

Location Privacy - Do Users (Still) Care?

Drew Fisher
Leah Dorner
Dave Wagner



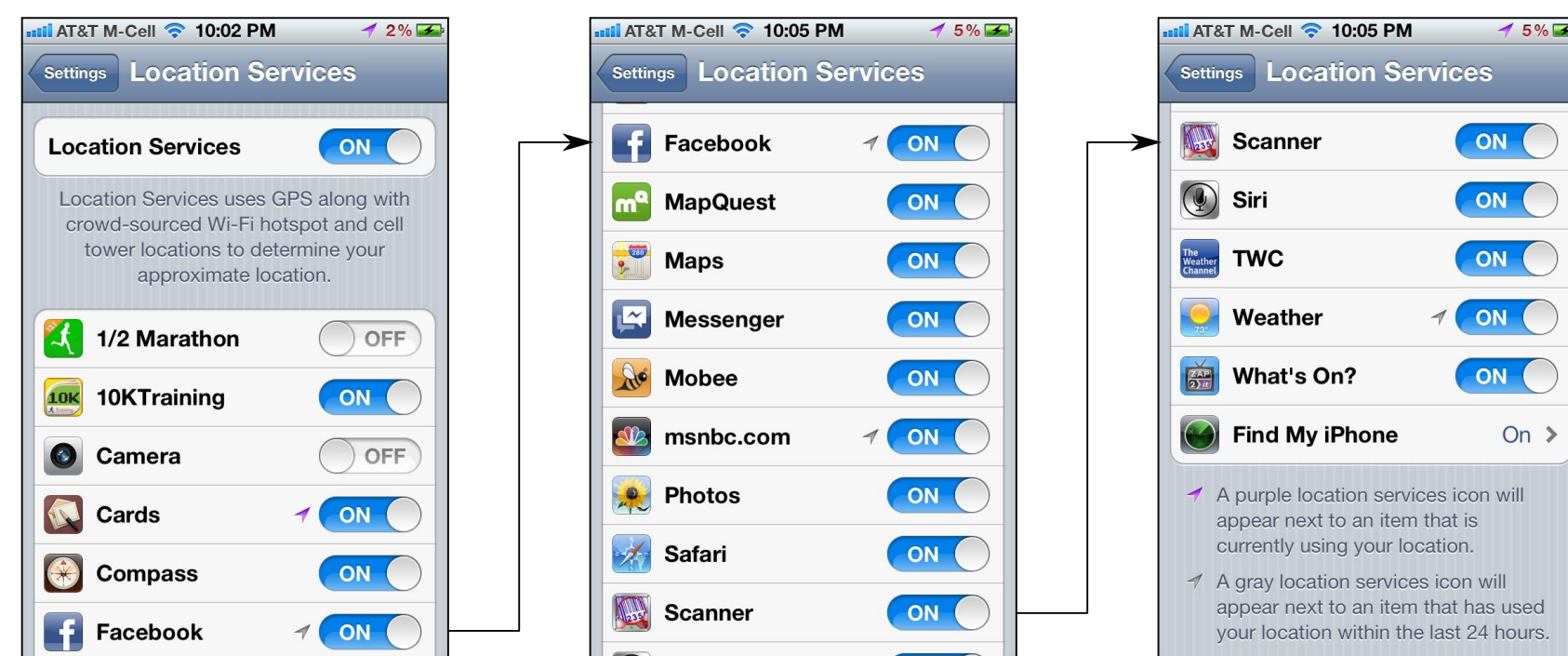
SCRUB

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

Methodology

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

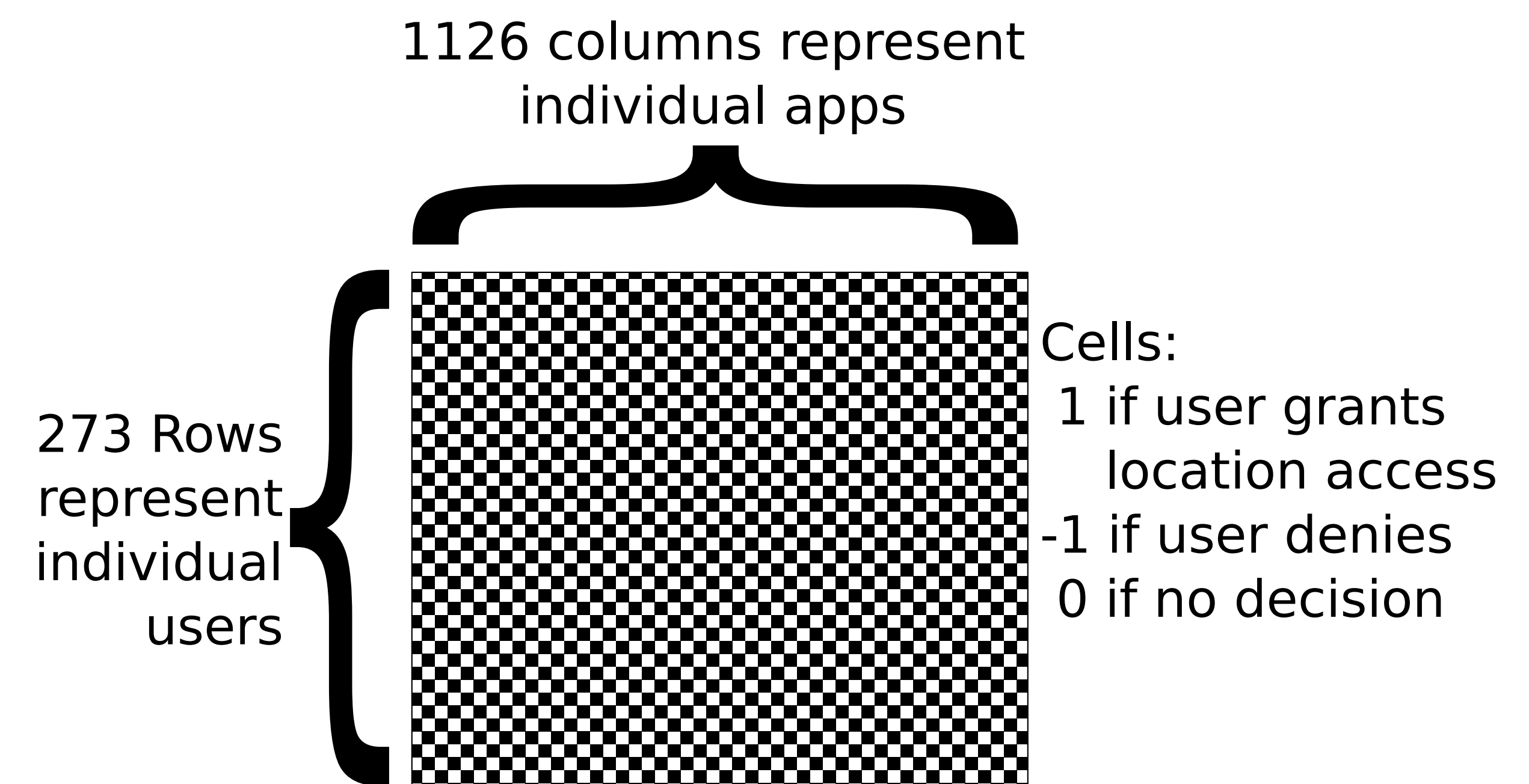
273 acceptable submissions
1126 apps

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

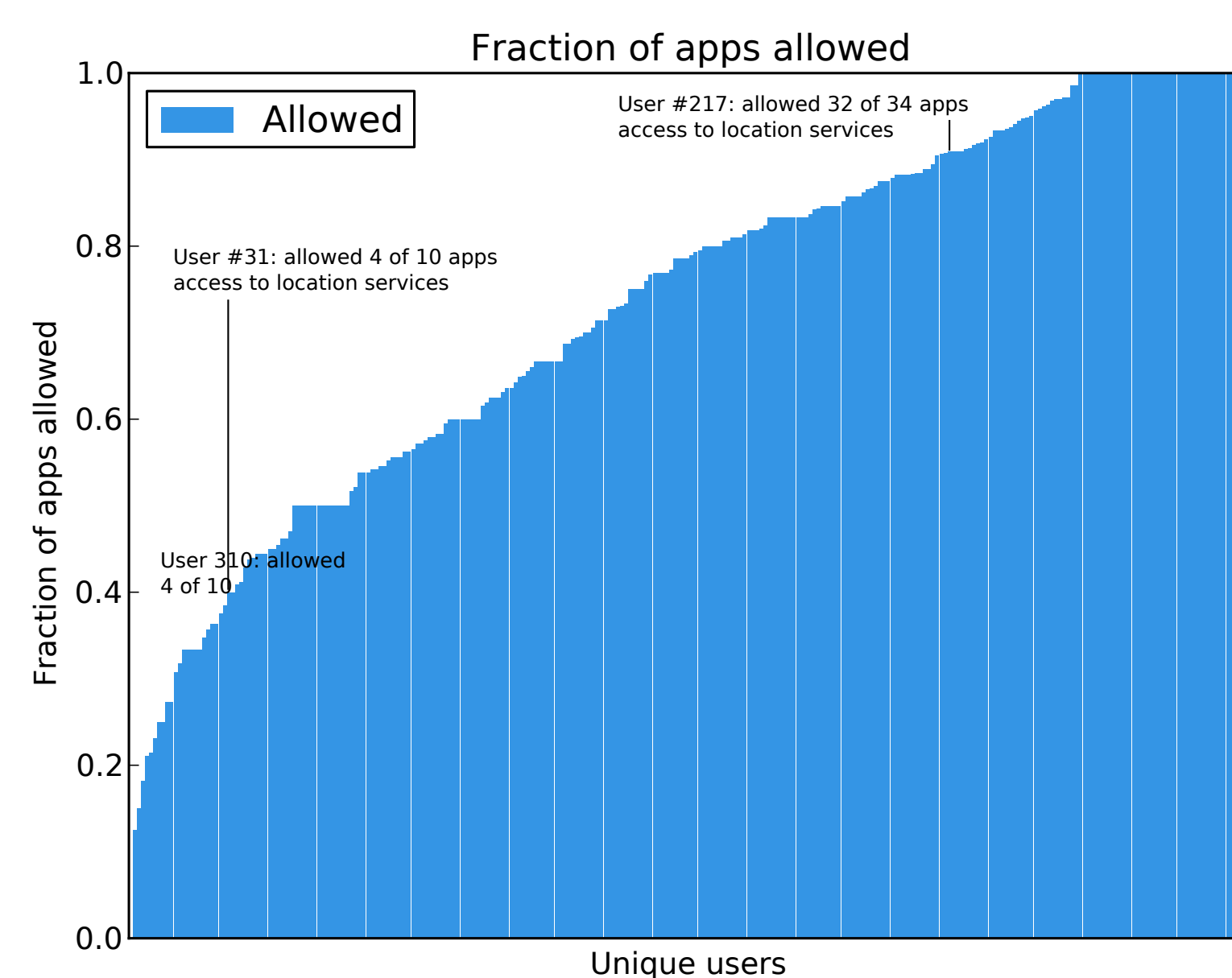
717 apps were installed only once in the dataset (long tail)

Data analysis

Construct (sparse) matrix of past decisions



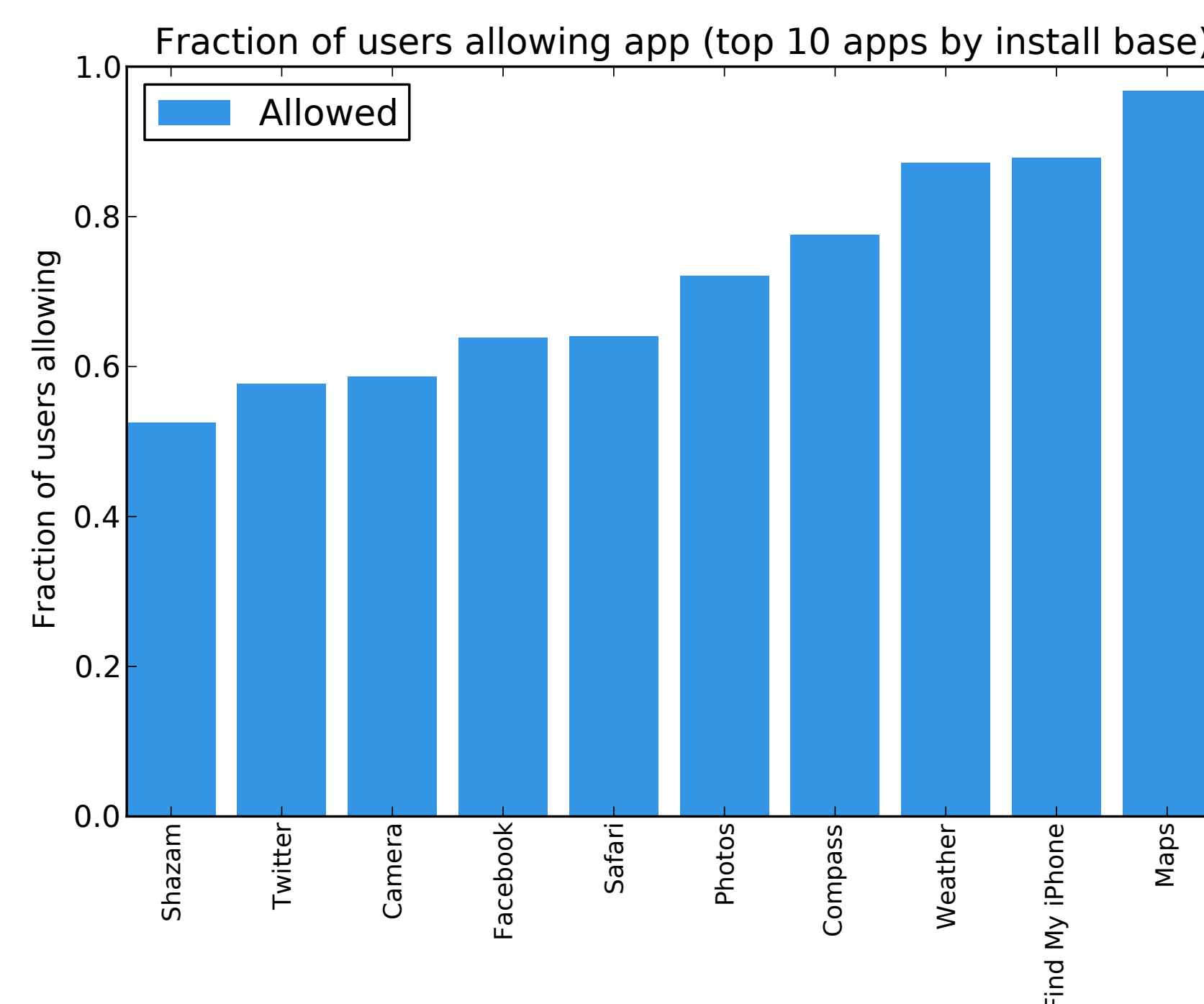
Are there different kinds of user behavior with respect to location privacy?



Yes.

Users display choices consistent with different sensitivities to privacy

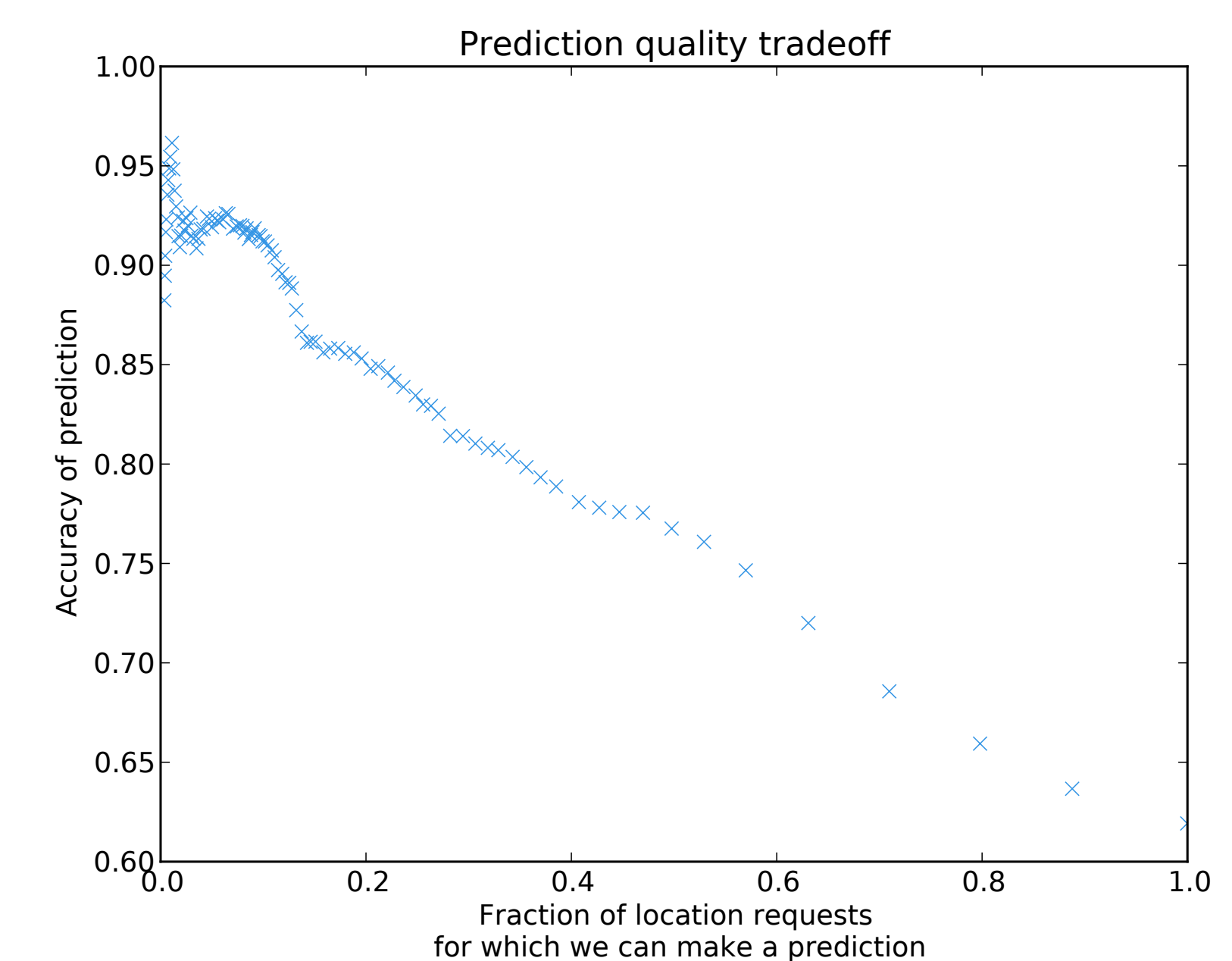
Do users have different levels of trust in apps that request location information?



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.

Questions and Answers