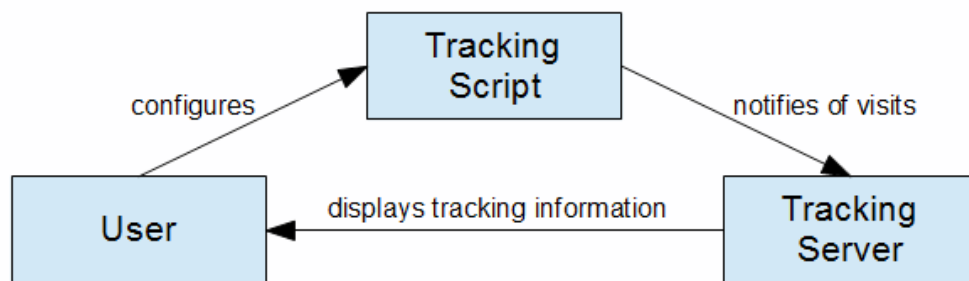


Overview

Purpose and Goals

The purpose of this system is to track the visits to various pages within the user's website. Additionally, the average time spent on each page is tracked as well. To use the service, the user loads a javascript file with each of their webpages. In order to check their site's status, users visit a website hosted on the tracking server.

Context Diagram

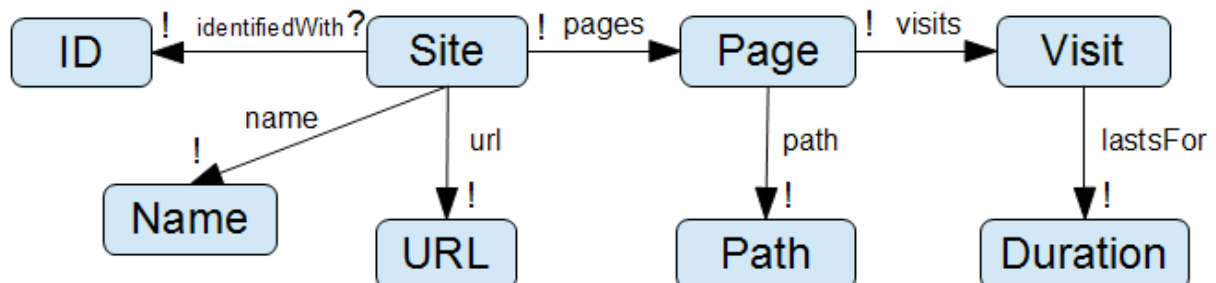


Concepts

Key Concepts

The key concepts in the design of the system are **sites**, **pages**, and **visits**. Each site has a collection of pages, each of which has a collection of visits, each of which has a duration.

Object Model



Challenges

Design Challenges

Problem1: How should visits be stored?

Option 1: Store a record in the database for each visit to the page.

Option 2: Only store the total number of visits and the total visit duration, using these to calculate the average visit duration.

Evaluation: Storing data for each visit would let the system track a multitude of information for each visitor, such as IP address, browser, screen size, etc. However, in a real world use case, storing data for each individual visit to a page might use an excessive amount of space.

Option Chosen: Option 2.

Problem 2: How should the user specify a site?

Option 1: Specify the site using its sequential ID.

Option 2: Generate a unique secure key for each site.

Evaluation: If the sequential ID of the site is used in the url for registering visits, then it would be possible for users to register visits to other users' sites.

Option Chosen: Since security is not meant to be one of our concerns for this project, I decided to use the simpler of the two options, option 1.