

## Student Assignment: Group Project

Title	Assignment		
Module	Group Project		
Module Code	CP50081E		
Module Leader:	Samia oussena		
Set by:	Samia Oussena		
Moderated by:	Liz Sokolwski		
Assignment	End of Module		
Hand in	This assignment will be submitted via Turnitin		
Structure of assignment	This assignment has several tasks. Each task has its own criteria and marks. The learning outcomes of the module are assessed by a successful completion of all the tasks.		
	Type	Weighting	Due Date
	Report and supporting documentation	100%	14 <sup>th</sup> of May 2017
Learning outcomes	<p>LO1 Understand the inherent problems associated with information systems developments</p> <p>LO2 Evaluate the options for delivering an information system e.g. SDLC, agile method</p> <p>LO3 Select and apply techniques to analyse business processes, which are the target for system development.</p>		

	<p>LO4 Understand and evaluate appropriate agile methods to develop a high fidelity prototype</p> <p>LO5 Understand and apply test driven development to a scenario</p> <p>LO6 Understand and apply user centric system evaluation</p> <p>LO7 Understand the importance and approaches to quality, risk management, configuration management and evaluation in the context of system development.</p> <p>LO8 Evaluate the usefulness of each method for different given industrial scenarios.</p>
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## Tasks

### Assessment task

You are to be given an initial requirement for a system that SEGA wants to develop and you will need to develop a working system for them using SCRUM methodology. You will work in groups and will be allocated different roles.

Individually, you will need to provide a reflective report on the development process and your role as a member of the development team.

There are two components to the assessment:

- a. **Group Work:** This element requires you to work in groups to identify and document both the latent and practical characteristics and business attributes of the software system you are developing. All group interactions will have to be recorded on BB (30%).
- b. **Individual:** This element consists of an individual report. The overall element requires you to produce a report, which reflects on your learning during the module. Specifically you are required to evaluate and critique the development process you have undertaken using the theories, methodologies introduced in the module. (70%)

Elements 1 and 2 are to be submitted via the Assessments area of Blackboard.

**You will need to ensure that each element is uploaded as a single document and in the correct format (PDF).**

### Assignment Objectives:

- **Facing reality:** expose students to the reality of “real world” software development, where customer problem descriptions are rarely precise, complete and consistent.
- **Learn how to manage complexity:** Through the use of methodologies, modelling; develop the ability to analyse and synthesise precise description of problems (requirements) and solutions.
- **Experience of working in team:** Working in teams is an important skill for the world of IT in business. Students will have to learn how to respect the skills and cultures of other members, allocate tasks and monitor performance. Learning from other team members is an important element of the assignment. Feedback from previous years shows that while students generally are not keen on group work at the outset, they recognize the benefits of working in a way that is close to the real work situation. The team will have to constructively confront poor performance of team members and learn how to plan activities to meet deadlines.

Element 1	
Title	Group work
Task details	<p>You will work in a group of up to 5 members and will allocate different roles to each member of the group. Each group will be assigned initial requirements of a system that they need to develop. You will have meetings with SAGA to understand further the requirements and to show them the features that you have developed.</p> <p>Groups will be required to work together without direct supervision, although tutors will be available in the IT Centre during and immediately after the practical seminars sessions. The groups will have to develop a project plan and monitor their progress by reference to it.</p> <p>Students will be required to provide evidence, usually via Blackboard, of their active participation in the group project. Furthermore each team member is expected to take ownership for the development of a set of system features. Team members are required to reflect on individual reports of their own and overall team contributions and performances, as well as the extent to which they have incorporated a quality approach in the development. This, together with the relative weightings of the elements, means that a student who diligently attempts to contribute to the team but is in a poorly performing group can nonetheless gain a good mark. Every team will be provided with a separate area of Blackboard for group documents to be shared and an email is used to discuss issues about the development. Tutors will be able to access this area but not members of other groups.</p> <p>The team will carry out development following a SCRUM methodology. This will give you experience of an approach to Agile development and enable you to review its effectiveness in your individual report.</p> <p><b>You will be assessed not just on the software product delivered but on the development of the requirements, documentation of key decisions and the management of risk and quality during the development process.</b></p> <p>A number of meetings will be held between the team and SEGA. These must be documented to include date, location, time, participants, main topics agreed. ).</p> <p>The meetings at SEGA will take place on the following dates:</p> <ul style="list-style-type: none"> <li>• 13<sup>th</sup> of Feb 2017</li> <li>• 6<sup>th</sup> of March 2017</li> <li>• 27<sup>th</sup> of March 2017</li> <li>• 8<sup>th</sup> of May 2017</li> </ul> <p>In addition you will have frequent stand up meetings. As well as user story, you are expected to expend each story into a Behaviour Driven Development (BDD) specification.</p> <p>The assignment will developed and submitted in three parts:</p> <p><b>Part1</b></p> <p>Each group, by analysing the process logic and considering the outcome of your review of similar systems, will produce a set of user stories</p> <p><b>Part 1 deliverables: A project Plan, user stories (associated tasks), (optionally: select the tools to be used to deliver the system and detailed analysis of some tasks (in the format (description, conversation, confirmation))</b></p>

<b>Marking Guide</b>	<p align="center"><b>Submission date 5<sup>th</sup> of March</b></p> <p><b><u>Part 2</u></b></p> <p>Your task is produce iteration 1, demonstrating appropriate customer interaction. You must document meetings, decisions, tests, etc.          You are expected to identify which feature will be incorporated in iteration 1 and define the deliverables for each iteration. Each feature should have the appropriate BDD specification (user story and its associate tasks and scenarios/test cases). Define the deliverables for each iteration and the responsibilities of individuals.</p> <p><b>Part 2 deliverables: Project plan (deliverable, responsibilities, data model, BDD specifications for prototype 1, prototype 1</b>  <b>Submission date: 2<sup>nd</sup> of April 2017</b></p> <p><b><u>Part 3</u></b></p> <p>Your task is to produce iteration 2. You will need to produce a revised project plan that demonstrate the feedback from your evaluation of iteration 1. You need to demonstrate how you have managed risk and how you have overcome technical and team problems.</p> <p><b>Part 3 Deliverables : Documentation of sprint review, a revised project plan, update data model, BDD specifications for prototype 2, prototype 2</b>  <b>Submission date: 14<sup>th</sup> of May 2017</b></p>			
	<b>Criteria</b>	<b>Issues</b>	<b>Mark</b>	<b>Marking breakdown where appropriate</b>
	User Stories coverage	Analysing the process logic, produce	6	This element is compulsory. You must be able to demonstrate an engagement with the learning outcome during the module.
	Project Plan/tool choices	Working with The customer(s) consider an aspect of the system in detail. Demonstrate good user interaction	4	
	First sprint including appropriate data layer implementation	Produce Sprint 1: elicit User Stories from the customers and develop the BDD specification  Demonstrate adherence to SCRUM Demonstrate team involvement, the effective management of risk and intra-team learning	10	
	Second Iteration	Produce iteration 2	10	

			30%	
<b>Element 2</b>				
<b>Title</b>	<b>Individual</b>			
<b>Task details</b>	<p>The final individual report should include <b>but is not limited to</b>:</p> <ul style="list-style-type: none"> <li>• An introduction to agile discussing the objectives of the development and the merits using SCRUM</li> <li>• A report of your role: what happened to the user story you were responsible for and the effectiveness of your interaction with the customer</li> <li>• A justification of the development project plan and the choice of technology and a reflective review of its effectiveness</li> <li>• A review of the effectiveness of the development approach and techniques used</li> <li>• A review of your role as a developer and the effectiveness of the integration of your code with the rest of the group.</li> <li>• A review of the effectiveness of the team roles and how you dealt with difficulties experienced.</li> <li>• Analysis of the results of the user evaluation and a list of recommended specific further approaches to redesign. In particular how the feedback from sprint 1 was built into sprint 2.</li> <li>• Summary of the findings.</li> <li>• Summary of the overall plan with a review of what was achieved</li> <li>• A list of references.</li> <li>• Appendices giving evidence of your contribution to the development (the features you were responsible for)</li> </ul> <p><b>2 Reflective Critique</b></p> <p>You will have a number of roles during this assignment. You should keep a reflective diary of your progress during the assignment covering weeks two to eleven. It should cover your activities and how you collected other material on the methods used. This should be submitted as an appendix to the report developed for part two and is subject to the same submission criteria.</p> <p>It will help you in the completion of the formal report and the summary of reflection which you are required to provide:</p> <ul style="list-style-type: none"> <li>• Reflective Summary of your experience INCLUDING A REFLECTIVE DIARY as a member of a community of practice and what this means for effective groups in the ICT industries. This should answer the questions – <ul style="list-style-type: none"> <li>• What was my contribution to the group activity?</li> <li>• How was the interaction with the customers?</li> <li>• How could the group have performed better?</li> </ul> </li> </ul>			
<b>Marking</b>	<b>Criteria</b>	<b>Issues</b>	<b>Mark</b>	<b>Marking breakdown where appropriate</b>

<b>Guide</b>	<b>Individual Report</b>	<p><b>Scholarship</b></p> <p>Do you explore the issues in involved in using the development methodologies with respect to relevant literature on the web and from textbooks? Are you able to critically appraise the theory against your practical experience and give evidence?</p> <p><b>Analysis and Conclusions</b></p> <p>Do you demonstrate the ability to understand and critically evaluate aspects of the methodologies? Are your conclusions justified?</p> <p><b>Presentation</b></p> <p>Coherence, errors in report, grammar, legibility</p>	60%	<ul style="list-style-type: none"> <li>• Your contribution [20]</li> <li>• Discussion of methodology [10]</li> <li>• User/developer role[5]</li> <li>• Project plan analysis/discussion [5]</li> <li>• Discussion and analysis of development techniques &amp; team roles [5]</li> <li>• Independent research [5]</li> <li>• Summary/review of process [5]</li> <li>• Structure and style [5]</li> </ul>
	<b>Critique</b>	<p>Personal critical skills</p> <p>It should answer the following questions by reference to the group work experience and the academic analysis in the individual report</p> <ul style="list-style-type: none"> <li>• What was my contribution to the group activity?</li> <li>• How effective was my interaction with customers ?</li> <li>• How could the group have performed better?</li> </ul>	10%	<ul style="list-style-type: none"> <li>• Personal Critique [5]</li> <li>• Analysis of Quality [5]</li> </ul>

### Grade descriptors

In addition to the assessment criteria above the following table may assist you in understanding how we arrive at your final mark. Indeed your final mark should agree with the following grade descriptors, but note that the assessment criteria are the main means of assessment.

Mark	Descriptor
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0-39%	Limited conceptual understanding with possible structural deficiencies. Restricted use of theory within module. Inappropriate argument leading to unreliable and invalid conclusions/recommendations
40-49%	Some confusion in purpose & aims of evaluation. Some overall structure and conceptual understanding. Fair use of theory but arguments sometimes irrelevant, illogical or with unsupported assertions.
50-59%	Demonstrates a limited but accurate level of understanding presented in a mostly descriptive manner. The answer contains relevant interpretation and critical understanding especially at the upper end of the marking range.
60-69%	Demonstrates accurate knowledge and understanding of the subject presented in a coherent manner. The answer contains evidence of application and interpretation. At the upper end there is evidence of thoughtful and measured critical evaluation.
70-79%	Demonstrates a clear, comprehensively researched understanding of relevant material with some element of critical evaluation. Shows initiative in approach and rigour in the handling of information. Demonstrates originality of thought together with interpretation and application to the relevant sector
80% or above	The answer is analytical and critical. The assignment demonstrates scholarship through a depth of insight and understanding of relevant material, which is logically structured, accurate and well referenced. Originality of thought and application is evident.



## **Assignment case studies:**

### **1. Online Sales website or tool:**

The more games an entertainment can sell the more they will be able to build. By create a new sales channel a business can highly increase their sales and the profit a company can make. SEGA has been investigating a number of options to increase the sales of their games but still lacks their own unified online sales shop to unit the stores of all studios and all games. By evaluating and testing the available online SaaS (shopify, )and Open Source sales solutions (Magento, Drupal Commerce) available, the group will create and offer an advanced sales websites or channel to the SEGA's large array of products.

- Choose a full professional online sales platform.
- Display a partial or full catalogue of games or products.
- The platform will need the ability to Add the products to a basket, Register the details of a user, checkout and deliver a confirmation email with a secure download link.
- Customise the interface to display some of SEGA's
- The final demo should have a working Prototype with all the above features and suggestions on how to improve the platform as well as a critical analysis to evaluate the advantages and disadvantages of using this platform in a professional and realistic environment.

### **2. Engaging tool to enhance the SEGA community:**

SEGA currently has a large community of users and fans.

Each user expresses their opinion through a growing amount of social media channels, such as facebook, twitter, youtube, sites, blogs, forums or fan sites. As the industry is becoming increasingly global, the tools available are pushing companies such as SEGA to become closer to their end users. It is now increasing important to understand these people and the opinions of the users willing to buy the products.

The objective of this project should be to help create generate synergy to enhance the quality, understanding and support provided to this community by helping SEGA better understand them. The tools and technology used should help reducing the time needed to interact to them, contain useful analytics to for the business.

The community members and moderators should have a good user experience while using these tools while being able to connect to the communities and engaging with a larger group of people.

The project will require that the team to:

- List and analyse the existing tools publicly (i.e: mailchimp, CRMs, Drupal Commons, Liferay) available by SEGA, their usage numbers, their quality and the value that they bring to the bring.
- Suggests way to improve their usage, add features and offer a richer experience to the community.
- The team will install, configure, customise new, innovative community management tools to help SEGA engage in a better way with the community and improve the way we interact with the large SEGA community.
- The selected tools should allow one or more of the following:
  - Allow moderators to aggregate the social media feeds
  - Communities to interact with each other and discuss the reach
  - Members to register their interest to some products
  - Moderators to contact a large group of users

### **3. Promote an existing game in a new intuitive way:**

When launching new games, companies such as SEGA often look towards technology for new and innovative ways to promote these games. This can be through new interactive websites, dynamic ads, animations or new innovative apps. Examples of <https://onepagelove.com>, [awwwards.com/ 6-web-design-trends-you-must-know](http://awwwards.com/6-web-design-trends-you-must-know) , [Forbes.com](http://Forbes.com) Top-7-online-marketing-trends-2016

The team will investigate new technologies to find ways to make the end user more engaged in their site:

- The team will use interactive technology to demonstrate the use of technology to help create a new interactive mini-site to promote an existing SEGA game the sales of a particular game.
- This would require the team to plan, test and build an interactive mini website,
- iPhone or android app to promote an existing game or prototype to be used for future games.

#### **4. Use Old platform emulators to promote the older retro games:**

A large amount of retro emulators have been created by fans and allow users to play these games on their websites: new devices are being launch constantly, analyse the existing and future platforms and imaging a way to re-launch an existing title onto a new platform.

- (ssega.com, letsplaysega.com). Although the games often work well on these fan sites would lack the legal approval of SEGA and the game editors and creators.

This project will investigate the technologies used on these sites, the catalogue of games available and suggest ways to promote these games for the benefit of SEGA as either a promotional tool or a paid for website.

Provide a working example of a website with an embedded SEGA game.  
Provide a library for other future games to play

#### **5. Analyse the competition:**

The video game industry is changing very rapidly and a large company like SEGA must constantly stay in the lead of all the news which comes from the industry and the upcoming games.

Investigate available Business analytics tools to investigate how the competition is existing tool. Which areas the market will be going into help the research and development, marketing and industry leaders decide on which technologies they should pick and the direction the industry would be changing.

Setup a CRM tool to get a better insight into SEGA's client base and use this data to increase sales conversions.

It is increasingly important to gain a better understanding of the users of the games, websites and tools that SEGA users to interact with their customers.

A number of tools are available which will help SEGA gain insight into their customer base. These tools are called CRMs (i.e: Salesforce, SugarCRM, ZohoCRM or even Mailchimp).

- Analyse the available tools available

- Implement Client and Lead generation forms to extract the customer base from the existing tools that SEGA already owns (Games, Websites, Forums, Blogs, social media).
- Populate these tools with existing user data and analyse the route to convert these users to a sale:

## 6. Raise awareness and availability of data within SEGA

Produce a series of reports that are generic across multiple titles showing some of the following pieces of data and metrics;

1. **New User** : Registration enough that they can play and then connected to game once in period.
2. **Returning User**: Registration enough that they can play and then connected to game multiple times in period.
3. **Active User (MAU, WAU, DAY, YAU)**: Registration enough that they can play and then connected to game at least one time in period.
4. **Churned user**: Registration enough that they can play, connected to game prior to period, not connected to game in period.
5. **Churn rate**: Count of Churned Users / Count of Active Users for period
6. **Concurrency (CCU)**: Number of active users at snapshot. Peak CCU, max number of active users in period
7. **Play time**: Average session length, total time logged in / count of logins in period. Total playtime, total time logged in in period.
8. **Stickiness**: DAU / MAU for rolling month
9. **Retention Rate**: Users active in multiple periods.

The reports should dynamically updated using the SEGA Game Data set (access will be provided) the reports should be written using tabliot or powerBI (software will be provided)

The reports should be generic and usable across all products and allow comparison between customers and products.

## 7. Improving game testing process of bugs in the game development industry:

QA is a large part of SEGA's strategy to build new games. By carefully analysing the way in which the industry

**8. Setup a proof of concept of using Solr with an existing Drupal website to simplify**

The search mechanism of an existing website. Use Programmatic analytics to retarget user from existing online stores to convert visitors into buyers of SEGA product