Unit:
Agile Development

Assignment title:
Hidden Treasures

December 2015 – Sample Assignment

Marking Scheme

Markers are advised that, unless a task specifies that an answer be provided in a particular form, then an answer that is correct (factually or in practical terms) **must** be given the available marks. If there is doubt as to the correctness of an answer, the relevant NCC Education materials should be the first authority.
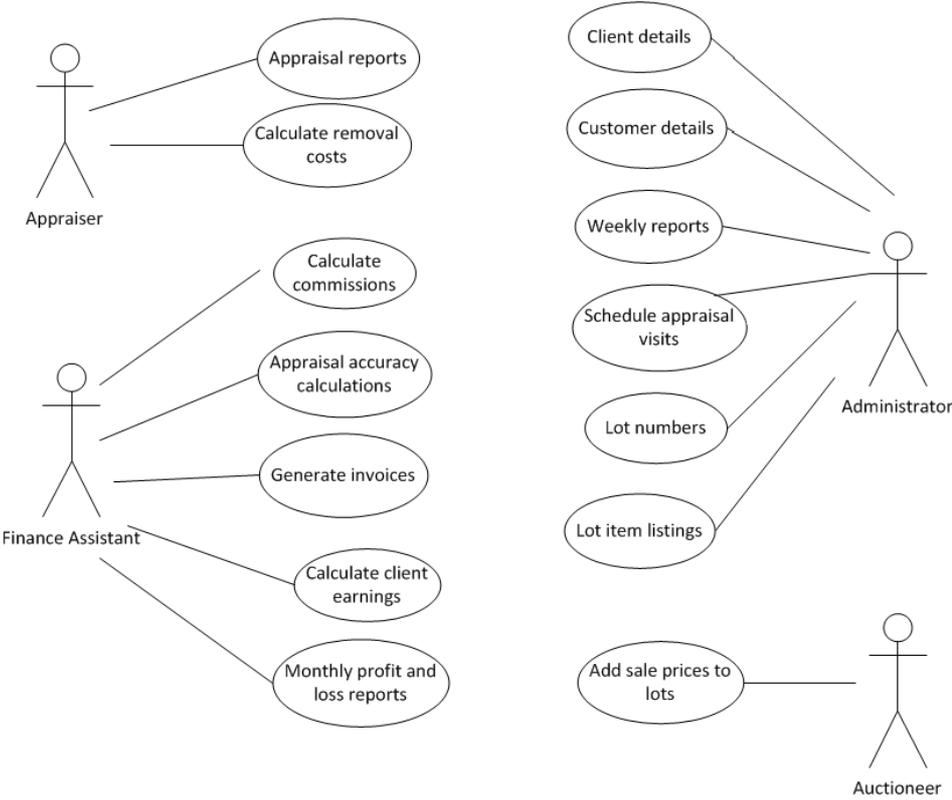
This marking scheme has been prepared as a **guide only** to markers and there will frequently be many alternative responses which will provide a valid answer.

Each candidate's script must be fully annotated with the marker's comments (where applicable) and the marks allocated for each part of the tasks.

Task	Guide	Maximum Marks
1	***Award 1 mark for each bullet point up to a maximum of 3 marks:*** The background to Agile Development: • Agile aimed to deliver projects on time and within budget whilst focusing on business value. • Agile allowed for projects to be completed on time by using prioritised requirements – the flexibility comes from the functionality included, not from reducing quality or extending deadlines. • Agile places greater emphasis on end user involvement throughout the development cycle. ***Award 2 marks if the explanation is given in relation to the Hidden Treasures scenario, and award 1 mark rather than 2 if the explanation is given, but is not related to the Hidden Treasures scenario. Marks should be awarded up to a maximum of 12.*** Rationale for using Agile development for this scenario: • The HT project is fairly small in scope so would not necessarily benefit from big design up front. • The Managing Director wants the HT project completed within 6 months. This is a suitable timescale for using Agile development, and an unusually short timescale for the use of more traditional methodologies such as the Waterfall methodology. • There is some flexibility in the HT requirements and the requirements are more flexible than the timescale. These factors make it more suited to the use of Agile development, which sticks to the timescale and ensures quality, and does so by being flexible regarding the requirements implemented, rather than extending the timescale or reducing the quality of implementation. Traditional methodologies are generally inflexible regarding the requirements, with the result that projects go over schedule. • Using an Agile development methodology makes it more likely that the end users of the HT system will get a system with the features they require as HT employee representatives will be more involved throughout the entire development process as part of the Project or solution Development Team. • The requirements list for the HT project is fairly short, and it is likely that more requirements will be identified during development of the software. The project would therefore benefit from the use of a more flexible approach such as DSDM Atern rather than less flexible traditional methodologies. • Team members at HT have been empowered to make decisions regarding the software. This means that Agile development is suitable and makes it more likely to meet the needs of end users than using standard software development methodologies where decisions are largely made by the developers or the client (in this case the MD) which may result in software which does not meet all the needs of the end users.	**15**

Task	Guide	Maximum Marks
2	*The maximum number of marks awarded to this task is 6. Award 1 mark for identifying a suitable person and up 2 marks for the justification.* Business Ambassador: Sonja Evans <u>Justifications:</u> • Right end-user skills, knowledge and experience • Empowered to make decisions • Available *Award 1 mark for identifying a suitable person and up 2 marks for the justification.* Solution Developer: Ross <u>Justifications:</u> • Right technical skills, knowledge and experience • Available	
		6
3	*Award 1 mark for the bullet point:* • A timebox is fixed period of time, at the end of which an objective (deliverable) has been met. *Award 1 mark for each bullet point up to a maximum of 5 marks:* <u>The different levels of timeboxes:</u> • **Project Timebox**: Covers the period from the start of the project to the project end-date. • **Increment Timebox:** One for each delivery increment in a project. • **Early Phase Timebox:** Timeboxes for early lifecycle stages e.g. Feasibility, Foundations, which have deliverables that may not form part of the final solution. • **Development Timebox:** Timeboxes used during the exploration and Engineering phases, for the work of evolving and prototyping pieces of the solution. • **Workshop Timebox:** A timebox for a Facilitated Workshop or other review session, with a fixed start and end time and predefined products. *Award 1 mark for each bullet point up to a maximum of 5 marks:* <u>The FIVE (5) main stages in a timebox</u> • **Kick-off:** Usually a meeting of the Solution Development Team to confirm the objective(s), content, priorities and responsibilities within the Timebox and to set review points and criteria. • **Investigation:** Initial investigation of the detail of the products to be delivered and acceptance criteria against which they will be measured. **<u>Question 3 continues on next page</u>**	

Agile Development

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Task	Guide	Maximum Marks
	• **Refinement:** Where the bulk of the development and testing of the products, including documentation, will be done, in line with the already agreed priorities. • **Consolidation:** Final testing of products to ensure they have met acceptance criteria, plus completion of documentation and tying up of loose ends. • **Closeout:** Short meeting where final formal acceptance of the Timebox products is agreed (particularly by the Business Visionary and Technical Co-ordinator) and any scheduled work not completed is addressed. May include re-planning of SCoW requirements that were not implemented in this increment. *Award 1 mark for the bullet point:* • The aim of timeboxing is to make something useful. *Award 1 mark for each bullet point up to a maximum of 4 marks:* **Objectives of timeboxing:** • To be product-focused, rather than task-focused. • To ensure deliverables are produced on time. • To ensure deliverables are produced to the correct quality. • The date for deliverables is immovable. • To meet the quality and time objectives through flexibility regarding product requirements. *Award 1 mark for each bullet point up to a maximum of 8 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 within budget: • Traditional approaches use big design up front which ties them in to detailed requirements specifications. • Agile development uses enough design up front which enables development to begin more quickly • Traditional approaches are rigid with regards to the project requirements • Agile development is flexible with regard to the requirements and features which must be implemented, but is strict regarding the project timescale. • Agile development makes use of MoSCoW prioritisation to ensure on-time delivery of a suitable system • The SAT project has prioritised requirements which make it suitable for use of Agile Development and make it possible to meet the time deadline without a detrimental impact on quality • Agile development is suited to smaller scale projects such as this SAT project. • Agile development ensures involvement of client and end user representatives throughout the development cycle, making it more likely that the product delivered will meet SAT's requirements.	
		24

Task	Guide	Maximum Marks
4	**Vision Statement** ***Award up to 6 marks for the vision statement:*** This must be clearly for this project, not just the business as a whole, and will be something like: "This project will deliver a product which will allow HT to easily cope with all of the paperwork associated with calculating removal costs, calculating commissions and tracking lot items and auction outcomes. The new system is to be available within the next six months." Quality criteria for marking this are: - Describes the business, as it will be after the project has completed. - Describes the big picture. - Shows how that picture differs from current reality. - Describes how this project will contribute to the required change. - Does NOT state requirements for the proposed solution. **Use case diagram** ***1 mark for each Use Case up to a maximum of 14 marks. Award 1 mark for each Actor up to a maximum of 4 marks. Award 1 mark for correct associations*** Answer would be similar to the diagram shown below: 	
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Task	Guide	Maximum Marks
5	**_Award up to 2 marks for each functionality up to a maximum of 15 marks:_** See below table:	

Requirements identifier _(a sensible, unique identifier)_	Requirement short name _(a clear usable short name)_	Requirement description _(A clear requirement which would fill in the wording for a user story's body of "I want" or "I need the ability to")_	Acceptance criteria _(As appropriate from scenario)_
R1 Functional	**Client Details**	Receive and store details of clients	Via telephone, post or email. Carried out by Administrator.
R2 Functional	**Customer details**	Receive and store details of new customers	Via telephone, post or email. Carried out by Administrator.
R3 Functional	**Schedule visits**	Schedule appraisal visits	Carried out by Administrator
R4 Functional	**Appraisal reports**	Receive and store appraisal reports on items	Carried out by Appraiser
R5 Functional	**Lot Numbers**	Generate unique lot numbers for items	Carried out by Administrator
R6 Functional	**Listings**	Create and store listings of lot items for each auction	Carried out by Administrator
R7 Functional	**Update Listings**	Update listings of lot items with sales prices after each auction	Carried out by Auctioneer
R8 Functional	**Removal costs**	Calculate removal costs for home clearances	Carried out by Appraiser
R9 Functional	**Calculate commissions**	Calculate commissions to be charged for auctioned items	Carried out by Finance Assistant

Task	Guide				Maximum Marks
	R10 Functional	Accuracy of estimates	Calculate the difference between estimated and sales value of items	Carried out by Finance Assistant	
	R11 Functional	Create invoices	Create and send invoices to customers, and to clients whose auction sales did not cover removal costs and commissions	Carried out by Finance Assistant	
	R12 Functional	Calculate clients earnings	Calculate earnings of clients whose items sell for more than the commission and removal costs	Carried out by Finance Assistant	
	R13 Functional	Weekly report	Create a weekly report of items available for auction.	Carried out by Administrator	
	R14 Functional	Monthly report	Create a monthly profit and loss report.	Carried out by Finance Assistant.	
	R15 Non-Functional	Print times	System should be able to print appraisals and invoices at a rate of 20 pages per minute.	12 pages per minute would be minimum acceptable.	
					30
					Total: 100 Marks

Learning Outcomes matrix

Task	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1	1, 4	Yes
2	2, 6	Yes
3	1, 3, 4, 5	Yes
4	3, 4	Yes
5	3, 4, 5, 6	Yes

Grade descriptors

Learning Outcome	Pass	Merit	Distinction
Understand the background to Agile development	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the roles within an Agile development team	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the various Agile development techniques	Demonstrate adequate understanding of techniques	Demonstrate robust understanding of techniques	Demonstrate highly comprehensive understanding of techniques
Understand an Agile development lifecycle	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the principles associated with an Agile development approach	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Be able to apply an Agile development approach to a particular project scenario	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard