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***Clickstream Analysis: Scope and Application***

**Assignment of Web Systems and Algorithms (Csc 559)**

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## **A. Clickstream**

A clickstream is the set of clicks or actions a user makes on a website. It is a flow of the user's interactions on the website. Where did the user click and when?. Clickstream is the ordered flow of clicks or taps (in case of touchscreen) that shows the information about where users are clicking or how they are navigating the website.

In other words, Clickstream (also known as clickpaths), are the route that visitors choose when clicking or navigating through a site. A clickpath is a list of all the pages viewed by a visitor, presented in the order the pages were viewed, also defined as the '*succession of mouse clicks*' that each visitor makes.

## **B. Clickstream Analysis**

Clickstream analysis involves examining above clickstream data for research purposes. It is usually part of a larger market research strategy. A clickstream will show you when and where a person came in to a site, all the pages viewed, the time spent on each page, and when and where they left. The most obvious reason for examining clickstream is to extract specific information about what people are doing on the website. Examining individual clickstream will provide the information needed to make content-related decisions without guessing. There is a wealth of information to be analyzed, we can examine visitor clickstream and related information like visit duration, search terms, ISP, countries, browsers, etc. These information gives meaningful insight into what the website visitors are thinking and to predict their future moves. Clickstream analysis is done for several purposes such as software testing, market research, analyzing client data, and analyzing employee productivity, etc. These purposes can be termed as scope of clickstream analysis.

## **C. Scope and Application**

### **C1. Software Testing (Testing efficiency of website's navigation)**

In any web application, user testing is a key step in delivering the product that is actually useful. A part of this user testing includes clickstream analysis. Let us take an example to analysis an employee portal. The analysis reveals that users don't always follow the path as visioned by the developer. Also, user may want something else which may takes them longer

because the information they seek may be several pages behind (i.e. need some navigation). All these factors makes it necessary to re-design the application. After the changes have been made testing must be conducted again. The main goal is to improve the click path for users (in this case employees), in order to reduce inefficiencies and wasted effort. After all, users will not spend much time on a site that frustrates them.

## **C2. Market Research**

Clickstream analysis can also provide a measure of how marketing efforts are going. For example, we can see Facebook advertisements of the marketing website. We need to actually generate clicks to our website from those ads. The market analysis using clickstream not only allows us to see what pages are visited, but also how long a user spends at a given site, what items might be added or removed from a shopping cart, and how often users click backward or forward. Clickstream analysis also lets us predict user behavior. So, if we know users who buy one items also buy particularly another item in the site, we can modify our application to display these items together.

## **C3. Analyzing Client Data**

Clickstream analysis is used to understand users on numerous levels, even down to the individual user. Nowadays, most website give priority to personalized content (Amazon, YouTube, are some examples). Using clickstream analysis and the information obtained on the basis of particular user, we can optimize the entire user experience, at every click. The power of clickstream analysis is not only limited to evaluate user behavior but we can also employ it to predict users' behavior from it.

## **REFERENCES**

1. <https://www.opentracker.net/article/clickstream-or-clickpath-analysis>
2. <https://study.com/academy/lesson/clickstream-analysis-definition-uses.html>