

Technology Opportunity, Ref. No. UB-22/092

## Tracking and tracing visit and sharing chains in digital communication

This tracing method for communication over the internet enables tracking of content sharing across digital communication channels through sharing and attribution chains. All information is collected without identifiable data and compliant with current data protection regulations.

**Keywords** Tracking, tracing, following, information delivery, data chain, referral attribution, marketing, influence, sharing power, affiliate

**Inventors** Achim Edelmann, Christian Müller, Marco Bastos

**Background** There is broad interest to track visits to and sharing of web content across various digital communication channels, such as personal messengers, email, and social media platforms. So far, this is only possible at a basic level, or it requires collecting extensive personal information, such as detailed user profiles.

**Invention** This newly developed method enables observing such visits and related sharing chains over several contacts using a novel form of dynamic referral identifiers. The major innovation is the ability to collect structural information on sharing and visits beyond the initial contact. This additional information allows to quantify and harness various characteristics of the data traffic that has hitherto been unavailable, for example, it allows to establish the sharing power of each visit. In doing so, no direct interaction with a specific user is required at any stage of the process. Therefore, the personal rights of users who share and distribute content remain intact.

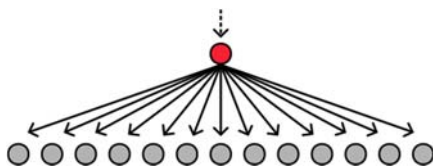


Fig 1: Current technologies.

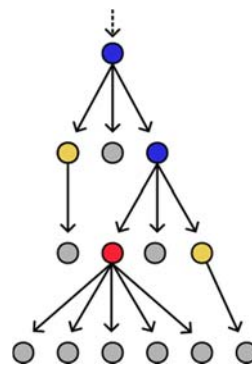


Fig 2: New technology.

Fig 1 on the left depicts current technologies, which only allow to establish the overall sharing power of the initial contact/visit. Due to a lack of structural information, only a flat representation of the sharing tree is possible.

Fig 2 on the right shows the improvement of this new technology, which dynamically identifies low (yellow), medium (blue) and high (red) sharing power of contacts/visits at all levels of sharing.

**Application** Quantitative evaluation/analysis of data streams and distribution; identification of heavily active platforms and individuals for distributing specific pieces of information; qualify the marketing influence of an affiliate's/influencer's community; marketing optimization based on the sharing power of affiliate networks; social value of influencers' second order contacts, identifying behavioral trends among visitors/distributors.

**Patent Status** International Patent Application No. WO 2023/006312 A1

**Contact** Unitecra, Technology Transfer University Bern, Dr. Martin Binggeli,  
Hochschulstrasse 6, CH-3012 Bern, +41 (0)31 681 3231,  
mail@unitecra.ch