. You can position Silicon Croft as a solution that is industry-led, rather than leading from the top. It is quick to implement, and the results are tangible.

**Career Advisers:** Career advisers want to help young people as much as possible. Being given the information, resources and, in some cases, training to help young people become more aware of the digital sector and therefore be able to make informed decisions about it will be welcoming.

**Aspiring Developers:** Young people today are growing up in a digital world. Their heroes and role models are likely to come from the digital world: YouTubers, TikTokers, Instagrammers, gamers. Even though it is the world they inhabit, many have very little awareness of both the dangers and the opportunities within it. Done in the right way, they will be very receptive to finding out more about the digital industry. Being shown this world by someone who works in it will be more appealing than being told about it by their teachers. Being made aware of opportunities that could lead to careers with the likes of Apple or Google will be appealing to some. Likewise, being able to get a job without leaving home, or even their bedroom, would appeal to others. Many young people on Shetland won't have parents with digital sector experience, so they won't be learning about it from home.

**Parents:** Parents will be in two camps or two minds. On one hand, they want their children to have the best education and the best opportunities in life and they understand that will probably mean leaving the islands. On the other hand, some would love their children to stay. Learning about skills and careers that mean their children can work from anywhere will be encouraging.

**Industry members:** Any business owner in their right mind would want to be involved with a concept that is spearheading the industry. By positioning Silicon Croft as Shetland's virtual digital hub will encourage other local industry members to join. The wider industry will want to be seen to be supporting it.

## **Your story**

Now we know who we are talking to, we can explore how we can make you more relevant to them.

During the session, we talked about how you got to where you are now. The reason for this is quite simple: People buy people. And people love stories. If you can tell them a relevant story as to why they should use your services, they are more likely to.

Everyone has a unique story and you are no different. I have included the parts of your story, that I believe are relevant to the Silicon Croft concept. This isn't so much a factual story. It's more your personal story, which will be much more engaging. I have also written it from your point of view, as I believe that is how it should be told. But please tell it in your own words.

(Forgive me if I have got anything wrong).

Silicon Croft started as a brain dump in 2017. The other members of Mesomorphic arrived at work to discover I had filled three walls of self-adhesive whiteboard roll with ideas and scribbles.

When we started Mesomorphic in 2015, we wanted to create a software development company that did things differently and helped to put Shetland on the map for digital innovation. We also wanted to engage with the next generation of developers and encourage local young people to consider a career in the digital sector.

As with most start-ups, being busy soon took over. Even though we believe we are doing the former, we slightly took our eye the latter. OK, we were offering students work experience, but we could and should have been doing much more.

It was back in 2017 that we thought about it again. This time, it wasn't just one of the values that we wanted our company to stand for. This time, there were more practical reasons for doing it. We could see a skills gap appearing. We wanted a sustainable pipeline of young people entering the digital sector and we couldn't see that coming from local young people. So, my brain dump on that (September?) morning was me throwing out ideas of how we can engage with the students more.

The idea was born, and we christened it Silicon Croft. Why Silicon Croft? Well, 'silicon' is pretty self-explanatory – we wanted to emulate Silicon Valley. And 'croft'? What could be more Shetlands? But a croft also represents many attributes: It grows things. It develops over time. It is well established. It weathers the storm. It adjusts to its environments. It needs skilled hands to work it.

Since 2017, and since talking to primary schools, high schools, colleges and universities, libraries, youth organisations, the council, young person, skills and economic development agencies, Silicon Croft is starting to grow arms and legs. It still has a long, long way to go, but it has also come a long way in the last four years. From its humble beginnings as an idea on that whiteboard, we have grand ambitions for Silicon Croft, the local young people and the digital sector on Shetland.

We hope you will become part of it. With your support, we can achieve those ambitions.

## **Your 'what'**

Believe it or not, many businesses have trouble describing what they do. Or they describe what they do from their point of view. This doesn't help them endear themselves to their target audience.

We need to describe you in a way that gets your target audience to start thinking about how you can benefit them.

Here goes:

Silicon Croft is an industry-led initiative created to address the skills gap in the digital sector on Shetland. We do this through engaging with primary, secondary and higher/further education, youth development and skills development agencies, youth organisations and the council.

Silicon Croft's ambition is to raise awareness of the career opportunities available in the digital sector, and the pathways to employment.

Our ambitions are to (list ambitions).

### Your 'how'

This section talks about how you do what you do that is, again, relevant to your target audience.

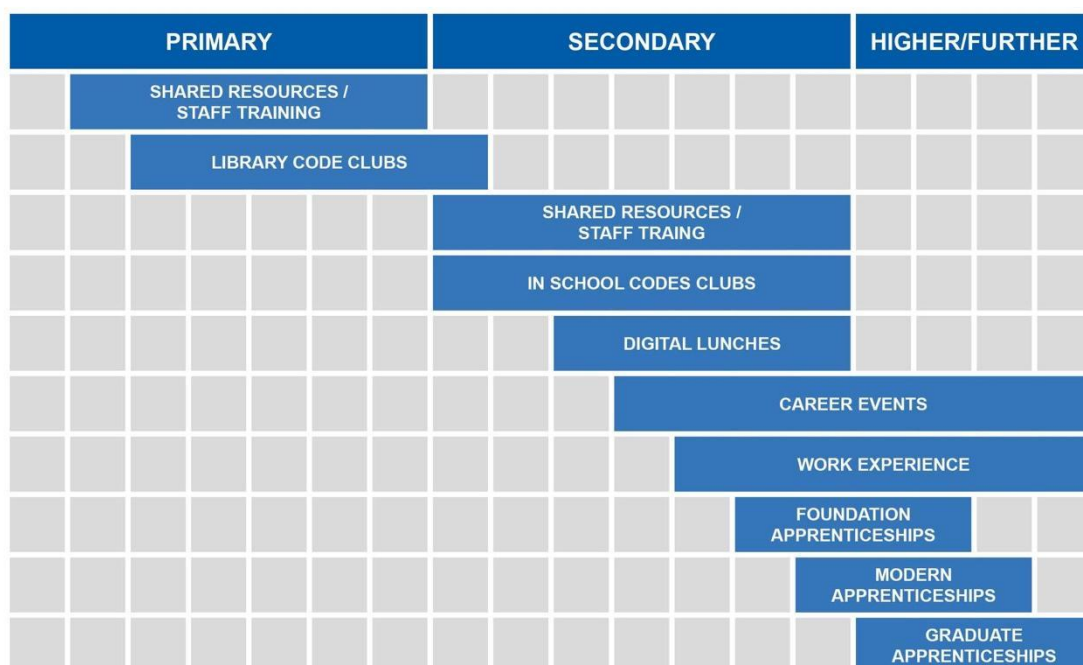
How you do what you do:

- Engage with primary schools, secondary schools, and further and higher education.
- Share resources and provide training for non-digitally qualified teachers/lecturers to confidently nurture an interest in the digital sector.
- Give young people the opportunity to gain experience through work experience and apprenticeships.
- Partner with existing digital industry activities (Big Data Show, Digital Scotland, STEM Festival, Orkney Festival).
- Put on our own Silicon Croft Festival (one day!)

We talked about creating an engagement pipeline template. I agree that there needs to be some sort of infographic about how pupils/students will engage with Silicon Croft throughout their journey through education.

This infographic will also act as a great communication tool for other stakeholders.

Here is my first stab (WIP) of it:



The outcomes you hope to achieve are:



- With all students: Raise awareness of the opportunities and pathways into a career in the digital economy
- With the majority of students: Nurture an interest in the digital sector
- With some students: Develop the future workforce of the digital economy in Shetland

The benefits of Silicon Croft's engagement with students are:

- Awareness of a different form of local employment
- Awareness of career opportunities that aren't location dependant – meaning students can work remotely from Shetland
- Development of the fundamentals of coding
- Development of the soft skills required in all industries (project management, teamwork, problem-solving, online safety, electronic document creation etc.)

There are also the little how's that make for engaging stories and personal reasons to buy in:

- Easter eggs
- CDP for educators, with certificates
- Progression certificates

## Your values

Company values are the central, underlying philosophies that guide an organisation and its employees. These beliefs also influence the way a company interacts with partners, clients, and shareholders.

Some guidelines to consider when establishing your values:

- Keep it short. Rather than writing an essay, think about the real meaning of your values. Distill them down to three or four words that the average person understands and can adhere to.
- Stay specific. Values need to tie specifically to your company's goals and mission. They should be relevant to the products or services your company offers as well as your company culture.
- Address internal and external goals. When you address the manner in which your company wants to interact with the outside world, it leaves employees feeling hopeful and inspires trust in your customers.
- Make them unique. Using the same values as other companies leave your business looking ordinary. Think of what sets your organisation apart from others and concentrate on bringing those aspects to light in your values to attract the right customers and employees.

You wrote down some values in the questionnaire. We didn't really discuss them during the Brand Creation Session. But, from what you wrote down and everything else we discussed I believe your values to be.

- 1) Working together: No one can achieve what you want to achieve by themselves. Everyone needs to work together. There needs to be teamwork at every level. Between you and whoever comes in to help. Between Mesomorphic and the other local tech businesses. Between Silicon Croft and the schools, university, youth organisations, development agencies and the council. Between the students and the business during work experience/apprenticeships, to make sure the experience is enjoyable for everyone.
- 2) Supporting and celebrating each other: Silicon Croft is all about supporting others. Supporting students through their education and career decisions. Supporting teachers,

youth workers, career advisers with the resources and training to help students. Supporting the businesses in the digital sector. Supporting the Shetland economy. As well as support, we need to celebrate achievements. This will encourage others.

- 3) Solving problems innovatively: You can't have a successful digital economy without innovation. Those within the industry are naturally inclined to solve problems with innovative solutions. This is what you want the students to learn. Silicon Croft itself is an innovative solution to the skills gap problem.

## **Your 'why'**

People make decisions guided by the emotional part of the brain. You can give them loads of rational reasons for why they should do something, but if you don't connect with them on an emotional level, they will often dismiss these and say something like 'I have a gut feeling'. If you hear this, it means you haven't connected emotionally.

If you can connect emotionally, they will use the rational points to validate their decision.

So, if you can tap into someone's emotions during the decision-making process, you are much more likely to convince them to buy.

This is why we work out your 'why'. There is a great TED Talk by Simon Sinek, where he explains that "People don't buy 'what' you do they buy 'why' you do it."

I believe your 'why' to be:

We passionately believe the digital economy in Shetland has huge potential and we want local young people to be the beneficiaries of it.

## **Your brand**

There is a lot of talk at the moment of creating your 'why'. Everyone from life coaches to LinkedIn experts is banging on about "What is your why?" This is great that more businesses are thinking about it. But, unfortunately, they think (or are being told) that once they have discovered their 'why', that is it.

For most people/businesses, their 'why' is very personal. If they bang on about it a lot of people won't care. This is because, fundamentally, we are selfish. "What is in it for me?" people will be thinking.

I believe there is a further step that needs to be taken. You need to turn your 'why' around, to make it targeted and relevant to your target audience/s. You need your target audience to understand why you do what you do, but also what they get out of it.

This takes it from being your 'why' to your 'brand'. Something they can buy into.

So, I have tweaked your 'why' to create your brand:

Giving students the confidence to explore the career opportunities available in the digital sector in Shetland.

Or: Giving students the confidence to explore the career opportunities available in the digital sector in [insert rural economy here].

I believe this brand statement gets across your passion, in a way that is relevant to your target audiences.

### **Your messages**

So, we have your brand:  
Giving students the confidence to explore the career opportunities available in the digital sector in Shetland.

You have your story that helps your target audience realise you are in this for the right reasons.

You have your values: Working together. Supporting and celebrating each other. Solving problems innovatively.

You have your 'what', your ambitions and your 'how's'.

All of these are designed to help your potential target audiences and stakeholders connect with you on an emotional level and make you relevant to them.

### **Talking to your target audience**

When talking to your audience remember three things:

- 1) Talk about who you work with, in a way that will get them to think 'That's me!'.
- 2) Show empathy with them. Talk to them in a way that shows you understand what they are going through.
- 3) Talking about the benefits of what you can do for them is more powerful than talking about what you can do for them. And remember to talk about emotional benefits, rather than rational ones.

### **Next steps**

There are lots and lots of things to do now. I have, in the Action Plan section below, listed some action points which I believe, need to be done.

But as far as the next steps go, I think the most important thing is to agree on the brand laid out in this report, get your branding sorted, and create a website.

Having a logo and a different visual look will help Silicon Croft have its own identity.

I am looking forward to seeing grow in confidence as you communicate your new brand to the world. And I am looking forward to working with you on your branding, your website and communicating your brand to your target audience.

I am really excited for you.

I hope this all makes sense. If you have any questions, just shout.

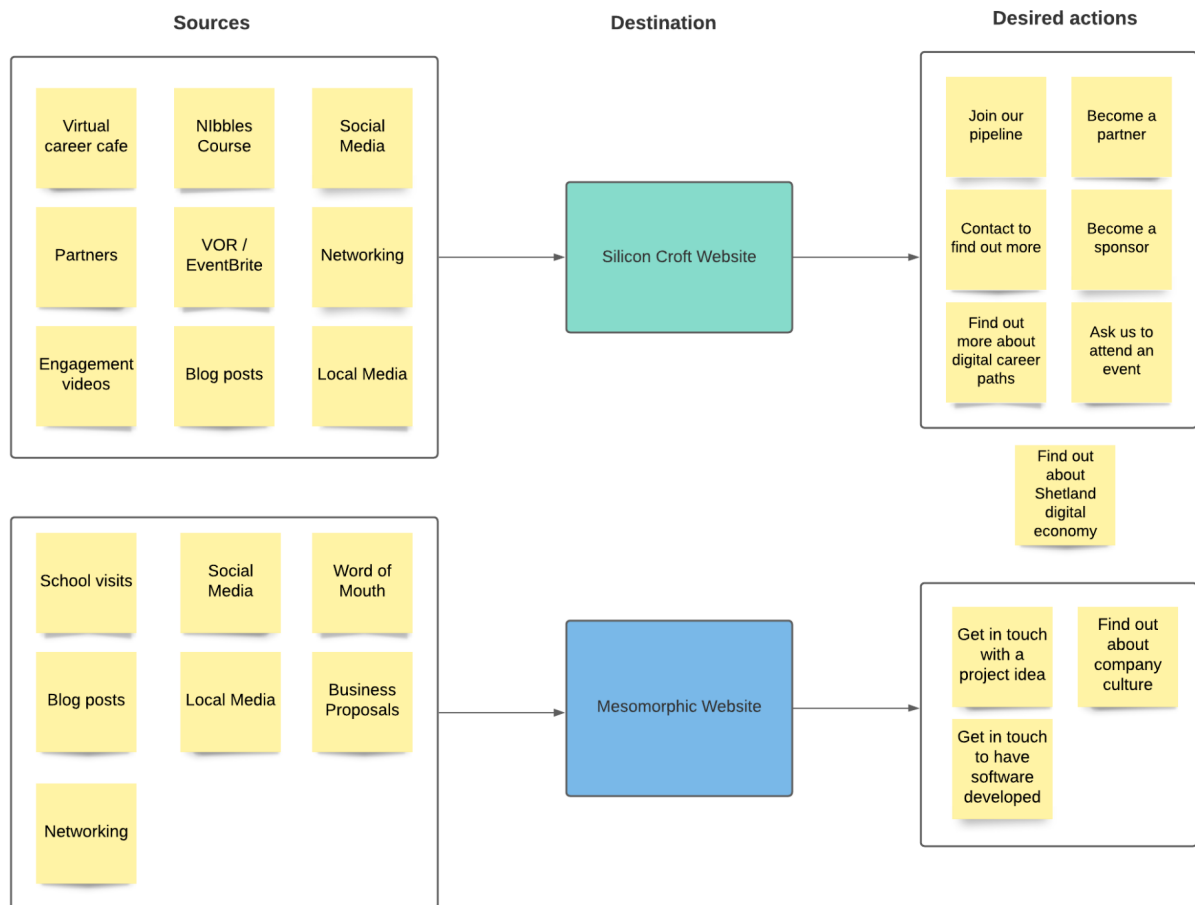
Regards

Giles

## **ACTION PLAN**

- Agree the brand
- Create the brand identity for Silicon Croft, so it has a different visual identity to Mesomorphic
- Create new content for a landing page/mini website that clearly communicates your brand, your story, your proposition.
- Update your LinkedIn profile to include Founder of Silicon Croft
- Create LinkedIn company page for Silicon Croft
- Start posting some posts on LinkedIn, clearly from a Silicon Croft perspective
- Create the engagement pipeline infographic, to visually help people understand what you do.
- Compile a library of testimonials, especially video testimonials, so people can see for themselves the benefits.
- Start compiling case studies of client successes – these make great PR.
- Get all other tech businesses signed up as Partners.

## Appendix 4 - Marketing strategy



## SMART Goals

- 1) To have 150 followers on LinkedIn after 2 months of Go Live Date
- 2) To release 1 blog a month with minimum 5 social media posts after Go Live Date.

## Digital SWOT analysis

Strengths	Weaknesses
<p>Mesomorphic have a large number of followers on LinkedIn</p> <p>Digital Skills is a hot topic just now</p> <p>Personally have a lot of followers on LinkedIn</p> <p>Posts can be cross purposed</p>	<p>Time</p> <p>Job split between Silicon Croft and Mesomorphic</p> <p>Lack of imagination to make posts stand out!</p>

<b>Opportunities</b>	<b>Threats</b>
Continue to develop marketing skills	Time
Collaboration posts	Competition
Cross marketing	Cost to take on someone to do social media
Opportunity to take on a marketing apprentice	

## Target audience - located in highlands and islands

<b>Persona name?</b>	<b>Characteristics / segment?</b>	<b>Motivations, Goals and Needs</b>	<b>What we want to deliver?</b>
Katy	Primary school teacher	To find out more about Silicon Croft and look at how she can get Silicon Croft into her school	
Bart	Secondary school teacher	To find out more about Silicon Croft and how to support students who have expressed an interest in digital careers. Also looking for ways to map digital skills across other areas of the curriculum	
Montague	SDS School Coordinator	To find out more about Silicon Croft and how to support students who have expressed an interest in digital careers.	
Felicity	DWY Coordinator	As Montague. Also looking to introduce other highland and	

		island technology companies to Silicon Croft to become partners	
Derek	Tech company owner	Interested to learn about silicon croft and how it's engaging the next generation. Interested in providing a virtual career cafe to raise profile of his company and reach talent within highlands and islands	
Martin	Parent	Has a child who has said they want to become a coder, and want to know more about it.  OR  They have a child who is interested in computers and want to see how they can support them better	
Philip	Student	Heard about Silicon Croft from his SDS career coordinator and looking to find out more. He learns about the videos for my world of work, learns about upcoming career cafes. He is directed towards	

		SDS advisors who can support his journey as Silicon Croft is not a replacement for SDS.	
Arthur	Policy maker	Works in policy and hears that Silicon Croft is a great model to support digital skills and growth of rural digital economies. Wants to find out more to see how he can support through policy decisions within school.	

## Digital communications audit

Channel Name	Website
<b>Key function</b>	To act as a signpost for all types of visitors who follow on and off page engagement. Contains key information and Calls to Action for getting in touch to find out more.  Eventually will have short videos aimed towards main target audience to increase engagement
<b>Key responsible person/ Back up</b>	Maria / ??
<b>Host location / user handle</b>	www.siliconcroft.co.uk
<b>Number of visits over past month</b>	<b>N/A</b>
<b>Typical content - text, image video etc.</b>	Text, image, video and downloads
<b>Average reach if applicable</b>	<b>N/A</b>
<b>Historical information captured?</b>	<b>N/A</b>



<b>QC process</b>	<b>N/A</b>
<b>Main KPIs</b>	Number of visitors, visitor location, number of times called to action carried out
<b>SEO notes</b>	<b>N/A</b>

<b>Channel Name</b>	<i>LinkedIn</i>
<b>Key function</b>	Business engagement
<b>Key responsible person/ Back up</b>	Maria / ??
<b>Host location / user handle</b>	@siliconcroft
<b>Number of visits over past month</b>	<b>N/A</b>
<b>Typical content - text, image video etc.</b>	Image, text, resharing blog posts, infographics?
<b>Average reach if applicable</b>	N/A
<b>Historical information captured?</b>	N/A
<b>QC process</b>	N/A
<b>Main KPIs</b>	Amount of engagement and click through
<b>SEO notes</b>	#siliconcroft, cross market with Mesomorphic

<b>Channel Name</b>	<i>Email updates to stakeholders</i>
<b>Key function</b>	To notify those on the email list that updates have occurred from month to month
<b>Key responsible person/ Back up</b>	Maria / ??
<b>Host location / user handle</b>	Gmail for email list

<b>Number of visits over past month</b>	<b>N/A</b>
<b>Typical content - text, image video etc.</b>	Text
<b>Average reach if applicable</b>	19
<b>Historical information captured?</b>	Nope
<b>QC process</b>	None
<b>Main KPIs</b>	None - only required to share information for those who have requested it.

## Search Engine Optimisation

☐ Need to add to Google Index & sitemap. Add https:// to URL

## Keywords

Digital Skills

Digital skills Scotland

Silicon Croft

Digital skills Shetland

Shetland digital economy

Digital Literacy

What are digital skills?

Soft digital skills

Hard digital skills

Digital upskill

Essential digital skills

Learning how to code

Code clubs

Mesomorphic

Supporting silicon croft

Getting silicon croft into my school

What is silicon croft?

#siliconcroft

Silicon Croft career cafe

Nibble courses

## Page Titles & meta descriptions

Page Name	Meta description
Home	
Silicon Croft for educators	
Silicon Croft for students	
Silicon Croft for the curious	

## Onpage Engagement

Relevant content - blog posts, engagement videos

Chat box? Helps with navigation and quickly finding relevant material

Hook up to Google Analytics to monitor user flow

## Offpage Engagement

Main purpose to generate traffic to the website

Type	Channel / Source	Desired outcome
Word of mouth	SDS / DYW coordinators, learning community, career events, networking, parents evenings, user community, Virtual career cafe, Nibble course attendees, raving fans	This is the best type of marketing and having referrals to the website will prove the potential for this model. It will attract students, educators and partners.
Collaboration	Blog posts, collaborative marketing	Encourages partners to buy in and reduces the need for constantly creating own material.
Award recognition	Websites, social media and word of mouth.	Promotes the viability, success and the potential for Silicon Croft
Event announcements	VOR (Shetland based folk) & Eventbrite, Virtual career cafe	Increase curiosity for Silicon Croft,
Nibble course certificate	Mesomorphic have a certificate template with a trick that leads to a secret page. We can build this into Silicon Croft also	To create an extra layer for students who crack the code.
Social Media	LinkedIn and Twitter. Medium has been suggested however it's not a platform I'm familiar with	Create a community and drive traffic to the website.

Local Media	Newspaper articles, radio	Raise awareness in local community and drive traffic to the website
Blog Posts	Website and LinkedIn	Engage the different user types and drive traffic to the website
Partner promotion	Through logos on their websites and collaborative blog posts	Piggybacking on their followers to drive traffic to the website! In the nicest way of course.
Presentations	Not sure yet...Mesomorphic presentations?	Raise awareness of Silicon Croft and drive traffic to the website.

## Content Marketing:

Content title	Content Type	Suggested channels for distribution
What are digital skills?	Blog	LinkedIn / Website
How many educators have we supported in this quarter?	Infographic	"--"
5 ways to get into software development	Blog	"--"
Learning digital skills in the Highlands and Islands	Blog / Case Study	"--"
	Testimonials from educators and students	"--"

[Trello board](#) for content marketing ideas

# Appendix 5 - Ambitions for 2022

## Ambition 1 - Regular primary school engagement

6 week block of Scratch sessions with teachers delivered online

6 week blocks of Maddie online delivered online

Regular introduction to Silicon Croft sessions delivered online to increase awareness.

## Ambition 2 - Explore charity element

Through Silicon Croft, we will look to tackle digital poverty in Scotland. By developing a process where educators can learn how to use our resources, they will be able to engage with students in their local communities to develop their skills. Where service users don't have their own devices we would like to provide them with equipment for them to learn how to use their skills.

There is potential for a partnership between Silicon Croft and CodeClan where a student who has been identified through the program as coming from a digital poverty area will provide financial support to get through the program.

## Ambition 4 - Ambassador program skeleton

Creating an Ambassador program will encourage students to become more engaged with Silicon Croft. There will be primary and secondary ambassadors, and will be open to both educators and students alike.

## Ambition 5 - Create steering group

## Appendix 6 - Digital Career Cafe attendees

# Appendix 7 - What apprentices / UHI courses can be linked to Silicon Croft

## Foundation Apprenticeship

[Business Skills](#)

[Creative and Digital Media](#)

IT:Software Development

## Modern Apprenticeship

[Business Administration Technical](#)

[Business and Administration](#)

[Career Development](#)

[Career Development Technical](#)

[Digital Marketing](#)

[Project Management Technical Apprenticeship](#)

[Youth Work](#)

## Graduate APprenticeship

[Business Management - Business Analysis](#)

[Business Management: Project Management](#)

[IT: Software Development](#)

## UHI Courses

[CPD Additional Teaching Qual in Computing studies](#)

CPD Introduction to Cyber Security

## HNC

Administration and Information Technology

Digital Design and WebDevelopment

Visual Communication

## HND

Administration and Information Technology

Digital Design and Development

Visual Communication

## BSC (Hons)

Applied Software Development  
Visual Communication and Design



# Appendix 8 - IP

Trademark - Silicon Croft

Copyright - Logo

URL - [www.siliconcroft.co.uk](http://www.siliconcroft.co.uk)

## Appendix 9 - Case study 1

Alongside SDS and Converged, we delivered virtual training to 7 attendees in Shetland based on a new cybersecurity resource focusing on ethical hacking.

Quotes from attendees:

“This course reinforced what I already knew about cybersecurity and added new, up to date knowledge. The How to Rob a Bank resource is a fun way to highlight a serious issue about security and would be a real hit with our Coding groups. Thanks for an informative session.”

“The training was excellent – clear, concise and pitched at a level, which could be followed, with ease, by slower elements of a group, while allowing the more confident or experienced elements to progress at a satisfying rate.

The “Rob a Bank” resource is perfect for this purpose, allowing others to catch up, with assistance if required, while the more confident learners can amass their “ill-gotten gains”.

It was also a timely wake-up call for us all, as to the issues around digital security, which we can pass on to learners, along with appropriate advice as to how to reduce such threats (“reduce digital footprint” being the one which stuck most in the mind).”

“I thought the event was well structured with good and relevant content. I certainly think there are parts of this course which could work effectively in the south of Scotland. Many thanks for the invitation – it was certainly worth attending. “

“Really enjoyed this session. From a total novice’s experience and just thinking about moving forward, talking to parent groups etc it might be fine to have a follow up with some time to actually update your own devices and work out what you might actually need. I feel this has highlighted to me how little I actually understand about protecting my own data (besides the obvious of not writing down passwords/using social media!)

Maria and the Digital World team have created some amazing resources and delivered an engaging and thought provoking session around Cyber Security. Absolutely loved it and would highly recommend to ANYONE, you don’t have to be interested in IT!!!!”

“An absolutely fantastic training session – really informative and enjoyable! “

Tech She Can (after 9th Feb) - online and watch with children

Tech for safety and security

Tech for sport (product design)

Tech for the planet (new one) product design

Tech for space

Tech for the pandemic

Tech for energy

Lesson packs