Computer Science 2210/0478 (Notes) Chapter: 5



Topic: Cookies

Cookies are small pieces of data that websites send to a user's web browser while they are browsing. These data pieces are stored on the user's device and sent back to the website with every subsequent visit or request to the same domain. The primary purpose of cookies is to allow the website to "remember" actions or preferences over a period of time, making subsequent visits more personalized and efficient. Cookies play a crucial role in enhancing and enabling certain functionalities on the web, ranging from keeping a user logged in to tracking user behavior for analytics.

Types of Cookies

Session Cookies

- Temporary: Session cookies are temporary cookies that are stored in memory and not written to the drive. They are created temporarily in the browser's subfolder while a user is visiting a website.
- Purpose: Their primary function is to manage the session, keeping track of the user's movements from page to page so that information doesn't need to be re-entered. Once the web browser is closed, the session cookies are deleted.
- Example Use: They are widely used by e-commerce websites to keep track of items a user has added to the shopping cart as they explore the site.

Persistent Cookies

- Long-term Storage: Unlike session cookies, persistent cookies are stored on the user's device in between browser sessions. They have an expiration date set by the web server, and they can be stored for varying lengths of time, from minutes to years.
- Purpose: Persistent cookies remember your preferences and actions across a site (or in some cases across different websites) to provide a more personalized experience.
- Example Uses: They are used for functions like remembering login details, user preferences (such as theme preferences, language settings), and tracking user behavior for targeted advertising.

Uses of Cookies

- Saving Personal Details: Cookies can store personal details entered on websites to prevent the need for re-entering information on subsequent visits, enhancing the ease of use and making the interaction with the site more efficient.
- Tracking User Preferences: Websites use cookies to remember user preferences, such as layout, colors, font sizes, and more. This customization makes the browsing experience more personal and accessible.
- Holding Items in an Online Shopping Cart: E-commerce sites use cookies to remember items you've added to your shopping cart. This information is preserved even if you navigate away from the site, allowing you to return later and proceed to checkout without having to add the items again.











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Storing Login Details: Cookies are used to remember login details, enabling users to re-access accounts without logging in every time they visit the site. This use requires careful security considerations to protect user data.

Considerations

While cookies are essential for a fluid web experience, they also raise privacy and security concerns. Users are often concerned about how their data is being tracked and used, especially with persistent cookies. Regulations like the GDPR (General Data Protection Regulation) in Europe have put more stringent rules around the use of cookies, requiring websites to obtain user consent before storing cookies on user devices, especially those used for tracking and personalization purposes.







