

Conceptualizing Transparency on Online Social Networks

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ABSTRACT

According to social identity theory [2], each individual performs multiple and possibly conflicting roles in everyday life by presenting different identity facets to different people and keeping those facets consistent. This theory can be applied both to interaction in the physical world and on Online Social Networks (OSN). Yet, on OSN, management of identity facets is limited by the granularity of the available access control model and options such as groups (roles). As a result, inappropriate visibility of shared personal items (permission) to contacts (users) threatens privacy as people lack a structured overview of all user-permission assignments to recognize identity facets and erroneous visibility settings.

Role-Based Access Control (RBAC) [3], a commonly used access control model in enterprises, is a different research area that also deals with assigning permissions to users which are bundled to roles. Here, one challenge for large enterprises is to define consistent roles and find errors in existing user-permission assignments. To improve understanding, approaches to graphically present user-permission assignments, such as Visual Role Mining [1], have emerged. Visual Role Mining uses a matrix visualization, with rows representing users (u_1, \dots, u_n) and permissions (p_1, \dots, p_m) being depicted as columns. A cell c_{ij} is colored if user u_i possesses permission p_j . Rows and columns are reordered to obtain clusters of adjoined permissions. To define roles, this approach relies on human cognitive abilities to discover clusters, which can be treated as role candidates, as well as to detect missing or excessive permissions.

BODY

Sharing decisions on Online Social Networks are reducible to RBAC concepts, making Visual Role Mining applicable to increase transparency.

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