Smart Library:
A framework for Real Individualized Service

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About the Smart Library

--- Started from 2003 in Finland： A location-aware mobile library service (Aittola M, Ojala T).

---- There is no general agreement on a standard definition of Smart Library

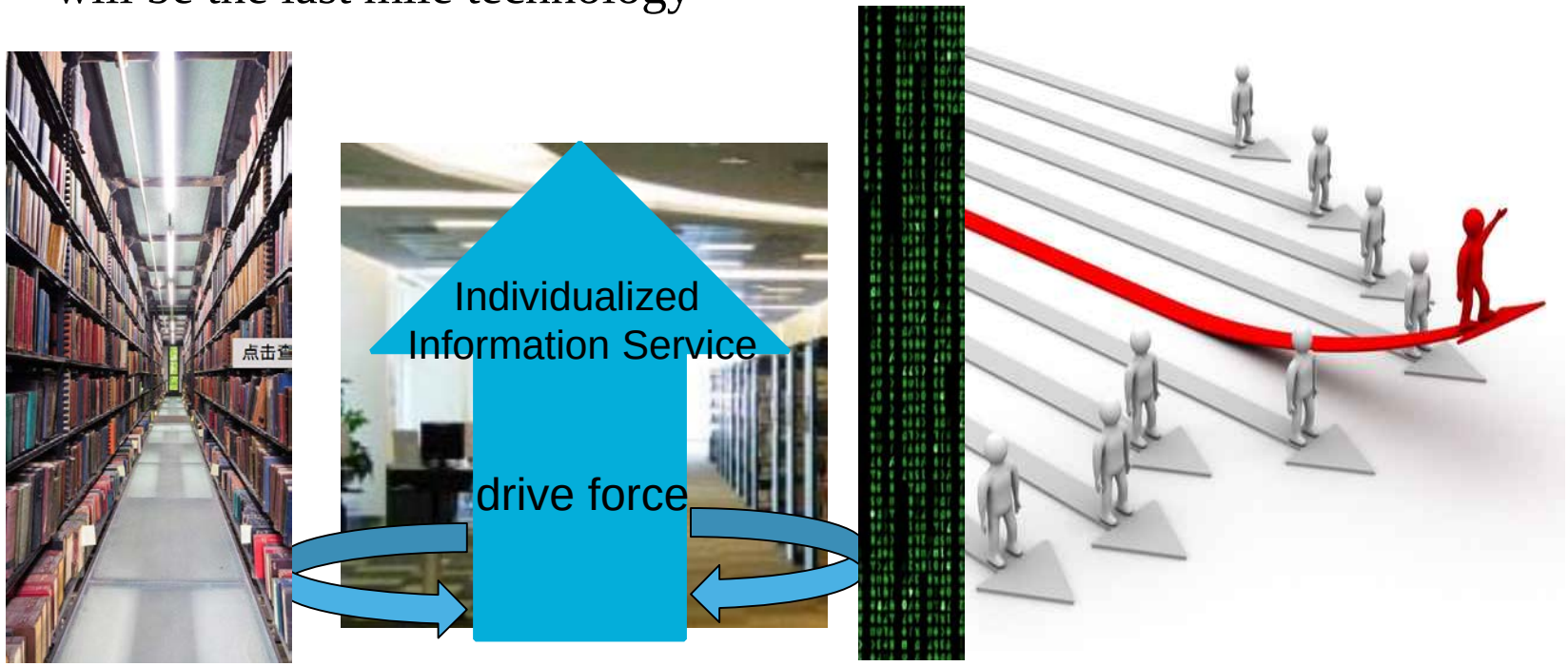
•smart libraries will leverage networks of intelligent sensors and actuators connected to the internet, able to provide a vast range of high-level services to both users and administrators.

---- From Knowledge Agency to Lifelong Learning Provider

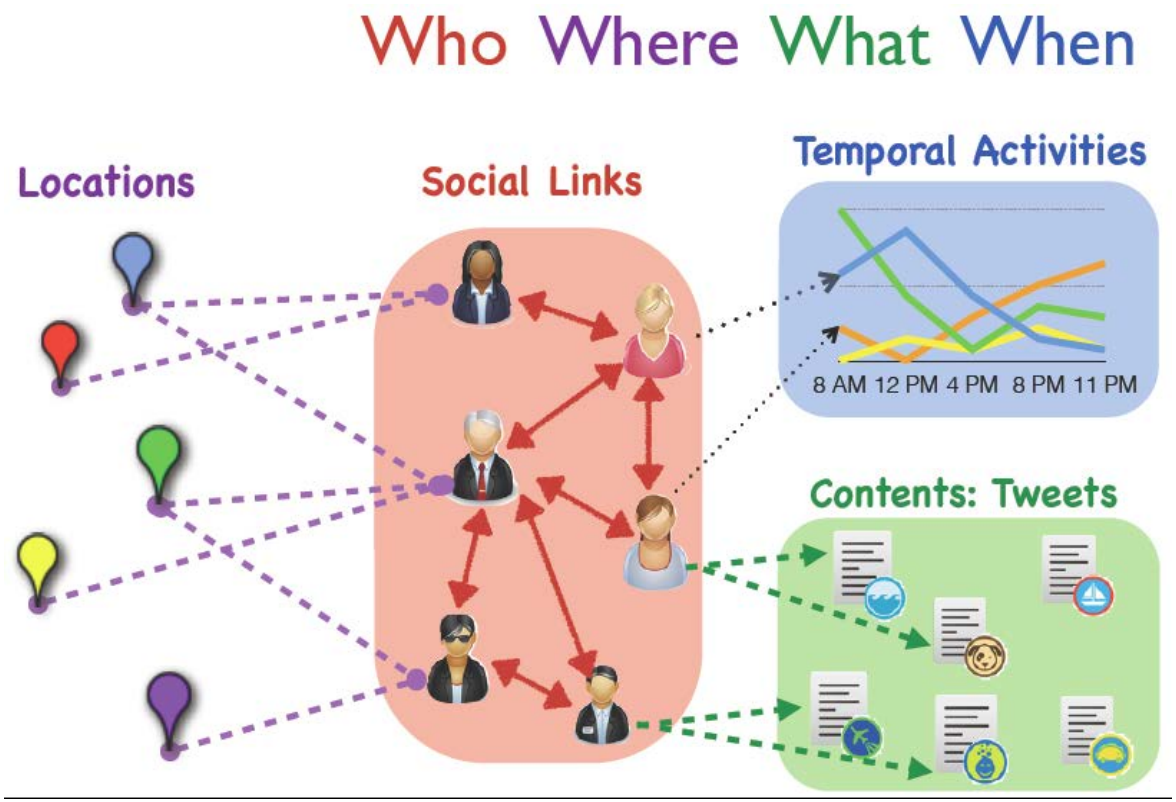
Last mile for Smart Library

---Smart lighting, localization of books on bookshelves, quality of monitoring, expiration reminder notice， are only the optimization of existing services, not the real function of Smart Library

----Intelligent search and individualized recommendation based on big data will be the last mile technology



The Paradox of Big Data



----The mobile social module improves the understanding of readers for SL
----Obtain more abundant social data, increase the diversity of content, serve readers in all aspects

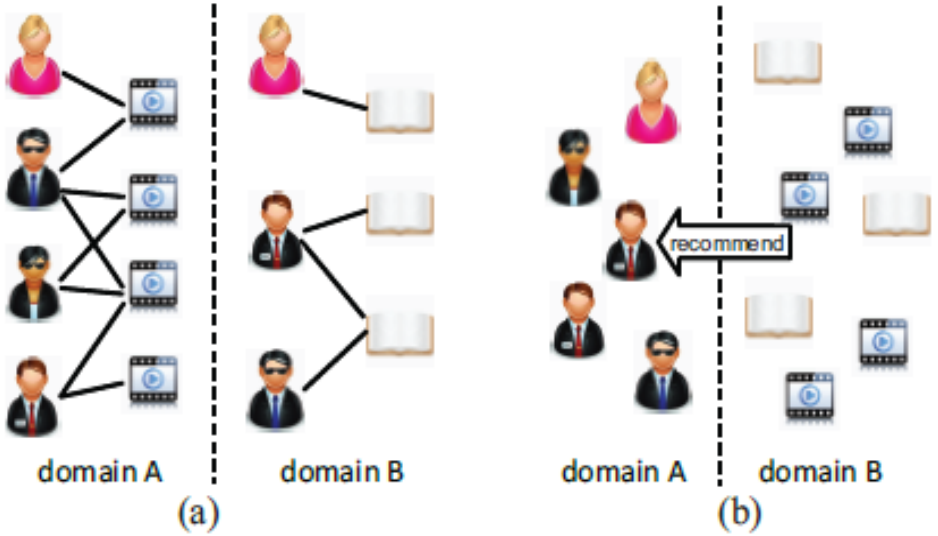
The solution to paradox

Start working with data now

Already worked with your own data, start adding data from others

If you've already done so, now start doing more with data

Real Individualized Service I



User and resource cross domain recommendation

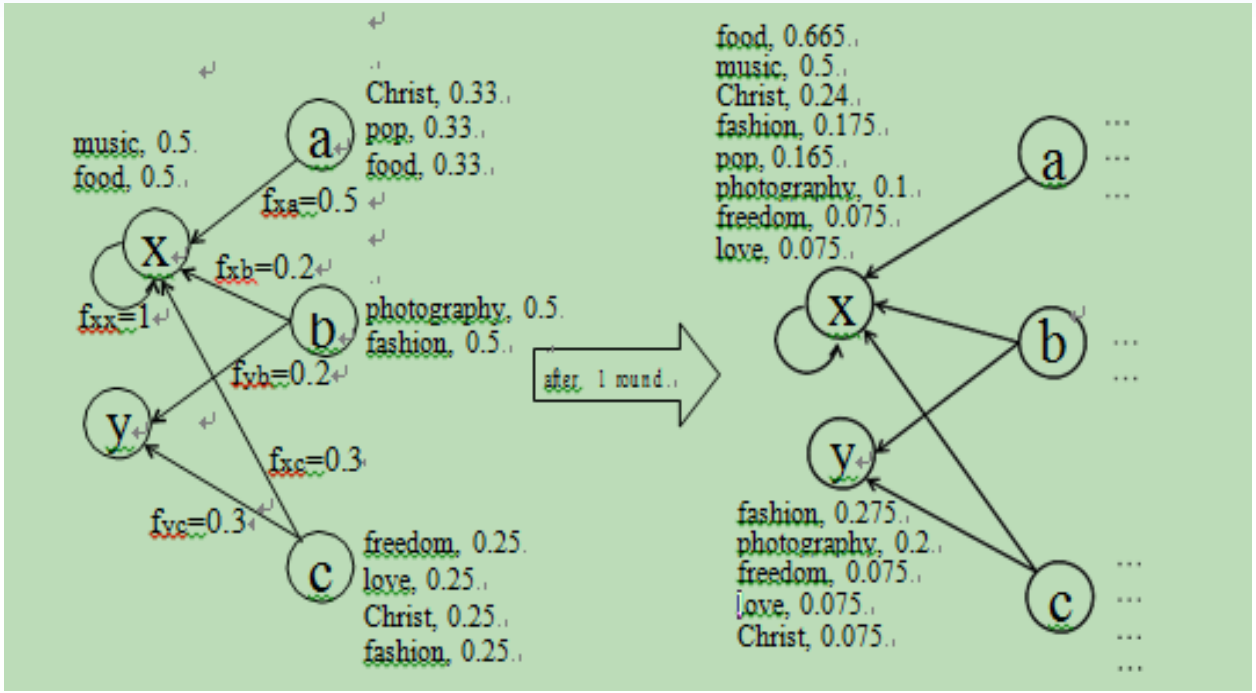
----Recommendation system is popular in commercial applications

----Solve the mutual information matching is more difficult than the traditional content-based recommender system.

----The library can start to analyze readers' behavior based on the their data.

----Reader profile: to accurately grasp the personalized needs of readers, and integrate the various modules to make recommendations to readers.

Real Individualized Service II



Social label communication algorithm

----Using individual user's tags to demonstrate the local communication process, so as to make accurate feature of individual profiles

----"opinion leaders": the greater the influence of individual communication, the more likely its opinion is accepted by other users within the group

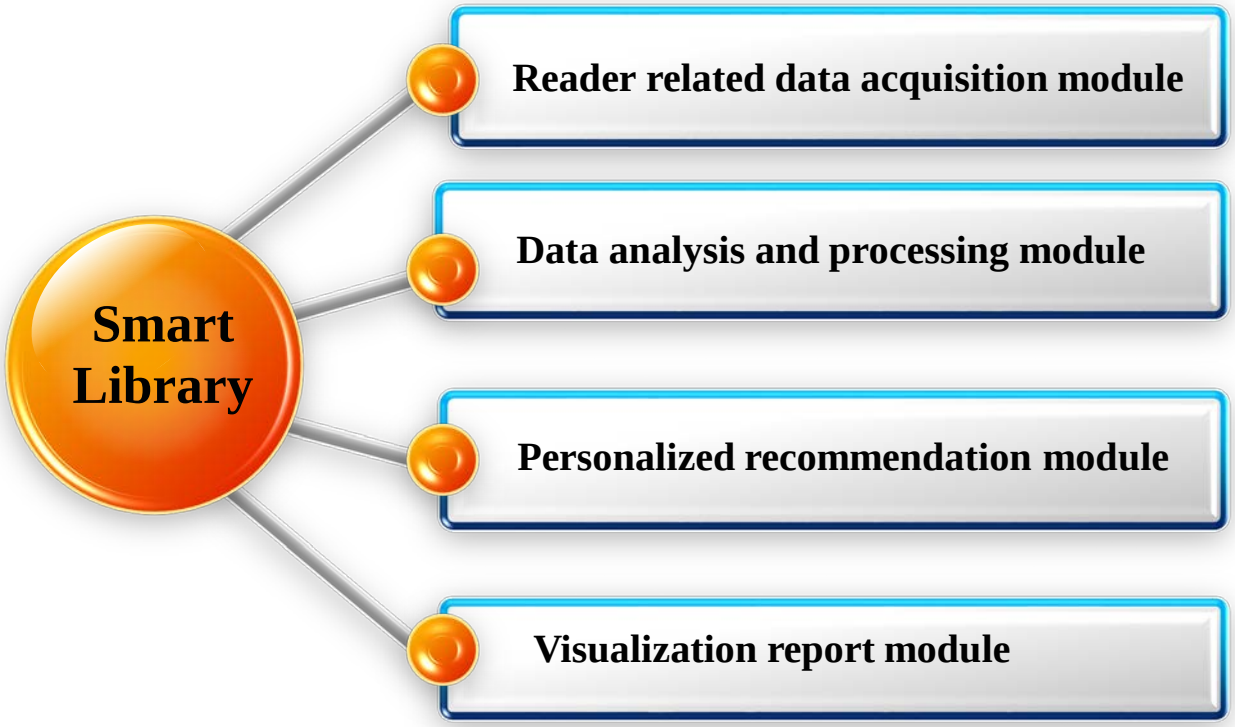
----New user is tend to show a similar identity

Example—Shanghai Nature Museum

- Using data acquisition module, you can easily capture more than 4000 user comments
- Report of data visualization. The more comments, the font will be bigger
- Using standard topic model (TC) to find the hidden emotional evaluation from the user's text comments, set up the group profiles, and analyze the characteristics of user ontology at the same time.

Framework of Individualized Service

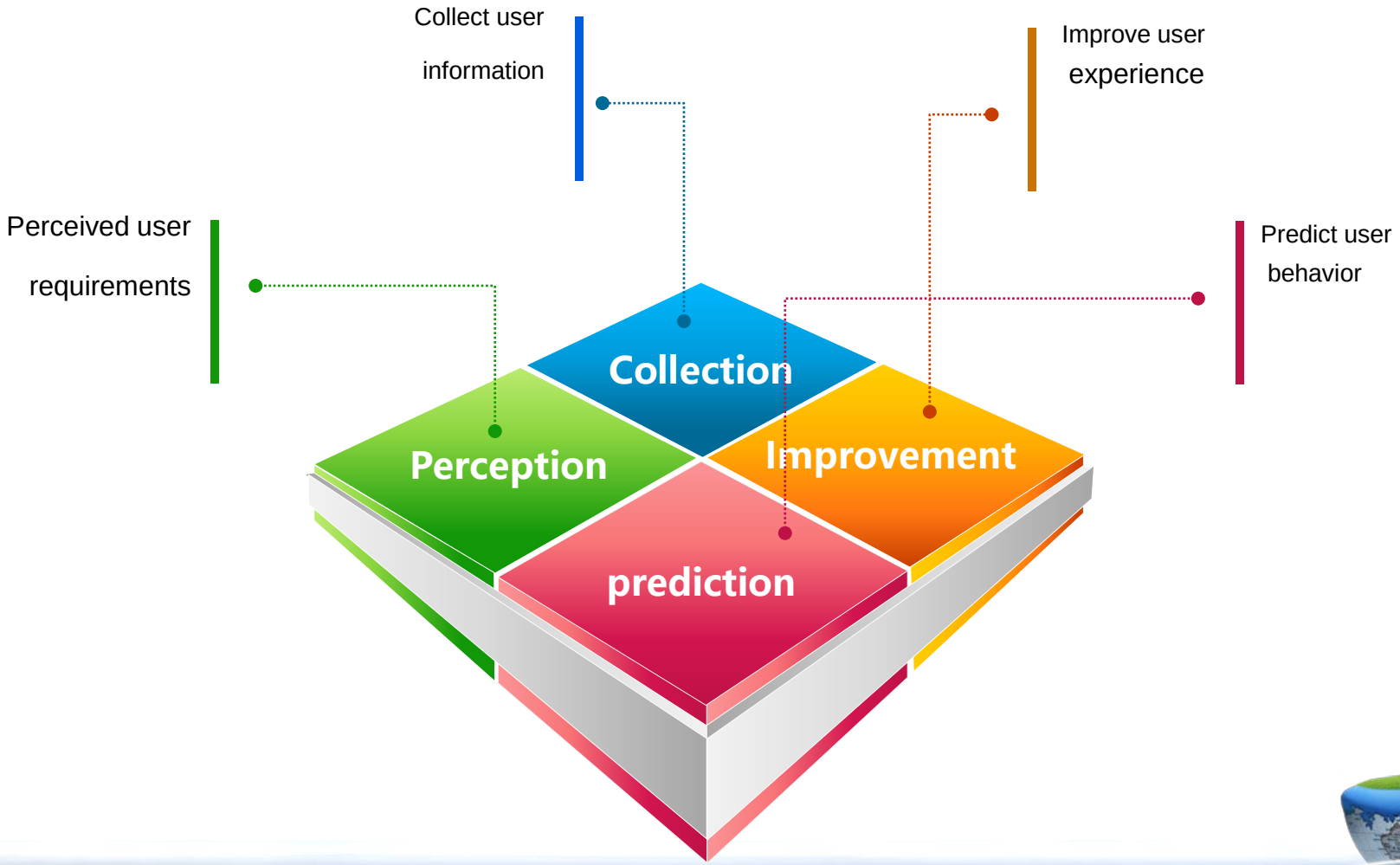
- **Core modules for serving readers**



Dynamic adjustment according to the changing demands of users

Evaluation standard of Smart Library

provide better experience



Opportunity or Challenge ?

We don’t need librarians any more?

---- From subject librarians to data librarians.

---- Big Data can bring big Value

Value of Smart Library

Big Data can bring big Value

----Meet the real and individual needs of users

----Provide lifelong learning service, help the users obtain knowledge resources efficiently

-----Intelligent customization services

----Individual Services should be paid，but ensure public welfare services at the same time

The future

--Make the learning to be a GAME

--A whole new platform to exercise our imagination on

--Break the traditional boundaries of the library and become a local think tank

Thank you !