AYODIGITAL

Sinetic

POC iOS app

Authors: Matthew O'Connor

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Version: 1.0

sage pay
Approved Partner

ISO 9001
REGISTERED FIRM

brightcove
AUTHORIZED PARTNER

NON-DISCLOSURE

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Contents

1   PROJECT

The development of a POC application based on the brief supplied by Sinetic on 4/4/13

2   PLATFORM

iOS iPad

3   TOOLS

3.1   Approach 1: (Tested)

Graphics to be handled using either Ogre3D in C++, or NinevehGL which is Objective-C based. Audio to be managed by OpenAL and created by the Synthesis Toolkit (STK). GUI to be handled by libRocket.

4   DESIGN BRIEF

4.1   Tasks and Estimates

Wireframes:

In-depth screen flow, look and feel, requirements of each screen and how they interact with each other in the entire application. As well as the defining the UI Controls and Human interaction.

Requirements from client:

General Look and Feel description for the application, such as icon designs, colour schemes that the client has their mind set on.

4.2 Task	4.3 Time (Hours)
Wireframes of App Flow	5
Screen Mocks	8
Combination Design	3
Total Time:	**16**

5   3D ASSET MODELLING:

To create the 3D models for the environment and the element objects that can be placed within the environment.

Requirements from client:

Specifications for each of the element objects and how they should be designed, e.g. A Tetrahedron for Helium, Cube for Mercury etc.

A specification for the environment model, how it should look, what it should contain, i.e. 1 peak of 200 metres above sea level, 1 trough of 245 metres below sea level, etc. A drawn map would be useful if possible; otherwise the environment shall try and resemble what is shown on the POC.

5.1 Task	5.2 Time (Hours)
Creation of Environment	6
Creation of Objects	4
Animation Orbit Designs	4
Total Time:	**14**

6   2D GRAPHICS DESIGN:

To create designs for the icons and images based on the clients look and feel.

6.1 Task	6.2 Time (Hours)
Icons	5
Buttons	5
Total Time:	**10**

Total time cost for designing the application is estimated at the top end of 40 hours, this estimate will be reduced if the client supplies any of the above assets such as icons, buttons or any of the 3D models.

7   DEVELOPMENT PLAN

7.1   Framework

To set up and the project and the tools within, to include model loading and creation of asset loading and asset management such as Audio and Graphics. As well as Data models and defining a saving and loading structure.

Estimated work breakdown:-

7.2 Task	7.3 Time (Hours)
Audio Framework	12
Graphics Framework	12
GUI Framework	6
Data Structures	6
Total	36

7.4   Environment

Development of the environment screen and its various properties such as scaling, open/closed behaviour, temperature and the Graphical user interface and touch controls to interact with the environment and adjust the properties.

Estimated work breakdown:

7.5 Task	7.6 Time (Hours)
Multi Touch Controls	3
Environment Properties	13
User Interface	6
Total	22

7.7 Objects

Development of the various objects and the properties associated with the objects and how they appear and act within the environment. Development of the collision detection, model attributes, and various data structures. Implementation of the GUI for selection of the object from one of three defined materials. Includes object modelling and animation for the notation shell orbits.

Estimated work breakdown:

7.8 Task	7.9 Time (Hours)
Graphics	9
Selection HUD	7
Properties	8
Object Factory	6
Total	30

7.10 Audio and incorporation

To implement the audio properties and effects for each of the objects. As well as defining the reverb effects and the adjustments that the environment elements have on the audio. As well as audio, ensuring that the objects interact with the environment in a desired manner.

Estimated work breakdown:

7.11 Task	7.12 Time (Hours)
Shapes	6
Environment	6
Shape Mechanics	6
Audio Mechanics	6
Total	24

7.13 Saving and Loading

To define a save and load protocol to be used by the application, ideally in a form like JSON or XML written out into a binary file. Then to define and develop the necessary data to be written to the file so that the app can be loaded successfully in the future with no missing information.

Estimated work breakdown:

7.14 Task	7.15 Time (Hours)
Protocol Define	3
Implementation	10
Total	13

7.16 Testing and Rework.

Testing of all the key features from the POC and resolving any issues or making any adjustments required.

Estimated work breakdown:

7.17 Task	7.18 Time (Hours)
Testing	8
Rework	8
Total	16

Total time estimated to complete the POC described currently sit at 141 hours or 18 working days according to the specification and the above breakdown.

8 COST

The total cost for the project comes to ***£11,800.00 ex Vat***

AYO can therefore offer the following two options:

1. ***Preferred***- £6,000.00 funded by Newcastle Science City leaving a balance of £5,800.00 payable over the period of the project.

2. £6,000.00 funded by Newcastle Science City leaving a balance of £5,800.00. The balance of which can be paid over a 6 month instalment program offered to Sinetic.

9 DEVELOPMENT PROCESS

To assist AYO with the delivery of the project, the team would follow a specific methodology, fundamentally underpinned by the Unified Process. This is an iterative system of identifying, designing and refining keys aspects of a solution across both College sites and associated sites.
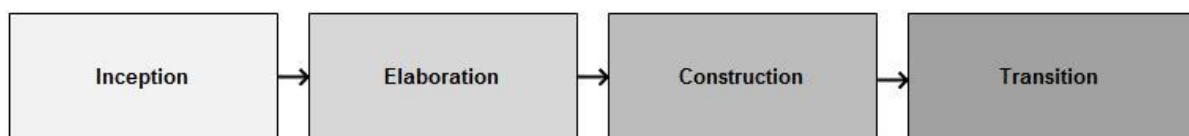
9.1 Goals and scope

To help understand the overall project requirements, the team would analyse current information provided to recognize project goals and the scope for delivery. This would allow a series of Key Performance Indicators (KPI's) to be identified and used to measure the overall success of the project. At the same time, the high-level scope for the solution should be documented and agreed by both parties.

9.2 Stakeholder meetings

Ultimately, this time would be spent listening to you, capturing ideas and getting clarification from groups of stakeholders as to their specific requirements from the project. The meetings would be interview-led and structured around the following groups of key stakeholders:

- Groups with initiatives that depend on the site, for example, services with marketing campaigns that need to have information presented on the site
- Groups that need to support the processes directly behind the site, such as providing content, entering and managing data
- Sales, product management or consulting services, such as phone or online support or anyone who deals with the public face-to-face
- Management and consulting services, to represent the services being presented
- Human resources, for meeting recruitment objectives
- Public relations, for presenting information to the public and media
- Any groups responsible for other relationships that need to be developed as part of the project and that will influence its design, such as relationships with partners or local businesses

9.3   Kick-off meeting

Once the requirements of the stakeholders have been gathered, the goals and scope of the project clearly defined, key members of the project team and stakeholders would meet to clarify project roles and responsibilities and to discuss the feasibility of the project requirements and goals within the timeframe.

From this point onwards, we would begin to compare and contrast stakeholder and project team requirements with user requirements. "Are the needs and frustrations of the stakeholders, identified earlier in the process, similar to our users'?" If so, how do we resolve these challenges and if not, how can we propose a new system and gain an understanding of how users will interact with it?

9.4   Competitor analysis

At this stage, we would gather a range of information about related websites and systems, from both observational and/or data-driven research, where applicable. Using Heuristic Analysis, we would look at how other systems and websites resolve similar processes and how effective they are at it. (Heuristics is an analysis based upon common user experience design practices).

9.5   Focus groups

Focus groups involve bringing together a variety of people within a target audience and facilitating a discussion with them. Alternatively, we use personas in conjunction with the focus group, where key stakeholders and members of the project team 'assume the identity' of typical target users. Common goals might be to elicit opinions on relevant topics, such as past experiences of using Sinetic's website or services, related needs, feelings, attitudes and recommendations or expectations of the proposed website.

If you're designing a site or system for multiple and varied user groups, like the Sinetic website, the focus group can be a great way for both the project team and stakeholders to fill in the gaps in their understanding of how people are interacting with a current website or system and how they might respond to something new.

9.6   Personas

Personas are about putting the project team and key stakeholders in their users' shoes. We use personas to provide insight into who your audience is and what their expectations and behaviours might be.

Personas are documents that describe typical target users. With appropriate research and descriptions, personas can paint a very clear picture of who is using your website and potentially even how they are using it.

9.7   Card sorting

In a card sorting activity, participants (working either individually or in small groups) would be given items, such as council services, printed on cards and asked to put them into groups that make sense to them. They would either group them into categories that are provided beforehand (called a closed sort) or they would make their own group and title each group themselves (called an open sort). At the end of the round of card sorting you should begin to see common patterns emerge in how people are sorting the items, as well as common areas of confusion or disagreement.

We would do this to aid in the creation of a site map for the website and to create a hierarchy of content, categories and subcategories containing items such as articles, documents, videos or photos.

9.8   Information architecture

Drawing together all of the findings from the initial stakeholder meetings, focus group, personas and card sorting tasks, we would begin to design a coherent system which addressed the expectations and requirements of a specific user set. At this stage, we would primarily make decisions about navigation and content categorisation; creating detailed site maps and ensuring that categories and subcategories of information are distinct and user friendly.

9.9   Wireframes

In collaboration with the stakeholders and the project team, we would bring together all of the requirements and implement a proposed design solution. As a blueprint for the site, wireframes are crucial in defining layout, interaction, information flow, navigation and functionality, prior to the build process. During development, the wireframes act as a first point of reference.

9.10   Usability testing

We create high-fidelity wireframes which would serve as a prototype, which would then be utilised in task-based ethnographic research. This involves organising a group of test volunteers (usually individually) to perform a series of pre-defined tasks, which are then observed and analysed by our User Experience Design team. The findings inform the project team and stakeholders as to the effectiveness of the proposed design solution and provide a series of design recommendations.

9.11   Creative design

A visual skin would be applied based upon the wireframes, prototype and branding. Visual design is crucial in both resolving the design process into a useable and accessible system and in nurturing a trust relationship with its users.

The user experience design process doesn't stop here. Throughout development, our clients and users are kept at the forefront of everything we do. The personas act as a particularly good point of reference for the project team and stakeholders alike, meaning that we can make important design and development decisions based upon what is best for the target user set, rather than the project team.

9.12   Interactive/engaging user experience

We feel the key to delivering a complete user journey for all types of users will be based around not just an intuitive, fun and visually engaging user face with clear navigation; but the tie in with mechanisms that maintain and develop user relationships; beyond using the site for just planning a visit.

The best way to look at this is by user type, giving consideration to what can be built into the site that will encourage repeat visitors, that enhances the fun and visually engaging visual and that incorporates the latest web technologies.

10 QUALITY ASSURANCE

10.1 ISO 9001

AYO Digital is an ISO 9001 certified business. This certification is only achieved by about 5% of UK businesses and this prestigious award is supported by the Government and recognised world-wide.

The certification emphasises our commitment to systems management and the importance we place on meeting our customers' needs.

10.2 Standards

All development undertaken by AYO Digital is built to specific web standards that are outlines by the W3C and related industry organisations. Any software developed will use the Microsoft development guidelines, ensuring consistent and structured design patterns, guaranteeing that best practice is always adhered to.

10.3 Monitoring

All projects are constantly monitored by the Project Management team. This involves ensuring that all projects are built on-time and to the specific requirements defined during the specification phase.

The Project Management team also act as the point of contact for development-related client communications.

10.4 Testing

Throughout the development process the technical team will constantly use the following testing methods to ensure a robust solution:

- **Unit Testing** – Tests individual components of the system
- **Build Testing** – Tests the entire solution for server errors
- **Selenium Testing** – Allows automation of repeat manual tests
- **Manual Testing** – Physical user testing

As per your brief we will allow final BETA testing period of no less than 10 days with frequent weekly meetings.

10.5 Reporting

Upon project inception, the Project Management team will provide the following reports and documents:

- **Project plan** – Complete breakdown of deliverables and milestones.
- **Client contact reports** – provided after each meeting.
- **Weekly progress reports** – Outlining work in progress, work completed and project delivery risks.
- **Content plan** - outlining deliverables and dates.
- **Change request documents** – If clients identifies the need to change project specification.

11 PROJECT DELIVERY

Following project inception, AYO Digital will aim to deliver the website within **xx days.** The delivery date may be further reduced with the availability of resources.

12 HOSTING

As part of this solution, AYO Digital would recommend hosting the website and management system on the Microsoft Azure cloud platform. This ensures that the entire solution is scalable and contained within a secure environment. The service provides complete redundancy and back-ups of data which minimise the risk of downtime or data loss. This is hugely cost effective when compared to a standard web hosting service.

Alternatively, AYO Digital offers fully-managed hosting facilities for websites and applications that have been developed internally. All solutions are hosted on our Windows Server 2008 and a Microsoft SQL Server 2008 platform. This is located within a Tier Three data centre, connected directly to the UK Nexent fibre optic network and providing maximum hardware support and reliability. The hosting environment is **ISO 27001 Information Security Approved** and all hardware installations are **IS0 9001 Quality Management Approved**.

13 ACCESSIBILITY

AYO Digital tests and validates all of its sites thoroughly against the relevant standards, XHTML, CSS, WAI Guidelines. Each comply fully with DDA regulations and W3C guidelines, and can be viewed effectively with a variety of assistive devices. All sites are regularly tested against WCAG 1.0 and ATAG 1.0 and are built to be at least AA compliant. AAA compliancy can be achieved if specifically requested by Sinetic.

14 SECURITY

A first step of security would be to apply an SSL (Secure Sockets Layer) certificate to the website; this encrypts all data sent from the web browser back to the server to prevent eavesdropping; the more expensive the certificate the better the level of encryption.

The second step is to protect the data stored in the database; as a standard we hash (applying an algorithm to the word that makes it unreadable) all users passwords, this cannot be reversed so the password cannot be revealed if the server was compromised.

As an addition to this we could then encrypt (applying an algorithm to the word that makes it unreadable) sensitive data such as people's names and addresses, the can be reversed to be revealed but it need a set of secure keys to be able to do this. This can also be taken one step further and encrypt the entire database, meaning nothing is left human readable but has a longer load time as all data need to be unencrypted to be display on the website.

Once you apply the above features then the last step is hardware (the location and servers that are hosting the website and database); Windows Azure hardware is hosted behind a firewall which means only certain people can access the hardware from certain locations and this can be tightened up as much as is required so extra rules can be put in place to lock the hardware down even further.

15 AFTER CARE

15.1 Training

Initial training would be provided to individuals within the Sinetic team. They can then decide whether they would like to extend the training to other staff members.

Additional training following the initial demonstration of the CMS will be charged at a rate of **£200 per session**.

15.2 Technical Support

AYO Digital offers a support package that is available throughout weekdays between the hours of 9.00 – 17.30. Should a fault be found within your product, our support team will assess and resolve the problem. Unless a support contract is in place, an hourly rate outlined in the cost breakdown will be charged.

If required, SINETIC can choose to take a support contract with AYO v, which will guarantee a fixed number of support days per month. Custom support packages can be arranged for a client's specific requirements.

15.3 Warranty

Following user acceptance testing (UAT), AYO Digital offers a 4 week warranty on all its software. Any faults or defects that are found and reported to AYO Digital within this period will be fixed with no additional cost.

16 PAYMENTS

AYO Digital offers single or multiple payment schedules that can be adapted to best fit the requirements of the client. If a multiple payment schedule is requested, invoices will be raised in respect to the work in the following suggested proportions:

- 25% on contract signature
- 25% on wireframe sign-off
- 25% on start of user acceptance testing (UAT)
- Outstanding balance of costs on system completion

AYO Digital operates on a 30 day invoice period.

17 CLIENT ACCEPTANCE

If the above proposed solution and terms meet your approval, please sign below and either scan and email to Matthew at matthew@ayodigital.com or post to the address below to indicate your acceptance of this proposal and acceptance of our Terms and Conditions of business.

Client Name: _____

Position within Company: _____

Client Signature: _____

Date: _____

APPENDIX A – ABOUT AYO DIGITAL

Since its formation in 2008, AYO Digital has been driven by digital solutions and fuelled by client success. Employing progressive technology to deliver high-performance web systems; it is now one of the leading manufacturers of the digital world.

AYO Digital embraces and nurtures the new breed of online engineers, producing digital products from websites and web applications, to CRM tools and business management systems.

Its experts are amongst the best in the field of programming, designing, building and online marketing. Every product is delivered to at least the industry standard. In addition, each product looks exquisite and delivers cross-browser compatibility to enhance user experience and accessibility, which guarantees clients the highest quality technological solutions.

Working with AYO Digital is about evolution. A team of creative and skilled experts who all listen first, think second and explore third. This is when the AYO Digital engineers come to life; they delve deep into the core of the problem to build a specialist solution around it, changing and enhancing your business process.

With a great deal of experience in the digital world, AYO Digital has worked with some of the UK's biggest corporations. This, amongst other things, makes the company bold, dynamic and innovative; it means the team brings a breadth of knowledge with technological experience to the fore and the end result is a manufactured solution that delivers enhanced performance and increased efficiencies, which help to drive profitability for clients.

17.1   Services

Development of websites

Web development is the core skillset underpinning all projects undertaken by AYO Digital. Our front-end and server side developers are highly experienced in website development for large scale and commercial grade solutions. AYO has worked with companies such as Gateshead College and Gentoo Group to deliver exciting and dynamic websites to large and interactive audiences.

Development of SaaS applications

When building large-scale solutions, AYO Digital usually develops a service-oriented architecture (SOA). This is the very technology that underpins SaaS applications. To do this, the development team either builds on SOAP or REST request services, which are a standardised format for web services. By utilising these, it is possible for highly-scalable, cloud based web applications to be developed. This ensures that both the customer and their end users transactional process is fluid, regardless of the volume. AYO Digital has helped SaaS for organisations such as Renault, Realtime Claims and Newcastle City Council.

Development of mobile applications

AYO prides itself on being market leaders in the delivery of mobile application. Over the last year we've had the opportunity to work on a number of projects that have seen traditional desktop services mobilised for both business and customer use. Our in-house development team pride themselves on utilising the most up-to-date mobile practices across multiple device types.

Development of business process software

AYO Digital fits with the new economy of fast and agile product development and new system integration at a low cost; by building effective business management systems allows companies to rapidly innovate and explore new market opportunities.

This speeding up process can come in forms of a quotation management system, a research management system, a claims process form or a property and asset management application. AYO Digital manufactured such software for clients such as Acritas, Realtime Claims and AAF International.

Integration of different software to fit business processes.

3rd party integration is an excellent way to speed up business processes, by including applications such as CRM, ERP and face-to-face video it is possible to centralise data and provide a powerful core to a business.

For Pattinson AYO Digital installed Rightmove integration, whilst Gentoo Group needed to assimilate with their 3rd party customer management system. e-Quality Learning needed an accessible video platform which people with varying abilities would be able to easily access and understand.

17.2 Team

AYO has a team of 25, with the below planned organisational structure:
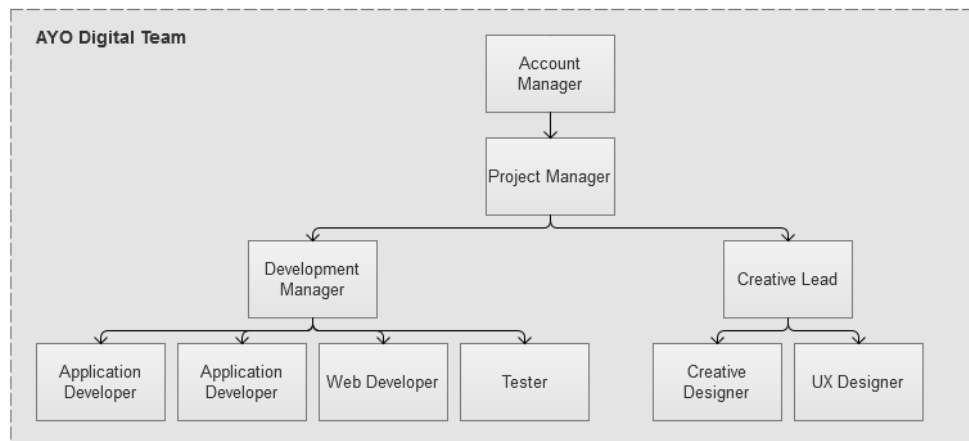
APPENDIX B - CASE STUDIES

17.3 Case Study - AAF International

AYO Media is currently the global-software provider for AAF International, the world's largest provider of air filtration equipment. Our team was contracted to develop an internal web-platform that would allow management of their internal quotation process. Our solution allowed the centralisation and standardisation of all their customer, product and quotation data. It also provides automated generation of all output documents, reducing overheads within the business massively.

This software is currently utilised in the UK, Dubai, North America and most of Europe.

AYO Media is currently undertaking the redevelopment of the UK website.
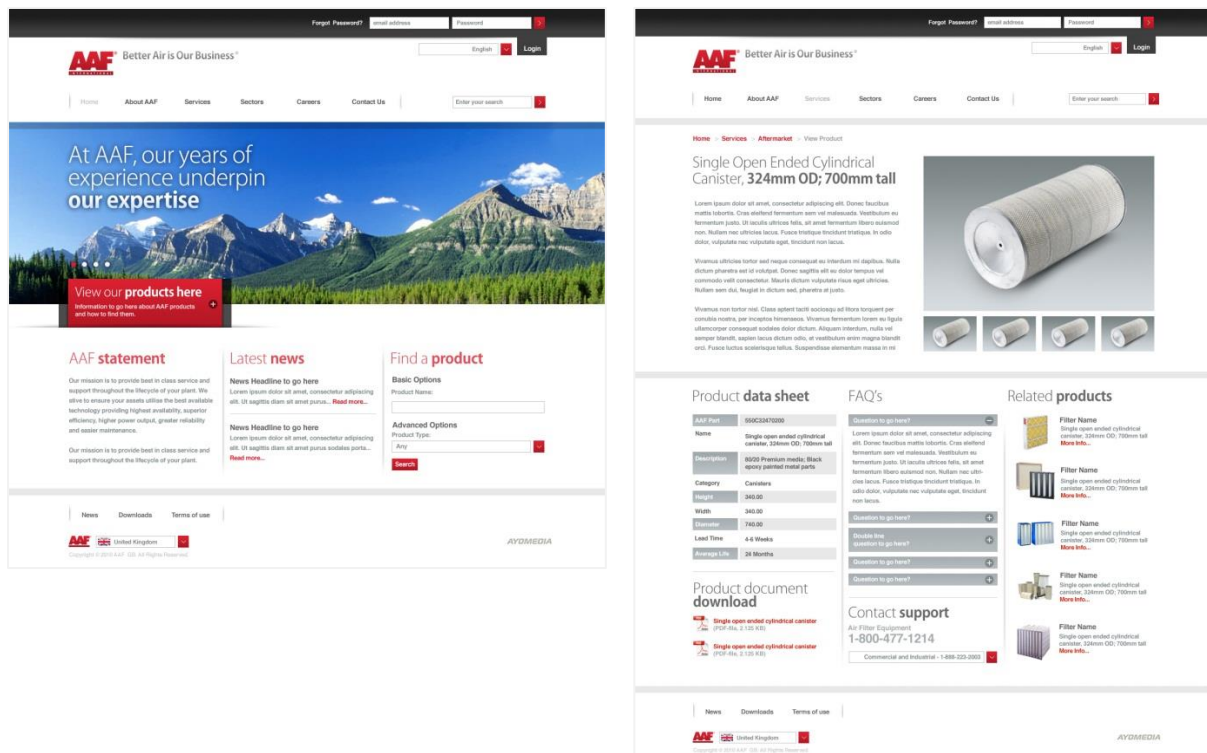
AAF referral

Name: James Ross

Title: Head of Aftermarket

Tel: 01670 556 336

Mobile: 07976 135 539

Email: james.ross@aafgb.com

Case Study – Gentoo – www.gentoogroup.com

When Gentoo needed to consolidate their websites and digital assets into one system, they commissioned AYO Digital to research, plan and undertake this project. Following a significant requirements gathering process, the team delivered an enterprise-scale platform that provides complete content management control to the Gentoo team. This was built as a bespoke solution, as opposed to an off-the-shelf product, which would not necessarily meet the specific requirements of their business.
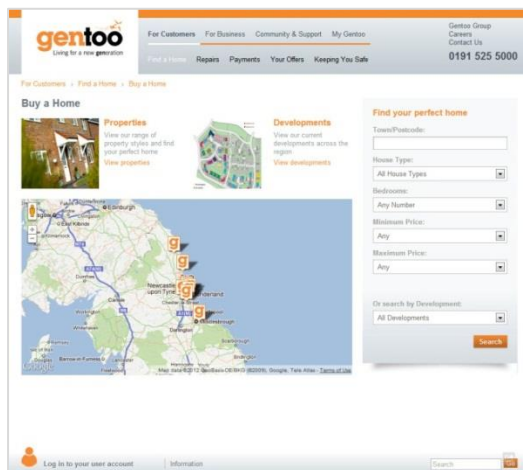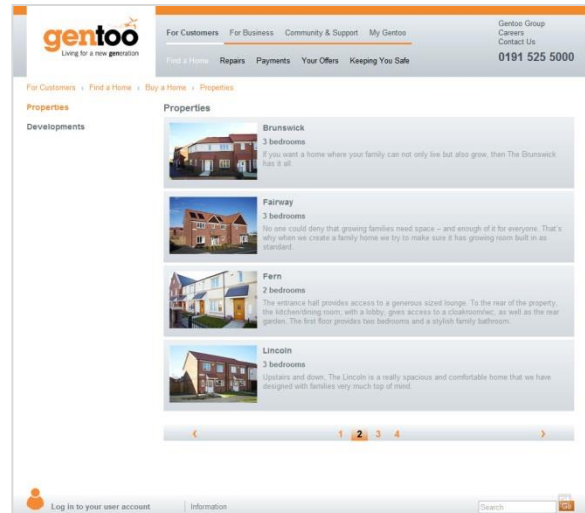

Gentoo referral

Name: Lou McDonough

Title: New Media Manager

Tel: 0191 525 5931

Mobile: 07800 864 059 | Email: louise.mcdonough@gentoogroup.com

Case Study – Gateshead College- www.gateshead.ac.uk

AYO Digital has worked with Gateshead College to develop their new website, which has allowed them to integrate their internal management systems directly into their website. This staff can control their own course and department information, as well as allowing students to apply for course places online. There has been a strong focus of integrating the colleges various social digital and web tools into the site, this includes YouTube, Flickr and Facebook.
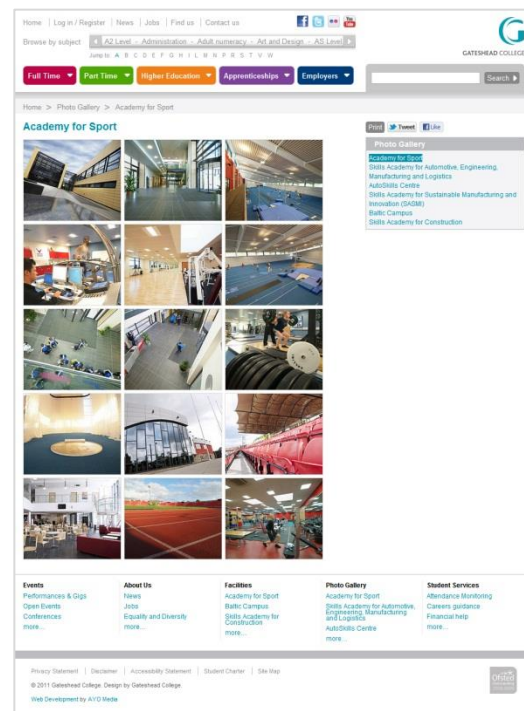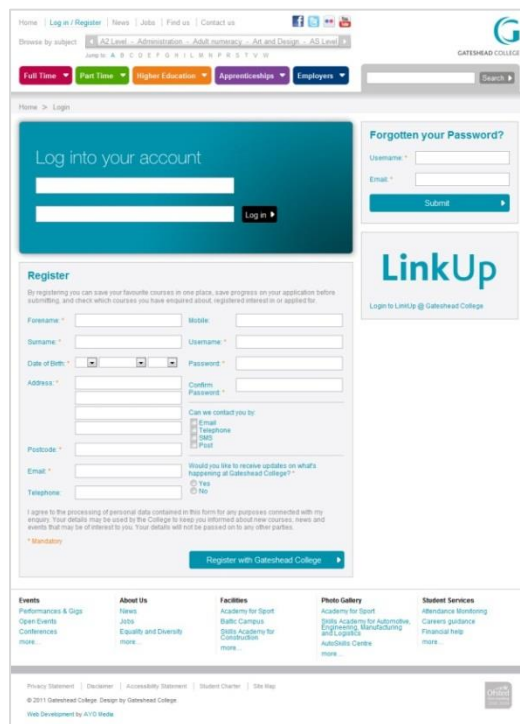
Gateshead College referral

Name: Catherine Hopper
Title: Digital Marketing Manager
Tel: 0191 490 2260
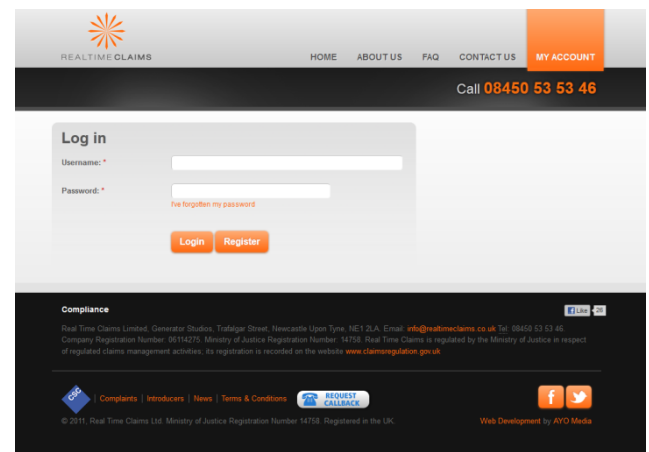Mobile: N/A
Email: Catherine.hopper@gateshead.ac.uk
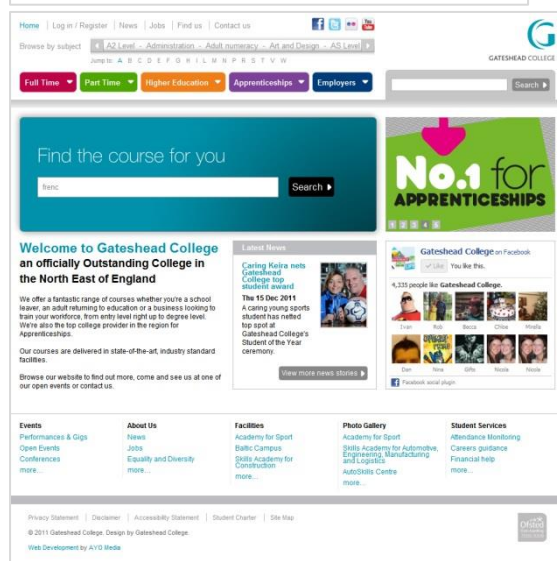
17.4 Case Study – Real Time Claims

17.5 www.realtimeclaims.co.uk

AYO Media has developed a website and case management system for Real Time Claims that revolutionises the claims management process for the customer, making the claims process both efficient and painless. Through integration with other essential systems, such as e-signature and SMS services, the RTC website eliminates the need for paperwork providing a quicker turnaround on applications, increased efficiency and security.

The Real Time Claims website and CMS have been built so that they are almost fully automated and require minimal input from the user. The ability to auto-generate all documentation, automatically update tasks, send emails and print letters are all important new features that ensure RTC stay ahead of their competition, through efficiency and human error prevention. It has also provided direct integration into their IP phone system and all for the automated scanning and processing of inbound mail.

This has allowed RTC to scale from processing ten claims a day to thousands, whilst reducing the overall claim cost and process time by over 70%.

17.6

Real Time Claims referral

Name: Steven Bell

Title: Managing Director

Tel: 08450 53 53 46

Mobile: N/A

Email: steven@realtimeclaims.co.uk