**COSE71187 Agile Software Development Assignment 2017/18**

This group work assignment is worth 70% of the module marks and assesses learning outcomes:

2. Apply industry standard agile techniques in develop software in a team. (APPLICATION, TEAM WORKING).

3. Use group and individual retrospectives to critically evaluate and propose improvements in developing software in a professional context. (PROBLEM SOLVING).

The group task will be done with students on the module COSE1191 Agile Software Development (D/L). You will be assigned to a group whose task is to use the Scrum methodology to develop an application for the GreenLine Passenger Targeting System (PTS).

The purpose of the group task is give you practice developing a system using agile techniques, not the development of an extensive system.

**Product vision** – to produce a website or an app to showcase the cars for sale at a car dealership

**Goal** – to produce a prototype system that demonstrates high priority functionality for the GreenLine Passenger Targeting System (PTS)

The detailed specification of the system will be developed in conjunction with the product owner (your tutor) using the Scrum methodology.

Your group must keep a record, which should contain at minimum:

* **Product backlog**, to be entered during the first week and updated as necessary, including during Backlog Refinement Meetings.

For each sprint:

* the agreed goal and sprint backlog, to be entered in the Sprint Planning Meeting
* The list of backlog items "done", to be entered during the Sprint Review
* A list of things that went well, potential improvements and action plan to be entered at the end of the Sprint Retrospective
* The date and time of each meeting (Backlog Refinement, Sprint Planning, Daily Scrum meetings, Sprint Review, Sprint Retrospective) must be recorded, along with the list of who was present and any apologies received.

The final version of your portfolio should show how your project evolved over time. You should describe what other tools (such as version control and task management) you have used, and either provide links to them or include screen shots showing examples of their use.

The portfolio (e.g. Github) must be completed by the assignment deadline, at which point it will be locked for editing.

You need to make both a group and an individual submission with the following deadlines:

**Group submission: Deadline Wednesday 27 December 3:30 pm**

* the project code - this should be checked into your group repository before the deadline
* Sufficient documentation of the code structure (eg UML class diagrams) and algorithms (ie UML activity and sequence diagrams) for another team to be able to take over, maintain and improve the product.
* A brief user guide

The last two items can be submitted via Blackboard, or, if these documents are included in the Github, the group Blackboard submission **should be a short document explaining where to find them**

Your group must demonstrate your work in the 13:00 Practical on Thursday 14 December. All members must attend the demonstration and be prepared to answer questions on the product and how it was developed.

**Individual submission via Blackboard**

* A completed peer assessment form for each member of the group, plus a self-assessment form, by Wednesday 27 December 3:30 pm. Both forms can be found on Blackboard.
* A 1000 word individual retrospective of the project, processes used and outcomes, Wednesday 27 December 3:30 pm (see guidelines below) –worth 40% of the assignment mark

**Guidelines for the Individual Retrospective**

In a short introductory paragraph, state the role you took in the project (eg Scrum master, developer) and briefly describe your contribution. For example, did the group always work together on the project, did you divide the work into individual tasks or both, what contribution did you make to quality and documentation processes…. You don’t need to go into detail, as this should already be documented in your group wiki.

You should then identify and discuss:

* What went well
* What didn’t go well,
* What you would do differently next time.

Your discussion should include reference to what you have learned before and since the group project, as well as the project itself. You could consider:

* what you have learned and read about Agile Development and Scrum processes in the rest of the module
* user feedback from the demonstration of your work in Employability Week

Your retrospective should end with two actions lists:

* Specific actions that you would implement if you could do one more sprint in your group project
* Any further specific actions that you would implement if you were starting again on a similar project.

The action list should be in a table similar to the one without further explanation/discussion. However, you should discuss the problem and possible actions in the report, referencing the action number in the table.

|  |  |  |  |
| --- | --- | --- | --- |
| Action No. | Problem | Action | Indicator of success |
| *S1* | *Poor group communication between timetabled sessions* | *Schedule virtual standup meetings using Skype every Monday and Wednesday at 9:30* | *Meetings have taken place*  *Better communication* |

**Marking Scheme**

Note – final mark out of 100

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Criterion/Level of attainment | Max. Points | Minimal | Poor | Borderline fail/Pass | Good | Excellent |
| Scope of Implementation (the expected scope will depend on the effective size of the group)  Have a reasonable number of features/story points been implemented given the time available? | 10 | Very little implemented | Product is very limited, but some features implemented | Modest number of features implemented | Good number of features | Very extensive prototype |
| Quality and effectiveness of product. Does it fulfil the product vision? Is the interface intuitive to use? Is it bug-free? | 5 | Very little implemented | Some success, but has obvious flaws and is not a shippable product. | A usable system with some limitations in usability, effectiveness or quality | A successful prototype with an easy-to use interface which mostly meets customer expectations | A polished, bug-free prototype which delights the customer |
| Maintainability of product - Is the code base well-structured and sufficiently documented for another team to be able to take over, maintain and improve the product? | 5 | Disorganised code structure, little documentation | Some organisation and documentation, but new team would be tempted to start again rather than try to understand and improve it. | Reasonable structure and documentation, but needs to be improved | Effective design and documentation which, although it could be improved, would not cause significant maintenance difficulties | Very clear, excellent design and documentation, which another team would be delighted to inherit |
| Professional use of Scrum – were product and sprint backlogs effectively maintained and refined, were the sprint planning and retrospective meetings effective, did the group communicate effectively during each sprint? Were appropriate tools (such as task management and version control) used effectively | 20 | Scrum processes not significantly used | Processes only superficially followed | Meetings held and backlogs maintained, but compliance and effectiveness needs improvement | Scrum processes mostly followed to good effect | Excellent, effective and professional implementation of Scrum methodology |
| Did the group effectively use the sprint retrospectives to reflect their processes and decide on actions for improvement? Did the team learn and improve throughout the process? | 10 | No | A bit but not enough | Some evidence of reflection and improvement | Yes, definite improvements made | Yes, outstanding |
| Individual mark – tutor and peer review. | 10 | See peer assessment grid. Each student will receive a mark out of 15 based on the average of the peer review and the judgement of their tutor. If an individual’s mark is unsatisfactory their mark for the group sections will be reduced proportionately | | | | |
| Individual mark – Retrospective report | 30 | Minimal insight or discussion | Some valid points made but does not clearly show what you have learned or set it in the wider context | Good retrospective but could be more insightful, extensive or better show the wider context | Insightful retrospective and discussion set in the context of wider reading / employability activities | Outstanding, insightful retrospective and discussion set in the context of extensive reading / employability activities |
| Individual Mark – Retrospective Action List | 10 | Very few actions, not specific, not supported by report | Insufficient number or quality of actions, not well related to rest of report | Some valid actions supported by report, but should be more specific and/or extensive | Very good list of specific actions with measurable outcomes, cross-linked to discussion in report | Outstanding list of specific actions with measurable outcomes, cross-linked to incisive discussion in report |