Leveraging Social Networks
for Cold Start User Modeling Problem Solving

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Cold Start Problem Definition:

– New user starts using the adaptive system
– The system does not have information about her
  – It cannot provide any personalized content and/or navigation

However, efficient support of new user can be crucial as she is not familiar with
– the graphical user interface
– domain and/or its particular conceptualization used in the system

If user's first experience with the system is not facilitated and supported by personalization it could easily happen that the user would get *lost*, *confused* and *never returns again.*
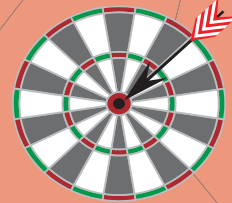
Idea:

☞ Take advantage of existing users and their models to bootstrap model of new user

☞ Drive this bootstrap by taking into account domain dependent social connections and their impact on user characteristics

☞ Leverage third-party mediators from externally supplied social networks connecting users which would otherwise remain unconnected

☞ Employ formal social network analysis to find out functional roles of individuals (e.g., leaders, followers, regulators, popular people, early adopters)

Challenges:

💣 **Name disambiguation**

💣 **Merging several social networks acquired from different sources**

💣 **Mapping a system user to an entity from acquired social network**
  – direct information (this is me)
  – indirect information (authorship)
  – via web appearance and link analysis of web pages

System

new user

new user

Externally supplied Social Network

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