UNIVERSITY OF GLOUCESTERSHIRE

at Cheltenham and Gloucester

Agile Methods

CT5038

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School of Business & Computing

University of Gloucestershire 2019

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Table of Contents

Learning Outcomes 1
Module Evaluation 1
Assessment 1 5
Assessment 2 7

Learning Outcomes

By the end of this module students will be able to:

1. Critically evaluate alternative, traditional process-driven approaches with agile models and techniques within the context of appropriate software and business development environments,
2. Propose and defend innovative solutions to software development and associated business problems using appropriate agile software development strategies,
3. Discover the challenges to adopting agile strategies within database application development
4. Learn about proven agile database techniques that enable fast, high-quality evolutional database application development

Module Evaluation

EVALUATION FOR 2018/19
The Moodle feedback last year was largely positive. Students made the following comments:

- Students felt that they would benefit from a more comprehensive understanding of software development techniques in Level 4 to help them with the practical assessment set for assignment 2.
- Students found the mix of assessment methods useful preparation for their placement applications and enjoyed the increased emphasis on technical skills for the second assessment.

THE RESPONSE FOR THE CURRENT YEAR IS:

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- CT4023 will be reviewed to focus more on software development techniques in Level 4 to provide a basis for understanding that supports CT5038 assessment 2
- Students will be able to choose their technical platform for assessment 2.

EVALUATION FOR THE CURRENT YEAR

In this current academic year you will be given the opportunity to undertake a mid module evaluation which will feed into the course board of studies meeting and will inform module design for the following year. In addition there will be an independent end of year level evaluation distributed by the University.

Scheme of work

Date w/c	Topic	Practical work	
SEMESTER 1			
23 Sep 19	Introduction to the Module	Assessment Overview	JP
30 Sep 19	Introduction to Agile Methods	Agile Case Study	JP
07 Oct 19	Agile vs Traditional Methods	Workshop	JP
14 Oct 19	Introduction to Scrum	Scrum Analysis	JP
21 Oct 19	Scrum Roles/Responsibilities	Roles Analysis	JP
28 Oct 19	Computing YFP Week		
04 Nov 19	Scrum Product Vision	Product Vision Development	JP
11 Nov 19	Scrum User Stories	User Story Formulation	JP
18 Nov 19	Scrum Product Backlog	Product Backlog Refinement	JP
25 Nov 19	Scrum Sprint Planning	Sprint Planning Exercise	JP
02 Dec 19	Scrum Tools (Jira and Kanban)	Using Scrum Tools	JP
09 Dec 19	Sprint Review	Produce Review	JP
16 Dec 19	Sprint Retrospective	Retrospective exercise. Assignment Overview	JP
23 Dec 19 – 06 Jan 20	23 Dec 19 to 06 Jan 20 Christmas Vacation and Revision Weeks		

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13 Jan 20	Assessment Week – CT5038 Assignment 1 Submission		
	SEMESTER 2		
20 Jan 20	Introduction to Assessment 2, Identifying user stories	Lab work – Choose your teams, Identify user stories	AA
27 Jan 20	Agile Database Roles, Product Vision	Lab work – Create project plan, Submit your Team Vision & Product Vision for Assignment 2	AA
03 Feb 20	User Interface Design	Lab work – Design User Interfaces for the project	AA
10 Feb 20	Designing Databases based on user stories	Lab work – Create Data Model, ER Diagram	AA
17 Feb 20	SQL Review	Lab work – Build your database	AA
24 Feb 20	Agile Testing	Lab work – Develop Application	AA
02 Mar 20	University YFP Week		
09 Mar 20	Sprint Review Meeting 1A	Sprint Review Meeting 1A (Show prospective clients your progress)	Team
16 Mar 20	Sprint Review Meeting 1B	Sprint Review Meeting 1B (Show prospective clients your progress)	Team
23 Mar 20	Scrum: System Testing	Prepare for Sprint Review Meeting	AA
30 Mar 20	Assignment Workshop	Assignment Workshop	AA
06 Apr – 20 Apr 20	Easter Holiday (3 weeks)		
27 Apr 20	Sprint Review Meeting 2A	Sprint Review Meeting 2A (Show prospective clients your progress)	Team

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04 May 20	Sprint Review Meeting 2B	Sprint Review Meeting 2B (Show prospective clients your progress)	Team
CT5038 Assignment 2 Submission 22nd May 2020			

Assessment 1

1. Module code and title	**CT5038 Agile Methods**
2. Module tutor	Julie Paterson
3. Tutor with responsibility for this Assessment	**Julie Paterson** This is your first point of contact.
4. Assignment	001: 50% Coursework: Individual academic essay (2500 words or equivalent). You will be penalised according to the **Academic Regulations for Taught Provision** if you exceed the size limit.
5. Submission deadline Your attention is drawn to the penalties for late submission; see Undergraduate Modular Handbook.	**17th January 2020** Your attention is drawn to the penalties for late submission; **see Academic Regulations for Taught Provision.**
6. Arrangements for submission	**Moodle**
7. Date and location for return of work	Written feedback and provisional mark will be within 20 working days.
8. Students with Disabilities	Alternative assessment arrangements may be made, where appropriate, for students with disabilities. However, these will only be implemented upon the advice of the Disability Advisor. Students wishing to be considered for alternative assessment arrangements must give notification of the disability (with evidence) to the Disability Advisor by the published deadlines.
9. University Regulations for Assessment	All assessments are subject to the **Academic Regulations for Taught Provision**. These include regulations relating to Errors of Attribution and Assessment Offences. In exercising their judgement, Examiners may penalise any work where the standard of English, numeracy or presentation adversely affects the quality of the work, or where the work submitted exceeds the published size or time limits, or where the work fails to follow normal academic conventions for acknowledging sources.

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10. The requirements for assessment 1:

Research Agile Methods within software development, finding a minimum of five academic papers. Synthesise and critically evaluate your research, analysing the impact of Agile in effective software development. From your papers and other supporting research draw your own conclusions regarding the future of Agile Methods in practice

11. Special instructions

Your essay should be no more than 2500 words. Your discussion should be based on at least five main academic papers and further supported by research from theory and practice, with clearly justified examples, case studies and published surveys. Harvard referencing must be used.

12. Assessment 1 criteria

Note that the overall grade will be determined by the application of the School of Computing & Technology Assessment Criteria Grid.

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Assessment 2

1. Module code and title	**CT5038 Agile Methods**
2. Module tutor	Julie Paterson
3. Tutor with responsibility for this Assessment	**Abu Alam** This is your first point of contact.
4. Assignment	002: 50% Coursework: Group work (2500 word equivalent). You will be penalised according to the **Academic Regulations for Taught Provision** if you exceed the size limit.
5. Submission deadline Your attention is drawn to the penalties for late submission; see Undergraduate Modular Handbook.	**22tnd May 2020** Your attention is drawn to the penalties for late submission; **see Academic Regulations for Taught Provision.**
6. Arrangements for submission	**Moodle**
7. Date and location for return of work	Written feedback and provisional mark will be within 20 working days.
8. Students with Disabilities	Alternative assessment arrangements may be made, where appropriate, for students with disabilities. However, these will only be implemented upon the advice of the Disability Advisor. Students wishing to be considered for alternative assessment arrangements must give notification of the disability (with evidence) to the Disability Advisor by the published deadlines.
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10. The requirements for assessment 2:

This assignment requires your team to develop a **Database Application** by following **agile development principles**, with **Scrum** as your adopted methodology. The scenario for your project is listed later in this section.

This assignment is a group project. The maximum group size is **five**.

- 80% of your mark will be allocated for the team's submission as a whole, but you will receive a **reduced mark if it is evident that you haven't sufficiently contributed or engaged**.
- 20% of your mark will be allocated for a personal statement (see sections 11 and 12).

A key aspect of this assignment is the **demonstration of good project management that facilitates agile development and team evolution**. Your team will increase its mark potential if it shows good project management by gaining equitable team-member contribution throughout the assignment.

This assignment assesses your ability to exploit agile development methods to produce a business system that recognises high-value business processes, a realistic appreciation of software development tools and their capabilities, and proficiency in turning business requirements into useful software applications.

Although practical, this assignment requires your team to submit full documentation and provide evidence of reflective review (these are outlined in Section *11 – Special Instructions. Also, see Assessment criteria* given in section *12*). All team members must contribute equitably to the documentation. **Your documentation must explain all that you have done and confirm your technical competence and agile project-management ability. If you do not provide documented evidence and explanation for any aspect of your system, agile project-management, Scrum adoption, and team evolution, we will not be able to consider it when marking.**

We will, however, randomly inspect various parts of your developed system to verify that what you discuss in your documentation has actually been implemented. You are therefore required **to list necessary usernames and passwords** within your documentation. Please ensure that we can login to relevant accounts and access all aspects of your system. Your team will lose marks if we cannot verify that all developments are as discussed in your documentation.

The assignment's scenario is realistically complex and challenging, but if you read it a couple of times you should appreciate that it can be broken into manageable, prioritizable tasks. You will need to **decide which business functions you feel should be given build priority based on**

business value. We will expect you to be innovative and to research the requirements and opportunities, and consider possible solutions and implement your best options.

You will get opportunities to discuss your ideas in the tutorials and advice will be provided throughout the lectures. **Attendance at timetabled sessions is therefore important to your success**.

Scrum-style **sprint review meetings** will also be scheduled; at these your team will present its product to stakeholder representatives and gain valuable feedback. You will need to consider **Scrum best-practice** for adoption at these meetings and throughout your project – your assignment documentation needs to emphasise this.

Scenario: Emergency Water Bowser Scheduling, Deployment, Notification and Maintenance

Your team is looking to earn its living by developing and selling to UK water companies an information system that will assist them in their deployment and management of water bowsers, which they need to deploy during emergencies and disruptions to water supplies. In particular, the system will assist them in: planning emergency bowser locations; scheduling and monitoring emergency bowser deployment; tracking bowser maintenance requests and problems; planning and monitoring refilling schedules; and notifying the public of bowser locations and statuses. These and additional requirements are discussed in more detail throughout this scenario.

There is a trade show at which you want to demonstrate a working system in order to procure orders. The date of the trade show just happens to correspond to the assignment hand-in date, which is therefore your deadline for completing the system. The system you want to demonstrate at the trade show will be a fully functioning prototype for a fictitious generic water company; you hope that actual water companies will be impressed and request tailored versions.

In the UK, the emergency supply of water to the public is undertaken by the water companies working under close collaboration with local government. The UK mandatory level for provision of clean water currently is 10 litres/person/day. As part of their contingency plans, water companies need procedures, processes and systems in place to deal with emergencies on any scale. In the event of a disruption to water supply, the water company needs to ensure it has a workable emergency water plan. This will need to ensure emergency water provision can be managed over a range of emergencies, for example:

- small scale problems, such as a burst main leaving a village without water for a few days;
- medium scale problems, such as a minor pumping station failing because of fire;

- large-scale problems, such as major flooding disrupting water supply to a large area for many days or weeks.

Bowsers deployed on the streets of Cheltenham, August 2007

A major part of the strategy for emergency contingencies involves ensuring there would be an efficiently managed emergency supply of water bowsers. Key roles for the proposed system are:

- assisting in planning the locations for bowsers,
- recording information about the deployment of the bowsers,
- tracking bowser maintenance requests and logging mechanical problems,
- scheduling and monitoring bowser refilling,
- informing household consumers of bowser locations, as well as the status, refill schedule and perhaps other information that the water company might decide is appropriate,
- enabling bowser problems to be reported and recorded, monitored and processed.

Ideas for Your Team to Brainstorm

What follows are some suggestions and ideas you might consider. As part of the development process you should explore such ideas and decide what requirements you will prioritise. Some requirements you might decide to automate, others you might decide are better left to people or external systems at this stage, although your product might still show its value by assisting wherever possible. Remember that you are producing a prototype that you can use to demonstrate the potential of a complete system. The more you can show, the better your sales prospects.

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- A water company might own some bowsers, but it might also need to borrow bowers from other water authorities. (The UK government Mutual Aid Scheme requires all water companies to make available up to 50% of their serviceable stock of Mutual Aid equipment in an emergency.) This will require arranging cooperation from various commercial and government organisations, for which various payments may be entailed.

- A water company will maintain an electronic listing of all post codes, addresses, companies and institutions in the area. Consider if there is way to use this to assist in determining emergency supply locations. Consider, also, that a water company will have an electronic listing of customer records that might be exploited for this task.

- As well as maintaining supplies to households, the water company might need to deploy bowsers to other locations and institutions. The priorities for water supply might include:
    - Domestic and special needs customers including home dialysis patients
    - Hospitals
    - Nursing homes, care centres
    - Schools
    - Health centres and dentists
    - Power stations
    - Emergency service establishments (blue lights)
    - Prisons and remand centres
    - Essential food producers
    - Hotels, holiday parks, restaurants and guest houses
- A priority rating for each of these types might be allocated, and it is probable that some named institutions will be allocated a priority rating that differs from the general rating for their type.

- Bowsers need refilling and repairing, and the water company needs to ensure this is efficiently managed. Refilling and maintenance are likely to be done by the water company's water tanker fleet and maintenance department; although in large-scale emergencies it might not have sufficient capacity. The water company might receive information on the status of bowsers from various sources, such as from local authorities and members of the public.

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- When the mains water supply is returned to an area, boswers will need to be returned to the supplier, and refilling deliveries in that area will need to be curtailed. The water company will need to ensure it tracks the collection and return of all bowsers. In addition, it will need to reconcile various invoices, for example from water authorities that have loaned them bowsers, or organisations involved in delivery and dispatch of boswers.

- Typical bowser information that the water company needs in order to coordinate bowser operations will include:
    - Details of manufacturer, model, serial number, specific notes about that bowser, etc.
    - Capacity in litres (1000 to 10000, perhaps bigger, perhaps smaller)
    - Length, width and height in millimetres
    - Weight empty and weight full
    - Company or organisation supplying the bowser
    - Date received
    - Date returned
    - Deployment locations (post code, grid ref, description)
    - Details of repairs undertaken, or incidents reported

In August 2007 Gloucestershire experienced some its worst flooding on record. The flood waters overwhelmed the water treatment plant at Mythe near Tweskbury, leaving nearly 350,000 people without running water.

"During the 17 days since Mythe was forced out of action by the floods Severn Trent has:

- purchased and made available more than 50 million litres of bottled water
- deployed more than 1300 water bowsers and more than 100 tankers to refill them
- had more than 2000 Severn Trent staff and contractors working 24 hours a day on the incident
- purchased and installed additional emergency flood defences at Mythe water treatment works.

Severn Trent's current estimate of the costs of dealing with the incident is in the range of £25 million to £35 million, partially offset by insurance of between £10 million to £20 million. These figures are likely to be revised in the coming weeks as the full extent of costs becomes clearer."

Severn Trent Water web site, Wednesday, 8 August 2007

"During the summer 2007 floods, some bowsers were deliberately contaminated with bleach."

Nottinghamshire County Council Critical Infrastructure Final Report, March 2009

Deliverables

Using the scenario presented above, together with knowledge gained from your own research and from sprint review meetings, produce a Database prototype application for prospective customers. Your application must demonstrate functions that represent relevant high-value business processes which are given in the scenario. Your team will submit full documented evidence of your system's build, functionality and features, as well as your requirements consideration, agile development progression, team evolution and Scrum adoption, and each member must submit an individual personal statement reflecting of the project. Details of the required documentation are listed in section *11.*

11. Special instructions

Your team will submit one portfolio, but don't forget to attach personal statements from each team member. Your submitted assignment documentation should be neatly presented and include a **table of contents and page numbering**. The documentation should include the following:

- **Login details.** We will randomly inspect your application to validate the functionality, processes and code discussed in your documented evidence. Please ensure we have access to all aspects of your system.
- A concise **User Manual** targeted at the key business users. This should be task oriented and demonstrate good consideration of appropriate style. Relevant books/eBooks on user manual style available from the Learning Centre include: "Read Me First", and "Developing Quality Technical Information" – please use these.
- Your previously submitted **Team Vision** and **Product Vision**. These (listed later in this document), must be submitted to the module tutors at the start of your project (dates and details are listed on the form).
- A 500 word (approx) **individual statement** for each team member explaining how they contributed to the team; what tasks they worked on; what they learned; and why they feel they contributed equitably to the team workload. A team will maximize its mark potential if it ensures that **all team members contribute and learn throughout the development process** and write **well written individual statements that reflect this.**
- Evidence that your team has understood and adopted Scrum and agile, iterative development. Your evidence should consider:
    - The initial **product backlog** of user stories identified by your team. Explain how you prioritised the high value business functionality, and relegated "gold-plating".
    - **Sprint backlogs**. Include stories, requirements, workload estimates, burndown rates and velocity, and any other details you feel are relevant to demonstrate your

Scrum skills and appreciation of iterative, incremental development. Explain and evaluate your methods for generating workload estimates.

- Brief notes from the **sprint review** meetings which should include your updated product backlog and next sprint backlog, highlighting areas of changed priority.
- Notes from the **sprint retrospective** meetings. Clarify what went well; what team processes your team will improve in the next sprint, and how you intend to do this.
- Documented evidence of the **testing strategy** you used to test the application's functionality and usability throughout its development.

- Evidence that your team has produced a Database application that fulfils the scenario and development requirements. If you do not discuss a feature in your documentation, we will not be able to consider it when marking. Your evidence should consider:

  - Explanation of the **data models (**logical and physical**)** chosen, clarifying how these facilitate the required business functionality. Discuss how these models adapted as your product developed.
  - Listing of the **user stories your product enables**. List the forms, reports, coded functions or other objects that enabled each user story to be realised.
  - Explanation of the **layout, design and navigation** of your system.
  - Explanation of each application **page,** including its **operation and function**. You need to particularly explain relevant code (such as SQL) that you use, as well as other features you have added such as calculations and validations.
  - **Anything** else you feel is **relevant**. If your team does not explain it in your documentation, we will not be able to consider it when marking.

- **Reference List**. Don't forget that all code and ideas that are not your own must be fully acknowledged and used in accordance with any applicable restrictions.

Your team must ensure that **no-one is given sole responsibility for producing the documentation**. Your team must **ensure the documentation is updated and maintained throughout the project** and is **available to all team members**. Claims that one person has let you down or left without completing any aspect of the project or documentation will not be accepted (and would indicate poor project management). You team must also **ensure that secure, version controlled, backups of documents and other products are maintained**.

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Team Vision & Product Vision Form

Purpose: To define the way we want to work together as a team on the project. Referring to Scrum and Agile books to help you plan your strategy. Expect it to evolve as you gain more experience.

TEAM:

Team Name: Fr-Agile

Team Members: Luke Gassmann
Joe Lloyd
Nicolas Euliarte Veliez
Sophie Jones
Josh Walker

Which degrees are you each studying towards?

Luke Gassmann:	Computing
Joe Lloyd:	Computing
Nicolas Euliarte Veliez:	Computing
Sophie Jones:	Business Computing
Josh Walker:	Computing

ASPIRATIONS:

What do each of you want to get out of the project and CT5038 apart from a pass? (Each member writes a sentence)

Luke:

I want to appreciate and work with a dynamic and adaptive team that works together effectively, so that I can apply what I have learnt to the real world in my future ambitions.

Joe:

I am aiming for a first but more importantly I want to work in a team which can support each other's weaknesses in order to become more effective

Josh:

I want to work as part of an cooperative agile team that will make a comprehensive and easy to use piece of software with the aim of a first in this module

Nick:

I want to learn professional implementations of product development to further my understanding of industry standards.

Sophie:

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Do you have something in common about your aspirations? Can you make this a driving force for your work on this project?

We believe that we want to pursue our highest possible grade and develop team building by using high quality Agile principles like communication and a focus on the product.

COMMITMENTS: *(What commitments can you make about working on the project?)*
How much time is each of you prepared to commit to this project each week?

Time boxing has showed us that we can offer 7 hours to this project a week in consideration to our other commitments. We believe that allows for the team to have enough face to face time as possible to actively make good progress through the development of the project.

Which day and at what time will this team meet to work together?

(Recommendation is that you are together for at least 3 hours each week)

We will meet Tuesdays and Thursdays due to our personal schedules and commitments. This will allow for the team to have an estimated 7 hours of face to face contact and possible online video meetings on other days when possible.

ORGANISATION:
Where will you keep your Product & Sprint backlogs and any other documentation you are working on so that it is available to all team members?

We are storing project information on Jira and Google Drive so that all team members can access the information as and when needed to produce their allocated sections of the application.

How will you allocate Sprint backlog tasks to team members?

(What are the team's strengths, and can you allocate tasks to take advantage of them?)

Sprint Backlog tasks will be assigned based on the competence needed in the area requested. Additionally peer programming may be used in areas when needed to further develop team member skills overall.

How will you update the task list in your Sprint backlog to show progress?

(Will you review progress each week at your team meeting or update daily?)

We will review progress at each team meeting as well as through a WhatsApp group-chat when asking for pre-requisites for example. Completed tasks will be marked as done on the Sprint backlog on Jira.

How and when will you prepare for the Sprint review meeting?

(At a Sprint review you demonstrate the functionality in your application to the client using your test data. There will be 2 Sprint review meetings during the project.)

Preparation will involve ensuring the most up-to-date version of the application is available, rehearsing a demonstration as well as bringing a check list of any specific features we wish to ask about or change. We will also be making notes on any improvements and positives the client has. We will also be showing test data to show how well functions are working and we will provide a list of known issues which may be experienced but will be fixed as soon as possible. We will also allow the client to use the website themselves to encourage their feedback.

PRODUCT VISION:

Please attach additional sheets of paper that show your Product Vision Box and Product Vision Statement.

<table>
<tr><td colspan="4">Vision Statement:

This product is made to help counteract the effects made by several natural disasters within the United Kingdom be providing an application to manage water shortages and inform the public.</td></tr>
<tr><td>Target Group:

Governments and constituencies</td><td>Needs:

Services need to be in place to help those who lack the basic living conditions necessary to support both themselves and loved ones around them in times of need. Thus, we argue that a future with security and protection during disastrous circumstances is</td><td>Product: Water Capitol

A website to incorporate methods of support and accountability for council members. Focused on water shortages, our system will combine both effective water shortage managerial tools, with modern front-end technology to allow both the public and council confidence in</td><td>Business goals:

To help others in times of need, as we believe that every life is important.</td></tr>
</table>

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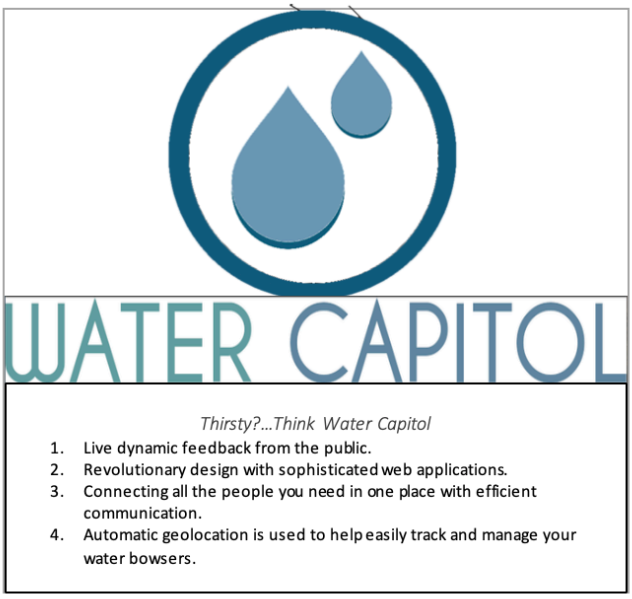
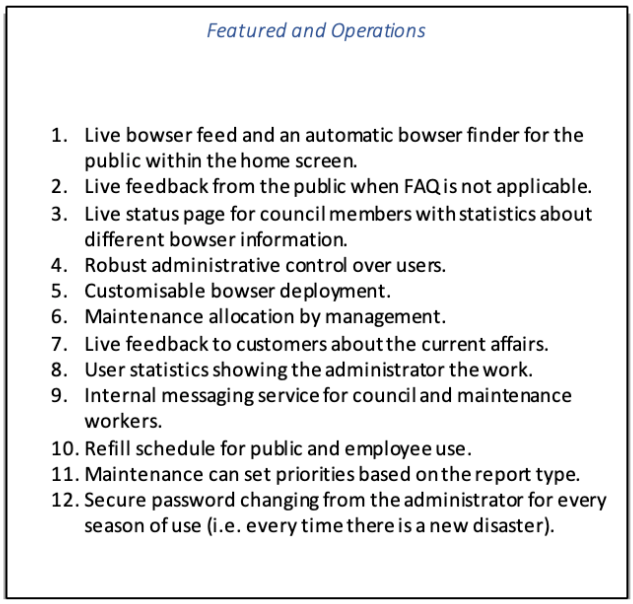
	better than no protection at all.	responding to unpredicted circumstances.	

Product vision box:





SIGNATURES: *(All team members sign this Team Vision document)*

Joshua Walker

Luke Gassmann

Joe Lloyd

Nicolas Euliarte

Sophie Jones

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Supply one copy of Team Vision and Product Box to each team member and one copy to Abu Alam (aalam@glos.ac.uk) by Friday 31st January 2020; you should also resubmit as part of your assignment documentation.

12. Assessment 2 criteria

You need to achieve at least 40% to pass this assessment. Below a guide to the level of practical content and report required for the assignment.

Grade	Content
To achieve <30	Some requirements met, but very limited and not recoverable. Copyright violation.
To achieve <40	Poorly structured report or most parts missing or no personal statement or no evidence of using Scrum and iterative, incremental development Deliverables partially complete, e.g. inadequate system or poorly designed database
To achieve 40+	- Report shows limited understanding of Scrum and iterative, incremental development - Personal statement shows how you collaborated equitably throughout the project across a range of technical, decision making and administrative tasks - System with limited functionalities - Correct or nearly correct database model - Implementation of user authentication - Implementation of one data input form and one report - Limited documentation in Code
To achieve 50+	- Report shows appropriate understanding of Scrum and iterative, incremental development - Personal contribution shows how you • collaborated equitably throughout the project across a range of technical, decision making and administrative tasks • contributed to a good team spirit and helped the team collectively flourish and overcome challenges - System represents the high value business processes outlined in the scenario. - Code clearly documented

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To achieve 60+	As 50+ with - Personal contribution shows how you learned from mistakes and became a valuable asset to future development projects - Your application must be intuitive to use, offer business value, and include features such as: • Different types of Forms and Report pages • Different types of page input items such as Check Boxes, Radio Buttons, Dropdown List etc • Navigation - Breadcrumbs, Tabs, Navigation Bars etc • Helpful messages for the users
To achieve 70+	As 60+ with - a very good application of Scrum and agile project-management throughout the project; good team evolution and effective demonstration of methods to ensure team cohesion and focus; extended consideration of business functionality, business processes and system design; - Excellent report; all sections written to a high standard and very clearly structured. - comprehensive and relevant testing;

Note that the overall grade will be determined by the application of the School of Business & Technology Assessment Criteria Grid.

Appendix: School of Business & Technology Assessment Criteria Grid

Mark %	Comment	Grade & Characteristics	Theory & Academic Approach	Practice & Deliverables
0		**Fail**	plagiarism, collusion, non-pres., name only	as theory
1-39		**Reassess:** ***inadequate but recoverable with effort***	no understanding, very short, inadequate, factual but little interpretation, lacks coherence, short, errors, misconceptions, coherent but mechanical notes, partial - rudimentary answer, limited interpretation, lack of knowledge of topic, no evidence of background reading, weak English but some appropriate use of language of topic.	poor effective deliverables, requirements not met, deliverables partially complete, limited response to brief.
40-49		**3rd, D** **Pass: Sufficient for award of credit** ***adequate mainly descriptive approach, fair, limited conceptual or theoretical ability***	adequate response, demonstration of basic knowledge, relevant content, clear intention communicated, evidence of reading, acceptable minimum level of English for business presentation but may lack precision, some limited analysis / application of knowledge / theory / weighting of evidence, inconsistent	deliverables meet basic requirement correctly but limited, just adequate but not innovative, interesting or exciting, for higher marks, 45+ just exceeds minimum specification, might be good in some areas but not consistent
50-59		**2ii, C** **Satisfactory** ***Satisfactory with some conceptual ability but lacks good evaluation or synthesis of ideas***	good response to task, collates info, *satisfactory* analysis & judgement, constructs generalisations based on evidence & opinion, argues clearly, logically & constructs a case, some limited ability to state a personal position, correct English with few imprecise statements	good deliverables, some evidence of good design or execution, coherent and organised product, some limited evidence of self criticism concerning deliverable, some independence, initiative, autonomy, appropriate techniques, integration of knowledge for task
60-69		**2i, B** **Good.** ***Good analysis, evaluation, synthesis, integration & argument.***	evaluates info. & synthesises generalisations, good ability to state & defend personal position, good analysis & judgement, applies knowledge to new situations, sound on theory, critical, understands limitations of methods, selective coherent & logical approach, well written with clear, correct and precise English	all criteria met to **good** standard, evidence of good design or execution, good integration of academic & practical issues, solid evidence of self critique/evaluation of deliverables, products well organised - documented - coherent. Evidence of independence, initiative, autonomy, creativity, adaptability, resourcefulness. Integration of knowledge,
70-79		**First class, A,** **Excellent.** ***as above but also stronger evidence of excellent, original, innovative, articulate work***	very strong ability to state & defend position, uses criteria & weighting in judgements, wide knowledge and theoretical ability, full understanding of possibilities and limitations of methods & theories, *75+* more original, innovative approach, command of critical positions, lively articulate writing, excellent grasp of material - synthesis of ideas	most criteria met to **high** standard, strong evidence of evaluation of deliverables, *75+:* deliverables excellent - all criteria met in clear and definite manner, evidence of excellent design or execution, elegance, innovation, very good evaluation of deliverables,
80-89		**Outstanding.** ***as above but also authoritative, superlative, creative***	**as above but also :-** seen all possibilities in task, gone beyond accepted conceptual/critical positions, evidence of creative, intelligent, innovative approach consistently & forcefully expressed	**as above but also :-** all aspects of deliverables superlative beyond 80% emphasis on theory rather than practice/deliverables
90-100		**Faultless**	**as for 80-89 but also :-** all work superlative & without fault	as for 80-89

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