**Team Assignment**

**Introduction**

“*With the increase in complexity of software, functional requirements keep changing throughout the development life cycle. It is very important to select an appropriate software development technique to address these changes; otherwise the entire software project will fail. So, software development techniques evaluation is mandatory to make sure if they fit a given project environment.*”

The main objective of the project is to identify how **Scrum** methodology can be used in organizations to manage software development projects and also evaluate efficiencies and risks of **Scrum** methodology at the end of entire development.

**Learning Outcomes**

The learning outcomes being assessed in this assignment are listed below:

|  |  |
| --- | --- |
| CLO 1: | Apply various Agile practices to a software development project.(C3, A2, CS, LL) |
| CLO 2: | Evaluate issues pertaining to Agile project management. (C6, A2, CTPS, CS) |

**Team Organization**

For this assignment, work in ateam of **4 – 5** members. Even though this is a team assignment, individuals may get different marks depending on their contribution.

**Academic Integrity**

You may only work with the students in your team to produce your answer. You may not show or give any part of your assignment (in any form whatsoever) to anyone else except your team members and tutor for this course.

You are required to adhere to the instructions stated in the University College’s plagiarism policy and Harvard Referencing System guidelines.

IMPORTANT: Students found to be dishonest are liable to disciplinary action.

**Assignment Schedule**

|  |  |  |
| --- | --- | --- |
| Friday, 28th October 2016 (Week 3) | : | Assignment release |
| Monday, 30thDecember 2016 (Week 12) | : | Assignment submission |
| Tuesday, 2ndJanuary2017– Friday, 13thJanuary 2017(Week 13,14 )\* | : | Assignment presentation |

**Tasks**

Each team is required to develop an application using agile software development method (SCRUM). Your application can be any application of your choice (Web based, desktop based or mobile). The application that you had chosen should contain at least 3 main modules (e.g. payment, registration, online purchase, etc.).

You have to follow certain development processes and practices, which will be introduced below.

**Task 1: Logging**

During all of the work you do on this project you must log how much time you spend on each activity and which person(s) in your group does what. Your log should be added to your report as described below. Furthermore, the scrum master should have a report for each week specifying how much each person has worked and on what task. This report should be submitted to GIT repository in a directory called “process” prior to the start of next sprint. In your submissions, the name of all the people working on that submission should be specified in the commit comment to the GIT repository. This should be done in the following format at the end of your comment:

1\_Developers: [name\_Developer1], [name\_Developer2]

2\_Time: [Ideal\_time\_HH:MM]

3\_Use\_case: [UserStory\_Nr\_from\_Pivotal], [Name\_of\_US]

**Task 2: Scrum**

The main process that you are to follow in this project is Scrum. You will assign a unique scrum master in the start of each sprint who documents the progress of your project in a backlog, which will be shared with your customer through your repository. In the start of each sprint you will have a sprint planning meeting. Furthermore, in the beginning of each development day you will have a short stand-up meeting. Pivotal Tracker is the software to be used for management of your project. The software can be accessed from <http://www.pivotaltracker.com/>.You will get more practice on this software tool during practical class. Every week you should export your project from Pivotal Tracker and submit it to a directory called “process” in your project repository. Your project logging and reporting will be sampled and assessed continuously during the project so ensure the repository is always updated. Furthermore, you should submit your notes from every scrum meeting, retrospective and review. These will be submitted to the “process” directory in your repository.

**Task 3 – Automated Unit**

One of the most important practices you need to follow is complete automated unit and acceptance tests. You are allowed to use any framework for unit testing that you find suitable for the task (Junit being the natural choice in Java development). You should use Test-Driven Development if you can. This is not mandatory but will give you an extra star in the corner for effort.

**Task 4 – Continuous Integration**

Everything you do should be continuously checked in to your project repository. We expect at least two updates from each member of the group with a proper description on what has been changed or added. This will considered as a resource for grading your effort. Every night your system will be automatically compiled and should be working and free of any bugs.

**Task 5 –Report**

You should submit a report that consist of

* Activity log
* For each of the techniques and practices used in your project you should answer all the question:
  + What was the advantage of this technique based on your experience in this assignment?
  + What was the disadvantage of this technique based on your experience in this assignment?
  + How efficient was the technique given the time it took to use?
  + In which situations would you use this technique in a future project?
  + In which situations would you not use this technique in a future project?
  + How did you work together as a group in the project? What worked and not in your interaction(s)?

**Presentation**

Every team member is required to participate in the presentation and individual marks will be awarded for this. The items to be included are:

1. A description of the agile practice that you had implemented.
2. A live demonstration of the developed application.
3. An evaluation of the benefits and issues pertaining to the adoption of the applied agile practices.
4. A question and answer (Q&A) session.

Note:

* Late submissions will be capped to 50% of the total marks unless a concrete reason is provided.

**Marks**

This assignment contributes 60% to the coursework component (35% for the assignment submission and 25% for the individual presentation). The breakdown of marks is shown below (refer to the assignment feedback form for details):

|  |  |
| --- | --- |
| **Item** | **Marks** |
| 1. **Assignment**     * Activity log recording    * Scrum master weekly task report    * Effective Scrum activity logging    * Notes from Scrum activities    * Continuous Integration    * Additional agile practices | 35 |
| 1. **Presentation** (individual)  * Delivery– Confidence, effective communication of ideas * Quality of discussion/explanation | 10 |
| * Live Demo   + Completeness   + Contents | 15 |