Location Privacy - Do Users (Still) Care?

Do iPhone users ever deny their apps access to location information?

**Data collection**
Anonymous users from MTurk upload screenshots of their iPhone Location Services settings page:

- Actual data from user #133

**Data processing**
Past user decisions coded from screenshot contents

- 273 acceptable submissions
- 1126 apps

Average participant had 20 apps installed that requested access to location services

- 717 apps were installed only once in the dataset (long tail)

**Data analysis**
Construct (sparse) matrix of past decisions

- 1126 columns represent individual apps
- 273 Rows represent individual users

Cells:
- 1 if user grants location access
- -1 if user denies
- 0 if no decision

**Methodology**

**Questions and Answers**

Are there different kinds of user behavior with respect to location privacy?

Yes.

Users display choices consistent with different sensitivities to privacy

Do users have different levels of trust in apps that request location information?

Yes.

Different apps receive different treatment by users

Given users' past decisions for apps, can we predict if a user will grant location access to an app?

Sometimes.

Similar problem to recommendation systems. Clustering algorithms like PCA, k-means, SVD, etc. can be used.