



## Unit: Agile Development

### Assignment title: Hidden Treasures

## December 2015 – Sample Assignment

### Important notes

- Please refer to the *Assignment Presentation Requirements* for advice on how to set out your assignment. These can be found on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You must read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensure that you acknowledge all the sources that you use in your work. These documents are available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You **must** complete the *Statement and Confirmation of Own Work*. The form is available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- Please make a note of the recommended word count. You could lose marks if you write 10% more or less than this.
- You must submit a paper copy and digital copy (on disk or similarly acceptable medium). Media containing viruses, or media that cannot be run directly, will result in a fail grade being awarded for this assessment.
- All electronic media will be checked for plagiarism.

## Introduction

*Hidden Treasures* (HT) is an auction company based in Birmingham. The company buys a wide range of rare and antique objects, and sells them at monthly auctions around the UK. While specialising in home clearances for estate sales, it also sells valuable items for other customers. For estate sales, *Hidden Treasures* also provides a removal service: it will empty the home of all items, for a cost of £1 per kilogram for the first 400 kilograms, then £0.50 per kilogram for the rest of the contents. Items not worth auctioning will be sold on to scrapyards, and a 40% commission charged on the sale price of the valuable items. If the estate does not raise enough from the valuable item sales to cover the removals costs, the client owes *Hidden Treasures* the remaining costs and will be billed. However, if the valuable items sell for enough to outweigh the cost of the removal, the client will be paid this remaining money.

*Hidden Treasures* also sells individual items of value. There is no removal fee for these clients, but the items must first be appraised to determine their likely value. Furthermore, it will only be accepted if they are seen to be in demand and likely to raise at least £200 at auction. *Hidden Treasures* charges 50% commission on these items. Given that the appraisals require a home visit, the client is charged £50 for the appraisal visit, whether or not their item is accepted or not.

*Hidden Treasures* was founded 30 years ago and has some long-term members of staff, including appraisers, auctioneers and administrators. It is a family-owned business, and it has just been taken over by the founder's son, James Richardson. James is looking to expand and modernise the business. At present, *Hidden Treasures* handles all enquiries by telephone. This is partly due to the traditional nature of the business and older age of their main clientele. However, there is a problem: it is expensive and inefficient to move items around the UK to different auction houses, which often happens when items do not sell.

*Hidden Treasures* wants a website to advertise smaller auction items, and to set up online auctions where customers can bid for items from anywhere in the UK. Successful bidders will be sent the items via courier, once payment has been received. James is also considering the possibility of items being appraised online via photographs and video conferencing for a small fee of £10. Crucially, this would remove the cost of home visits and enable *Hidden Treasures* to deal with clients in remote areas that are not easily accessible by car. Customers obtaining an online appraisal would not be required to list the item with *Hidden Treasures*. However, they can use the *Hidden Treasures* web auction service for a 30% commission fee.

*Hidden Treasures* maintains a database of former clients and of customers. The company is interested in the possibility of data analysis on these records to potentially match up current items with previous customers. This matching would prevent the need for so many physical auctions.

**Scenario continues on next page**

*Birmingham Bespoke Solutions* (BBS) is a software development consultancy based in Birmingham. It has centrally located offices which are less than a 20 minute walk from the *Hidden Treasures* headquarters. BBS have purpose built rooms for Facilitated Workshops and Agile software development projects. *Hidden Treasures* has contracted BBS on a 'time and materials' basis, for the development of their new computer system using an Agile Development approach. The new website and computerised system for the auction house will replace the old ad-hoc system of word files. It is likely to include some of the following functionality:

- Receive and store details of new clients via telephone, post or email – carried out by Administrator (M);
- Receive details of new clients via web form;
- Receive details of new customers via telephone, post, email or in person – carried out by Administrator (M);
- Receive details of new customers via web form;
- Schedule appraisal visits – carried out by Administrator (M);
- Receive and store appraisal reports on items – carried out by Appraiser (M);
- Generate unique Lot Numbers for items – carried out by Administrator (M);
- Create and store listings of lot items for each auction – carried out by Administrator (M);
- Update lots with sale prices after each auction – carried out by Auctioneer (M);
- Calculate removal costs for home clearances – carried out by Appraiser (M);
- Calculate commissions – carried out by Finance Assistant (M);
- Calculate difference between estimated value and sale value of items – carried out by Finance Assistant (M);
- Generate invoices – carried out by Finance Assistant (M);
- Calculate earnings for clients whose items sold for more than the commission and removal costs – carried out by Finance Assistant (M);
- Accept bank transfer payment from customers. Must be confirmed by the bank.
- Conduct online appraisals – carried out by Appraiser;
- Create a weekly report of items available for auction – carried out by Administrator (M);
- Conduct online auctions;
- Create a monthly profit and loss report – carried out by Finance Assistant (M);
- The new system should be able to print invoices and appraisals at a rate of 1 every 3 seconds. However, an upper limit of 5 seconds would be acceptable (M).

The Managing Director has stated that the new system should be deployed within a timeframe of 6 months. The functionality that must be delivered has been marked with an '(M)' in the above list.

*Hidden Treasures* has indicated a preference that its information systems use non-proprietary tools where possible. It would prefer not to be tied into the Microsoft.NET framework or Oracle. The company systems could easily be built using non-proprietary tools such as MySQL or SQLite, PHP and JavaScript.

**Scenario continues on next page**

## HT Personnel:

- **Managing Director** (James Richardson) – James is the driving force behind the project and the budget holder. He has time put aside in his busy schedule to be available for this project. He is happy to make a couple of the staff available for the project on a part-time basis, and empower them to make decisions.
- **Finance Manager** (Susan Spence) – Susan is keen to be involved, but has a hectic schedule and finds it hard to commit to regular meeting time. She is empowered to make financial decisions.
- **Finance Assistant** (Suhil Rehman) – Suhil has been with the company for 18 months. Has knowledge of the financial aspects of the business but not other aspects of the business. Happy to be involved in the project.
- **Auctioneer** (Timothy Winchester) – Timothy has been with the company for 15 years and is a very experienced auctioneer. Has knowledge of all aspects of the business. Attends auctions all over the country and spends over 75% of his time working away on business.
- **Auctioneer** (Charles Montgomery-Fox) – Charles has been with the company for 12 years and is a very experienced auctioneer. Has knowledge of all aspects of the business. Attends auctions all over the country and spends over 50% of his time working away on business.
- **Appraiser** (Sarah Montgomery-Fox) – Sarah has been with the company for 9 years and is an antiques expert. She has a lot of experience of appraisals. Due to conducting all appraisals in person, she spends over 40% of the time working away on business. She previously worked for a large corporation and was a software project manager.
- **Appraiser** (Fraser Richardson) – Fraser is the younger brother of James, he has been with the company for 8 years and is an antiques expert. He has a lot of experience of appraisals. Due to conducting all appraisals in person, he spends over 30% of the time working away on business.
- **Administrator** (Sonja Evans) – Sonja has been with the company for 12 years and has in-depth knowledge of all aspects of the business. Happy to be involved with the project. She previously worked for a large corporation and has experience as a Workshop Facilitator.
- **Administrator** (Tracey Bain) – Tracey has been with the company for 2 years on a part time basis. She has knowledge of the administration side of the business but lacks the in-depth experience of Sonja.

## BBS Personnel:

- **Simon** – Simon is available for the project. NET programmer (C#, VB, ASP) and a technical expert with respect to the Microsoft Platform.
- **Ross** – Ross is available for the project. Experienced web designer (HTML5, JavaScript, MySQL, ActionScript and PHP). He is a certified Workshop Facilitator.
- **Alison** – Alison is available for the project. He is a project manager with experience of building applications using Java.
- **Soteris** – Soteris is available for the project. He has worked on several Agile development projects as a Workshop Facilitator and is a friendly and outgoing individual.

**BBS** personnel have already developed an Agile way of working and all team members will be appropriately empowered. Dedicated teams are assigned for the duration of the project and are very skilled in their respective disciplines.

## Task 1 – 15 Marks

The Managing Director of HT, James Richardson, has heard that Agile Development is a good approach to use for small and medium sized projects. However, as an auction house professional, he has no prior experience of software development methodologies. He has asked you to prepare a report explaining what is meant by Agile Development **and** why it is BBS' preferred approach for this project.

You have been asked the following questions by the Managing Director of TTC:

- What makes Agile distinct from other software development methodologies? **(3 marks)**
- Why Agile Development is the best choice for this project? **(12 marks)**

## Task 2 – 6 Marks

You have been asked to identify suitable individuals to perform the following roles in the Solution Development Team: Business Ambassador and Solution Developer. For **each** position, identify a suitable individual **and** provide TWO (2) reasons why they are a suitable choice for that role.

## Task 3 – 24 Marks

Sonja Evans, an Administrator at HT, has sent an email to BBS with the following content:

*“Our Managing Director asked me to email you to ask how the project will be divided into phases. He said the phrase “Timeboxing” was mentioned, but not clearly explained. Could you please explain what a Timebox is, how these are structured, and what their role is in Agile Development.*

*I have also been asked by one of our Appraisers, Sarah Montgomery-Fox, to clarify how the Agile Development methodology can guarantee the project will be completed within 6 months and meet our requirements. Sarah previously worked as a project manager in IT, and is used to software projects getting behind schedule and running over budget, no matter what new techniques the corporation put in place to improve efficiency. The projects often also produced software which was not quite what the end users wanted or expected.”*

Explain to the Administrator:

- What is meant by a timebox **(1 mark)**
- The different levels of timeboxes **(5 marks)**
- The FIVE (5) main stages in a timebox **(5 marks)**
- The aim of timeboxing and its FOUR (4) main objectives **(5 marks)**
- A comparison of Agile Development with traditional software development methodologies which explains how Agile Development will ensure this project is completed on time and with suitable functionality **(8 marks)**

**Tasks continue on next page**

## Task 4 – 25 Marks

- Produce a business vision statement, as part of the Business Foundations documentation (**6 marks**)
- Produce a use case diagram to clarify the scope of the project (**19 marks**)

## Task 5 – 30 Marks

Using the template given in Appendix A:

- Populate a Prioritised Requirements List for the project scenario with the minimum usable subset of requirements. You should differentiate between functional and non-functional requirements and include OME (1) acceptance criterion for each functional requirement.

## Submission requirements

The word count for the word-processed document is **2000 words**. This word-processed document must be submitted incorporating the full documentation of all tasks of the assignment above. All references and citations must use the Harvard Style. Diagrams created using alternative software should be converted into a suitable image file format (e.g. JPEG) and inserted into the document as images. The document should be submitted both in paper form and digital form. Digital copies should be on an appropriate medium (CD, DVD, USB flash drive, etc.).

## Candidate checklist

Please use the following checklist to ensure that your work is ready for submission.

Have you read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensured that you have acknowledged all the sources that you have used in your work?

Have you completed the *Statement and Confirmation of Own Work* form and attached it to your assignment? **You must do this.**

Have you ensured that your work has not gone over or under the recommended word count by more than 10%?

Have you ensured that your work does not contain viruses and can be run directly?