CSCI 2050 – Database backup plan

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To ensure the safety and availability of the data in my game store database, I will be implementing the following plan, which is divided into four big categories:

- **Full backups:** To be performed once a week, during off-hours when the system is not in use. This backup will be stored on a separate server in a different location from the main database. Full backups are necessary in case of a **catastrophic** event such as hardware failure. If something like that happens, a full copy of the database will be available for restoration.

- **Differential backup:** During non-peak hours of every weekday, this backup will be performed (probably every 12 hours.) The idea is to store only the differences made since a full backup was performed. Obviously, these backups will be faster to restore and will require less storage space.

- **Transaction log backup:** Once every hour, a transaction log backup will be performed to capture any changes made to the database. These backups will be stored on a separate server in a different location from the main database just like in the full backups. These backups will be **crucial** for restoring the database to a specific point in time and ensuring data protection.

- **Cloud Backup:** If something **super catastrophic** happens, so that both the main server and the backup server suffer unrecoverable damage, it's important to still have a way of recovering the database. Because of that unlikely but still possible event, A cloud service such as Amazon Web Service, Google Cloud, or Microsoft Azure will be used as a backup plan.

I believe that for the purposes of this 'company,' the time chosen to perform the database backups is suitable for the business plan. Making the differential backups in non-peak hours will ensure a better system performance as well as choosing an off-hour time for the full backups once every week. Moreover, transaction backups being performed once every hour will be crucial to ensure data protection of sensitive data.

In conclusion, the following plan ensures a robust strategy to prevent data loss. By combining different backup techniques: Full backups once a week, Differential backups once every 12 hours, and transaction log backups once an hour, I believe that this plan will ensure enough data protection. Additionally, in case of a total loss of the main server and the backup server, my plan still makes use of a cloud service for an additional layer of protection for the database.