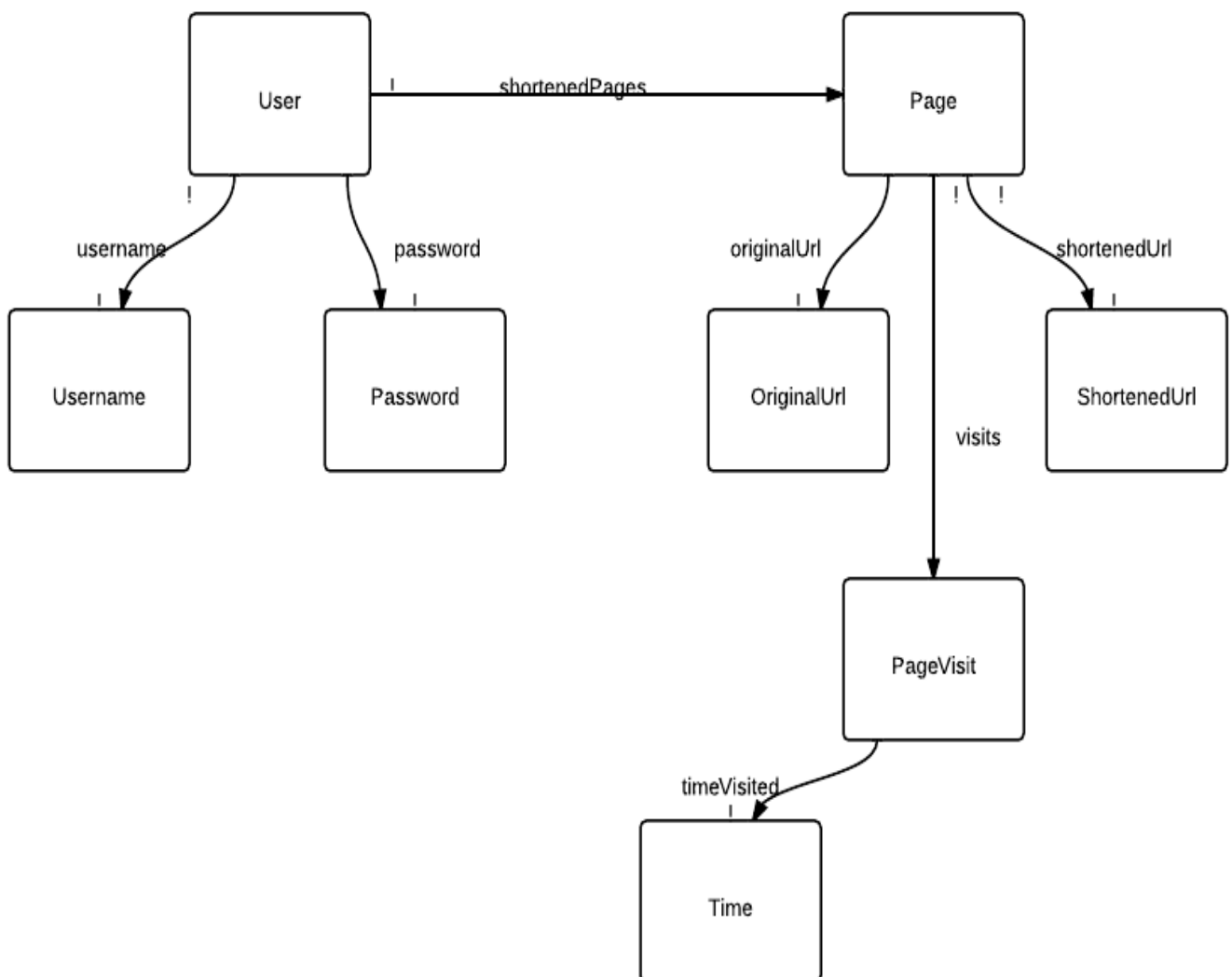


Link Shortener Object Model

Storage Data Model



Ambiguities Resolved

It was not specified exactly what analytics should be tracked. Rather than just counting the number of visits, I have logged each specific visit as its own row in the `page_visits` table, keeping track of the timestamp for that visit. More detailed analytics can be derived from this time.

Complexities Ignored

The database does not store passwords directly – the application instead hashes them with a salt and stores that result. This was omitted from the model as it is an implementation detail.

Times are stored as seconds since the epoch, the output of Python's `time.time()` function. This is not depicted in the model as it is an implementation detail.

Designations

Pages are an abstract data type representing an original URL, a shortened URL, and a list of visits logged. Note that original URLs do not have to be unique – multiple users could independently shorten the same URL, and it is also possible for a user to make multiple aliases for the same URL.

OriginalUrls are the original URLs for pages, which are kept track of so that when a shortened URL is accessed, the user can be redirected to the appropriate URL.

PageVisits represent the log taken from each visit to a shortened URL. Analytics about PageVisits are displayed to the user who originally created the shortened URL.