The OSI Model:

Using A Music Studio App to Illustrate the Seven Layers of Web Architecture

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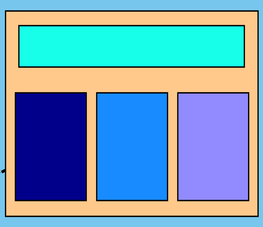
Layer 7: The Application

The user interacts with the studio web application to enter the student's information, such as the date of their lesson, if the student attended said lesson, the payment for the lesson, and the student's assignment for the week. All this information will be stored in a database for future reference and generating reports.



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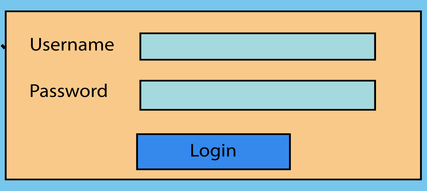
<student_info>
 <date format="MMDDYYYY">06302020</date>
 <name format="First Last">Amelia Tavares</name>
 <attendance>attended</attendance>
 <assignment>page 3</assignment>
</student_info>
```

Layer 6: Presentation

This layer takes the data the user entered, and standardizes it so that it can be used by the application layer. An example of how this is done is XML formatting. Any data encryption that is needed also happens at this level.

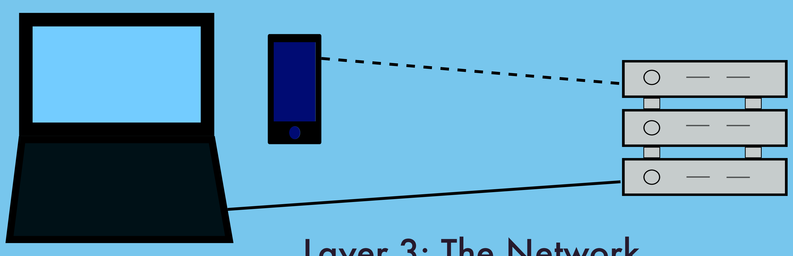


Layer 5: The Session

The session layer provides security for the user. With the entering of their username and password, the application begins their session. Personal preferences, such as language settings, are kept track of with the use of cookies. Security for the app also occurs at this level. If the user is inactive for a certain amount of time, the session will time out, and the user will have to log in again.

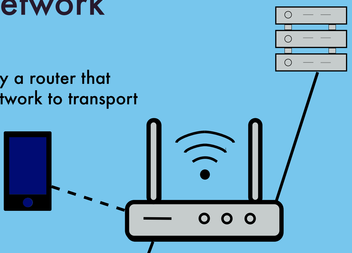
Layer 4: Transport

The session layer is supported by the transport layer. This layer is the connection of the user's device with the server storing the web app and its data. In the case of this app, the connection would be TCP, Transmission Control Protocol, which is a direct connection made between the device and the server, and makes sure that all data being transferred is complete and in the proper order. The other type of transport is UDP, User Datagram Protocol, in which data is transferred without a connection directly between devices. It can be less reliable in the transfer of data packets and in security.

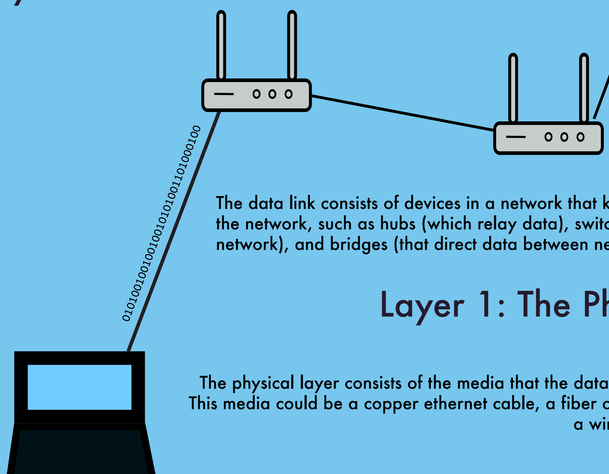


Layer 3: The Network

The network is a group of devices connected together, usually by a router that connects them all to the internet. The transport layer uses the network to transport data packets between devices.



Layer 2: The Data Link



The data link consists of devices in a network that keep the data moving through the network, such as hubs (which relay data), switches (that direct data within a network), and bridges (that direct data between networks).

Layer 1: The Physical Layer

The physical layer consists of the media that the data travels on between devices. This media could be a copper ethernet cable, a fiber optic cable, or, in the case of a wireless network, radio waves.