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Systems Analysis and Design

INT 4202 - 1952-202310\_INT4203\_M

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**Week 14 Assignment**

**1) What is a release methodology? Why is version control important?**

A release methodology, or maintenance release methodology, is when all noncritical changes are being held until it is possible to implement them all at the same time, instead of releasing out a constant stream of very small updates, it allows you to make updates and then release them all at the same time (Tilley, S. p. 412). When using a release methodology it ensures that all changes are properly documented, and released as a new version such as 1.0 or 1.1, 1.2, etc. when doing this is allows people who need to install the updates to be able to do less frequently (Tilley, S. p. 412). It is also possible when using a release methodology to release hot fixes, or quick patches in order to fix a critical error, which then ignores the release methodology timing cycle and pushes it out to the public immediately (Tilley, S. p. 412). When using a release methodology it is especially useful if there are multiple teams working on the same system, it allows all changes to be tested together before a new version is released, which results in less expenses and less interruptions to the users of the system (Tilley, S. p. 412). Unfortunately, however, having a release methodology has some disadvantages, such as providing a less rapid response to problems (Tilley, S. p. 412).

Version control is one of the most important aspects of creating systems and programming, it allows you to track system releases or versions, as well as all minor changes, such as through the use of Git or Github (Tilley, S. p. 412). When you update a system you are pushing out the new version and archiving the old version, which means when you perform an update if there is something wrong you can immediately go back a version (Tilley, S. p. 412). Having version control also may act as a backup for programmers, as they may make a change, then save it, and not have it pushed to production, and it allows them to see all changes made line by line. Having version control is also important because it allows other developers of the system to be able to see the changes made better, and see who made these changes.

**2) What are some key issues that you must address when considering data backup and recovery?**

When considering data backup and recovery you must create a backup policy or already have one in affect to follow when handling backups and recovering from those backups (Tilley, S. p. 435). It is also important to consider the backup media you want to use such as tapes, hard drives, solid state drives, and discs or optical storage, however, there is also the option of using cloud storage (Tilley, S. p. 435). It is important when conducting physical backups to store them in a secure location, making sure that you have backups not only onsite but offsite so that if there were to be a natural disaster in your location and your backups are gone the offsite backups will not be (Tilley, S. p. 435). It is also important to consider the software being used to perform the backups themselves as well as how the backups are being performed. Backups can be performed in a few different ways such as full backups, differential backups, incremental backups, or continuous backups, however, it is also possible to have a mixture of these different types of backups. Full backups perform a backup of every single file 9on the system, they can take a large amount of time as well as a large amount of storage, differential backups backs up only the files which are new or have been changed since the previous backup, incremental backups only include recent files that have never been backed up before, and continuous backups performs backups on files continuously to other drives, such as through the usage of RAID (Tilley, S. p. 435). However, it is important to note that in more recent times it has come to knowledge that RAID’s are less of a backup and more of an availability tool, as if you delete something on a RAID and it’s in a mirror configuration it’ll simply delete it across all other drives, and are primarily used for drives failing, and shouldn’t be primarily used for data backups anymore (Tilley, S. p. 435). It is also important when performing regular backups to consider the retention period, or how long you will keep a backup before it has been deleted, if ever (Tilley, S. p. 436). It is also important to consider in data backups business continuity issues such as if you’re having a third party store the backups if they go out of business what happens next (Tilley, S. p. 436). Finally, it is important in data backups and recovery to actually test your backups and ensure that you are capable of implementing the backups and that they have been configured properly.

References

Tilley, S. (2020). Systems analysis and design (12th ed.). Cengage.

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