

ABSTRACT

A SYSTEM FOR MANIPULATING AND UPDATING DATA OBJECTS WITH REMOTE DATA SOURCES AUTOMATICALLY AND SEAMLESSLY

The present invention creates applications having remote data sources linked to data objects on storage media such as CD-ROMs. These data objects are linked transparently to remote sources and updated automatically. In the preferred embodiment of the present invention an agent - based LiveServer accepts connections from at least one LivePlayer which may be linked to the invention remotely by a direct network link or a modem dial out to the terminal server to which the LiveServer is connected. When the LivePlayer fetches a resource from the network it shall first post its universal resource locator (URL) to the LiveServer. The LiveServer scans a translation table of alternative addresses for the URL. The LiveServer returns either an original or translated URL to the LivePlayer which then uses this URL to check its local hard disk cache to determine if the resource has been fetched earlier. If no such resource exists on the local cache the LivePlayer fetches the media from the remote site via the appropriate network protocol. This media will then be kept on the local cache and rendered by the LivePlayer. If the URL is found on the local cache, the appropriate network protocol will be used to contact the remote site to determine if it is outdated. If the cache is outdated, the local file is replaced by the new file fetched from the remote site. Otherwise the local file is rendered by the LivePlayer. The LiveServer automatically broadcasts updates to remote data sources to all currently connected LivePlayers, which then update the media by doing a remote fetch if it is currently been browsed. These LiveServer broadcasts thus provide live updates to data objects.

Figure 3.