Task A

1. What is the purpose of the design phase?

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| The Design phase is about planning the project in detail so that that system will meet user requirements. |

1. Complete the table below to identify the specification required for this new system.

|  |  |
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| What hardware is required for this new system to be implemented? | Computers/Laptops/Tablet devices  Printers/Photocopiers.  Students may mention: Monitors, Keyboard, Mouse etc… |
| What software needs to be installed that will allow users to access the new system? | Applications software that can perform basic tasks such as spreadsheets, word processing and desktop publishing.  Bespoke software might be required to run more specialised tasks that aren’t as easy to do with the standard applications available.  Choice of operating system |
| What changes need to be made to the network infrastructure? | Investment in network hardware such as: switches, servers, routers, cabling. |
| How will this project be planned? | Project planning is all about handling people: how many, where and when are they needed. In addition, those people will need resources to carry out their jobs: computers, offices etc. There are a number of different project planning tools which will be used during this stage in order to effectively plan out the project, timescale and the resources required. |
| What security procedures need to be put in place for the new system? | Data capture methods for the system  Data inputs to the system  Data outputs from the system  Data processing within the system  The file structure for data storage  How information is accessed and indexed or sorted. |

Task B

1. Explain the purpose of testing and why it’s important that organisations test their system properly.

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| The purpose of testing is to check the system meets the user requirements, that it works as intended and is able to detect any errors that can be fixed. It can check to see if the system crashes and how it responds to user input.  Its important that organisations test their systems properly because if it doesn’t work as intended then it can have an impact on the staff and customers who are trying to use the system. As a result, it could lead to frustrated staff and customers who become unhappy with their service and will look elsewhere. |

1. Using the bank example from previous tasks, if a new customer wants to register for online banking then they must use a password that is at least 8 characters. This needs to be tested.

Complete the rest of test plan shown below.

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| --- | --- | --- | --- | --- | --- |
| **Test No.** | **Description** | **Test data** | **Expected result** | **Actual result** | **Pass/Fail** |
| 1 | Web registration form. Password that is 8 characters long. | Boundary  (Valid extreme) | Should be accepted as it meets minimum length | Accepted | Pass |
| 2 | Web registration form. Password that is 7 characters long. | Boundary  (Invalid extreme) | Should be rejected because password isn’t long enough | Rejected | Pass |
| 3 | Web registration form. Password that is 13 characters long. | Valid | Should be accepted as it meets minimum length | Accepted | Pass |
| 4 | Web registration form. Password not entered, blank entry. | Erroneous | Should be rejected because password isn’t long enough | Rejected | Pass |

Task C

Once the testing phase is complete and the system works exactly as it’s intended then it’s ready to be rolled out. The changeover of systems can be managed in different ways.

In the table below, identify how each method works including one advantage and one disadvantage of using each.

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **How does it work?** | **Advantage** | **Disadvantage** |
| Direct | The old system is instantly replaced with the new one. | Cheap method of installation.  The new system is available to all users right from the start.  No need to keep old system and its infrastructure going (i.e. no duplicate cabling) | Considered a high risk because if the new system fails, the old system is not available anymore.  Data needs to be transferred from old system to new which can take time.  There will be a period of redundancy while the new system is being installed, as the old one has to be switched off.  Staff might find it difficult/overwhelming getting to grips with a new system. |
| Parallel | This is where the new and old system work side by side. Once everyone is happy the new system is working well, then the old system can be switched off. | Considered less of a risk because of the comfort blanket offered by the old system.  Staff given more time to get to grips with the new system. | Both systems will need the data stored on it so it will double the time required to enter data.  A synchronisation failure could mean that the data on the old system doesn’t mirror the new one.  Additional costs are incurred because two systems are effectively being run at the same time. |
| Phased | The old system is still active but some parts/components of the new systems are introduced and once any problems are ironed out, the full changeover will begin. | Considered less of a risk because the old system is still in full use and only a specific part of the new system is being used, so easier to identify the problem.  Staff are introduced to a new system in gradual systems which makes it easier to train them. | This method of installation can take a long period of time.  Integrating part of a new system into an old system might not be easy to do. |
| Pilot | The new system is implemented on a small scale (e.g. such as one or two departments) The purpose of this is that departments can feedback to analyst the performance of the new system and any potential issues. This determines when it can be rolled across the entire organisation. | Only a small part of the business is affected, so for the majority, it’s business as usual.  When problems are identified, it won’t affect the entire organisation.  Staff involved in the pilot could be trained to train other staff when it’s rolled out to the entire organisation. | Staff working in departments involved in the pilot stage will still be at a disadvantage as they’re completely reliant on a new system. A direct method has been used with these.  Might be difficult for these departments to share data stored on the new system with other departments who are using the old system.  Extra work for IT support staff who have to manage two different systems. |