

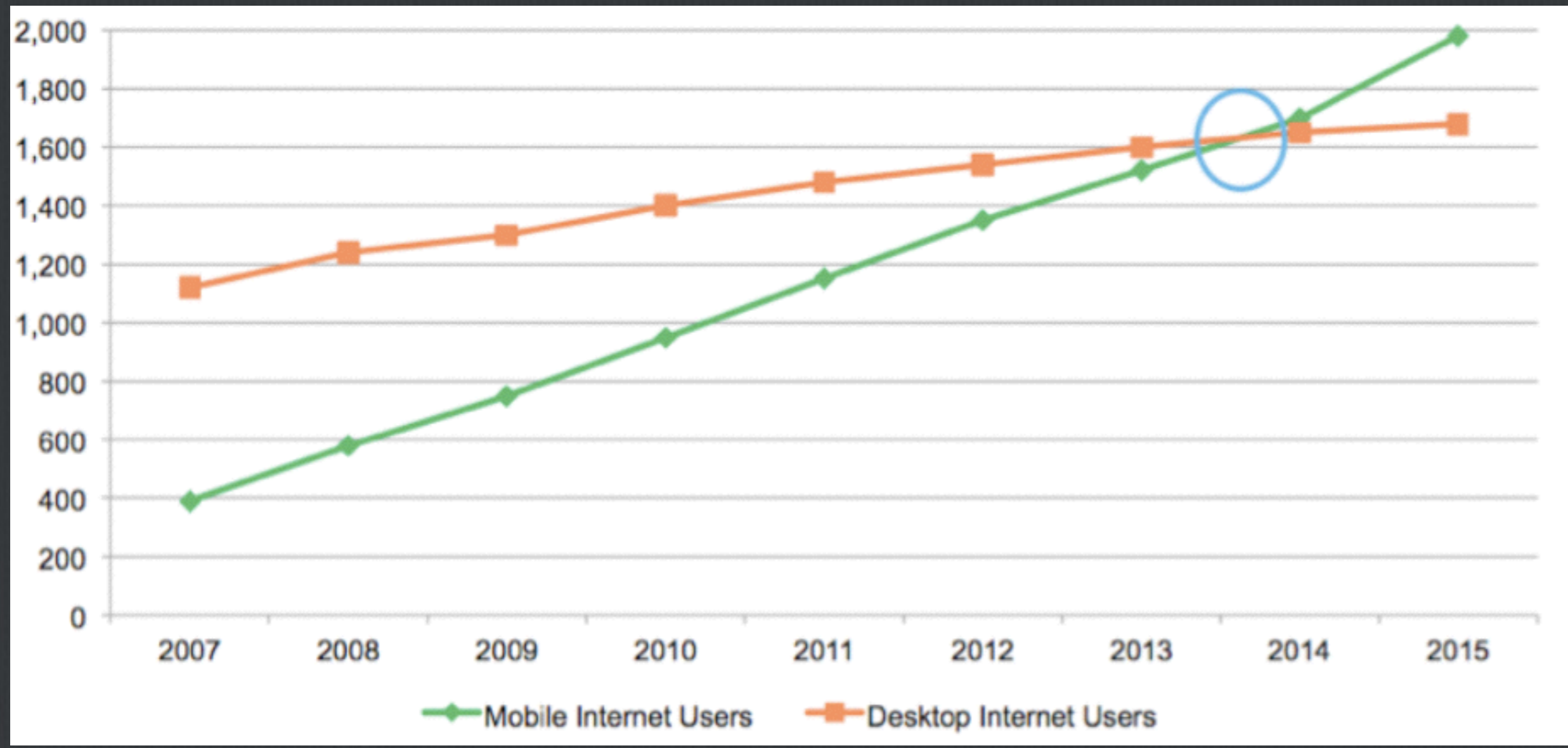
# **Because we care: Privacy Dashboard on Firefox OS**

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# Motivation



# Motivation

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- Do you know what a smartphone is?
- Do you know where the data comes from?
- Do you know who is after you?
- Do you really have nothing to hide?

# Yes and No

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- No, users are not idiots!**
- Yes, they don't have knowledge.**
- Yes, they don't have the tools.**

# The big question

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**How do we fill the gap between the users expectations and actual functions of the phone?**

# The big answer

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**User-centric privacy tools**

# Outline

## Because we care: Privacy Dashboard on Firefox OS

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Alexander Rucke (Technische Universität Berlin)

## Motivation



## The big question

How do we fill the gap between the users expectations and actual functions of the phone?

## The big answer

User-centric privacy tools

## How do we do it?



## First study

"Everyday experts" focus group  
A composition of our friends, contacts, and others about personal data and related privacy issues on mobile phones and related services

Participatory feature design session  
A creative shared understanding between everyday experts and product experts  
Identify features that really matter according to user needs

Design guidelines  
Define design guidelines for the development process based on the results of the participatory study

Feeling in control    Ease of use    Taking actions

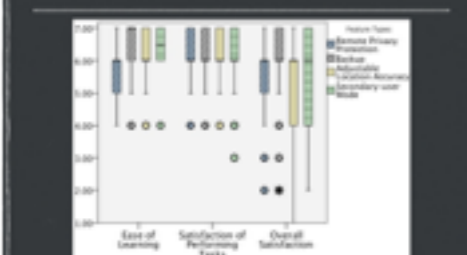
## Design: Educate



## Implementation: Empower



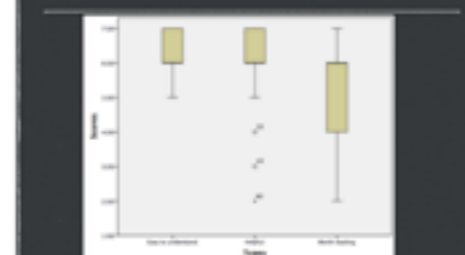
## Second Study



## Where do they belong?



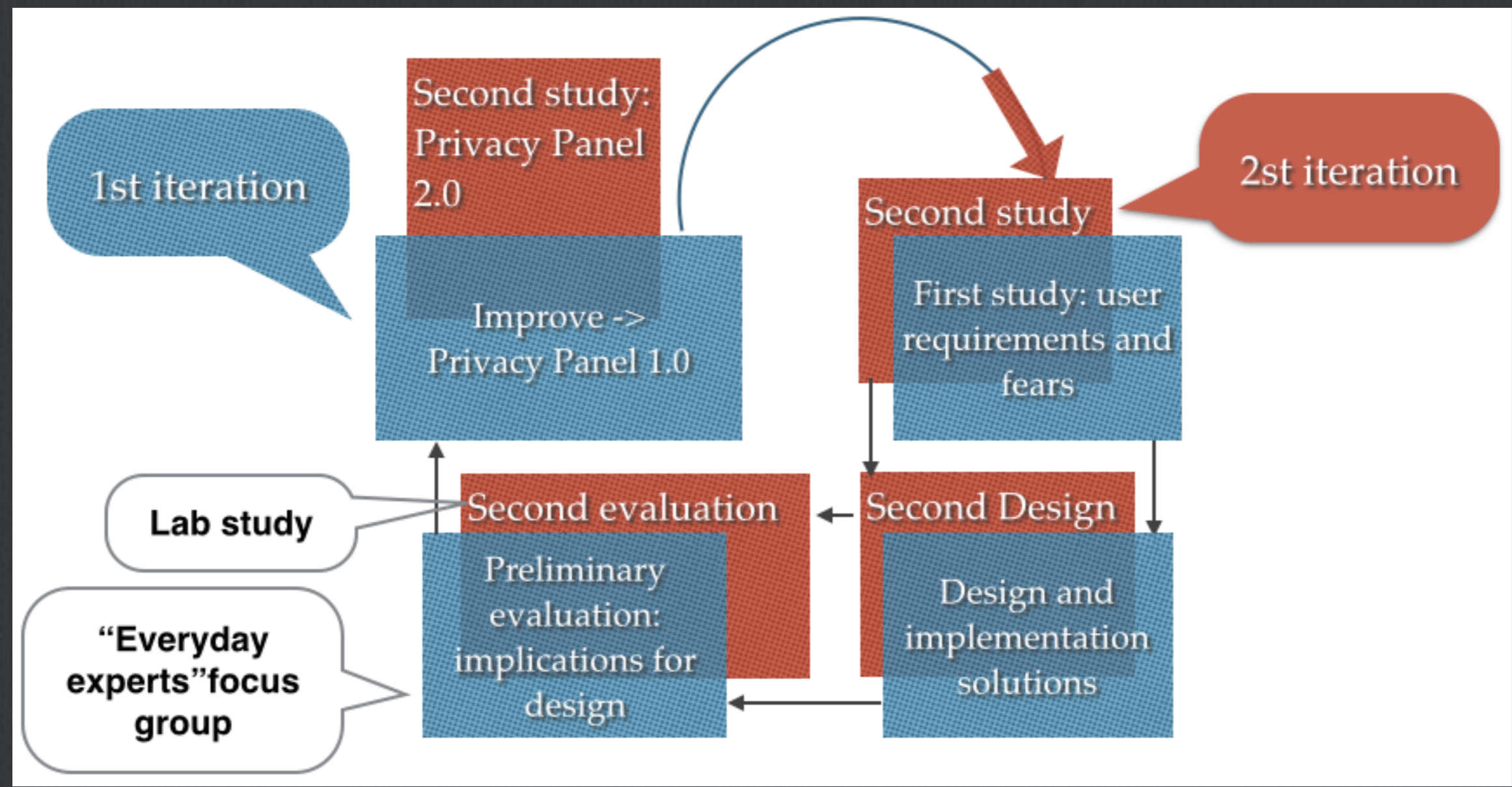
## Ease of Use



## Conclusions

- Changes in Perception of Privacy
- The accessibility and arrangement
- Educating, advertising and tutoring
- Personalization of settings

# How do we do it?





# First study

## “Everyday experts” focus group

- Identification of user needs, concerns, and fears about personal data and related privacy issues on mobile phones and related services

## Participatory feature design session

- Create shared understanding between everyday experts and product experts
- Prioritize features that really matter according to user needs

## Design guidelines

- Define design guidelines for the development process based on the results of the introductory study



**Feeling in control**

**Ease of use**

**Taking actions**

# The big problems

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- Lack of location protection
- Lack of data protection when phone is shared
- Lack of transparency
- Trust is something that you earn!
  - Account-less control
  - Backup anywhere
  - Social aspect of sharing privacy settings
- Lack of education

# Design: Educate

**Welcome to the Privacy Panel tour!**  
The Privacy Panel will help you to protect your privacy and personal data in your smartphone. This guided tour will show you in just two minutes how to keep control over your data using the Privacy Panel app.

**What is Location Accuracy good for?**  
Many apps access your geolocation, like the addressbook or the camera. If you don't want to disclose your exact position, you can adjust the accuracy of your current location that is used by apps, set a custom location or hide it completely.

**How to set Location Accuracy?**  
Not each app needs your exact location to work properly. Instead of sharing your exact coordinates, you can choose to effectively blur your location to e.g. 50 miles around you. This way, your weather app will still work, but you are not disclosing your exact address. Remember: Location Accuracy will not completely hide you!

**What is Custom Location?**  
With the custom location setting you are able to hide your real location and set it to any place worldwide.

**Can I set location accuracy individually per app?**  
The location per app settings gives you a full overview of all apps, that can access your geolocation. You can adjust the settings for each app individually. They overwrite the global location accuracy.

**Remote Privacy Protection. What is it?**  
If your phone gets stolen or lost, "Remote Privacy Protection" will help you finding it. With another phone you can locate it, let it ring or even lock it remotely. You first will set your personal password and enable the features you want to use (locate, ring and lock).

**How to set your personal password?**  
In the "Remote Privacy Protection" settings you will set your password of choice. It will stay in the phone, and only you know it! If you forget it anyway, you can always reset it using your SIM-card's PIN. It is however recommended to memorize your password or write it down in a safe place.

**How do I use the RPP feature?**  
If you can't find your phone, just send an SMS text message from an other phone to yours, e.g. your friend's. The SMS must be formed like this:  
"RPP ring PASSWORD"  
"RPP ring" triggers the phone to ring loudly if the "PASSWORD" is correct. Of course you use your's here ...

**Can I find it in case it got stolen?**  
Just send an SMS text message in this form:  
"RPP locate PASSWORD"  
(with YOUR password) to your missed phone. It will return the geo-co-ordinates back to you. Now you can easily locate it on any online map service or app.


**Can I lock my lost phone?**  
If you have lost your phone and you want to remotely lock it just send an SMS with "RPP lock PASSWORD" to your number and the phone will be locked by the Screen-Lock feature. Of course you should have set a Lock-Screen PIN. This is highly recommended anyway.

# Implementation: Empower

37 10:14 AM

## Find My Device

Many people see their phone as an intimate companion. The device, as well as the data stored on it, are precious. Because we carry our phone everywhere we go, it can get lost easily.




Find My Device

41 10:15 AM

## Location Blur

Many apps will access your exact location to tailor information to your needs. All this data combined can be used to generate a movement profile of all the places you have been to.



Location Blur

8 9:28 AM

## Permissions History

Almost all apps use some of your data, like your address book, or a feature of your phone, like the camera. It is difficult to keep track of all the different app activities because they happen automatically. That is why people often do not even know what app uses what data.




Permissions History

42 10:15 AM

## Guest Mode

If you borrow your phone to a friend or let your kids play with it, they will have access to all apps and all the sensitive data on your phone.



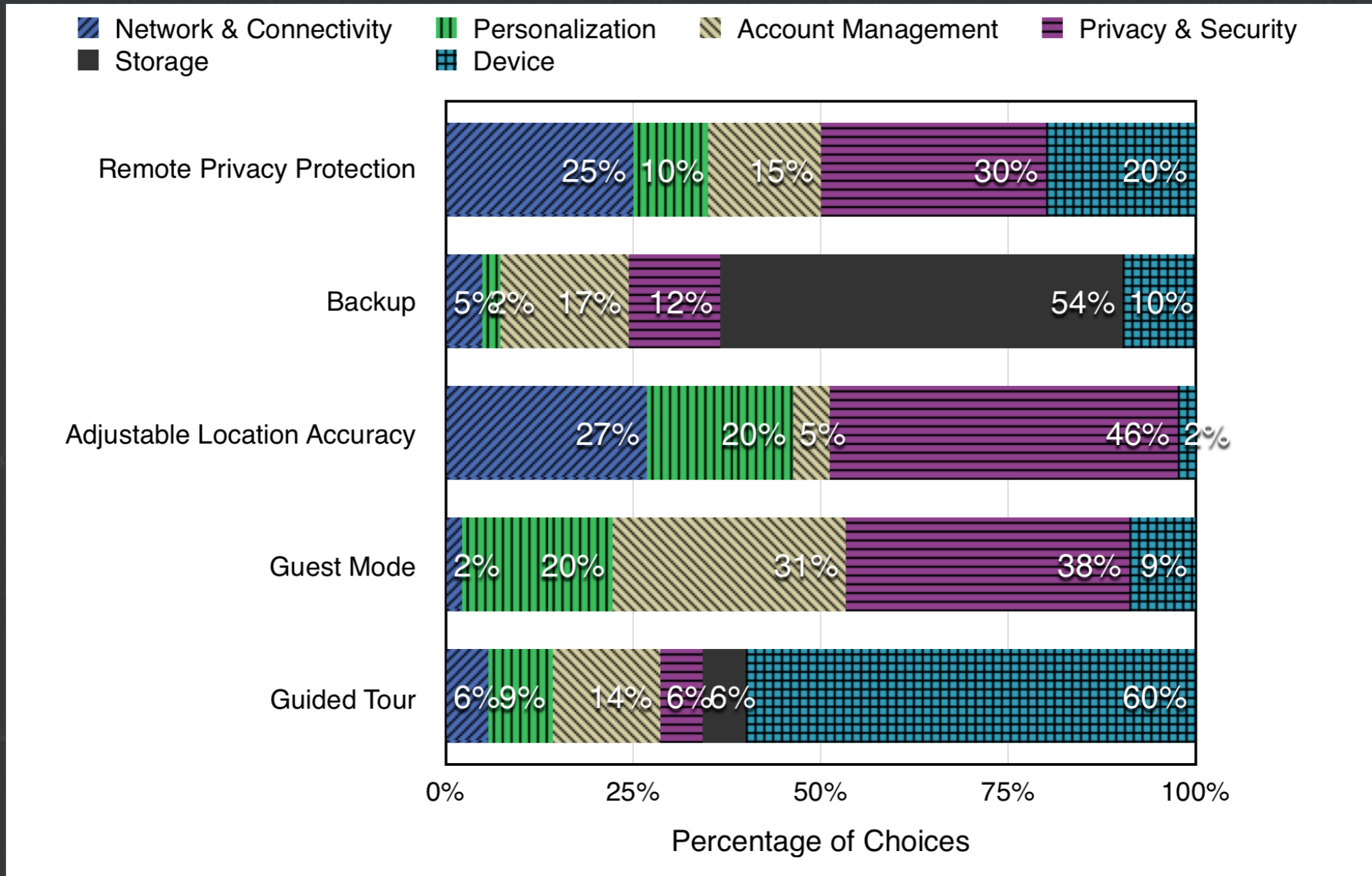
Guest Mode

# Second Study

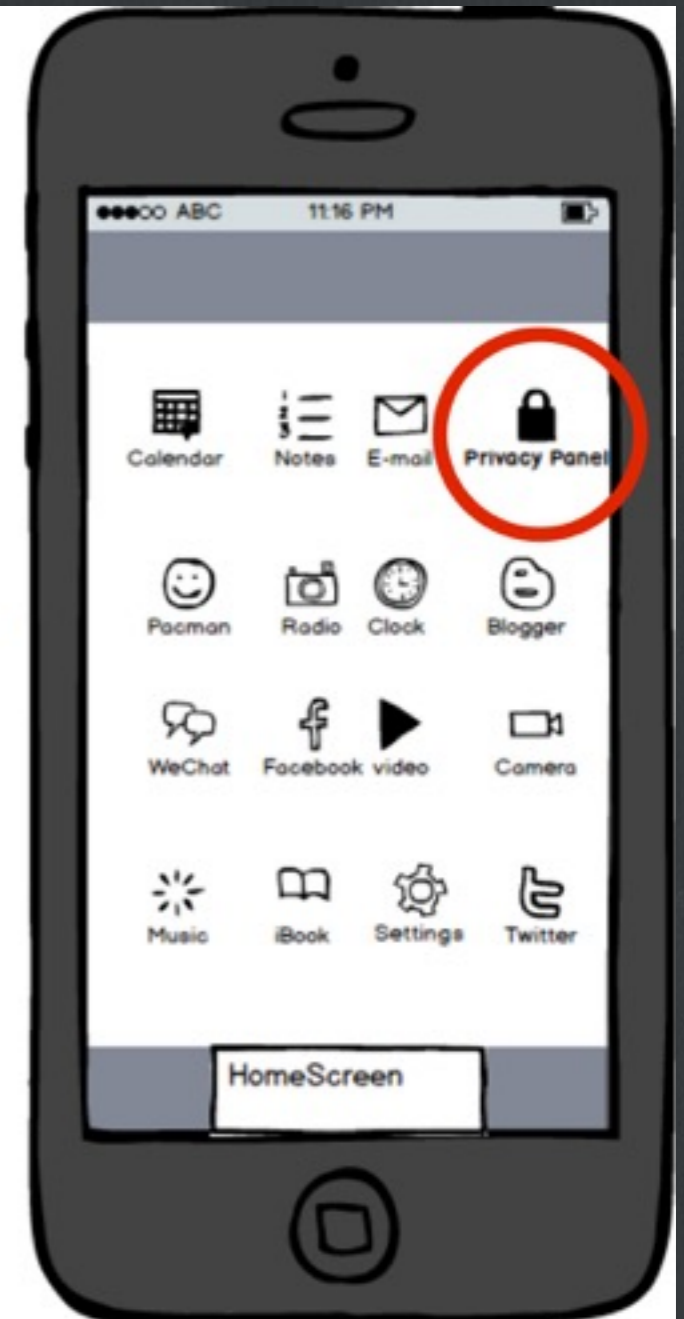
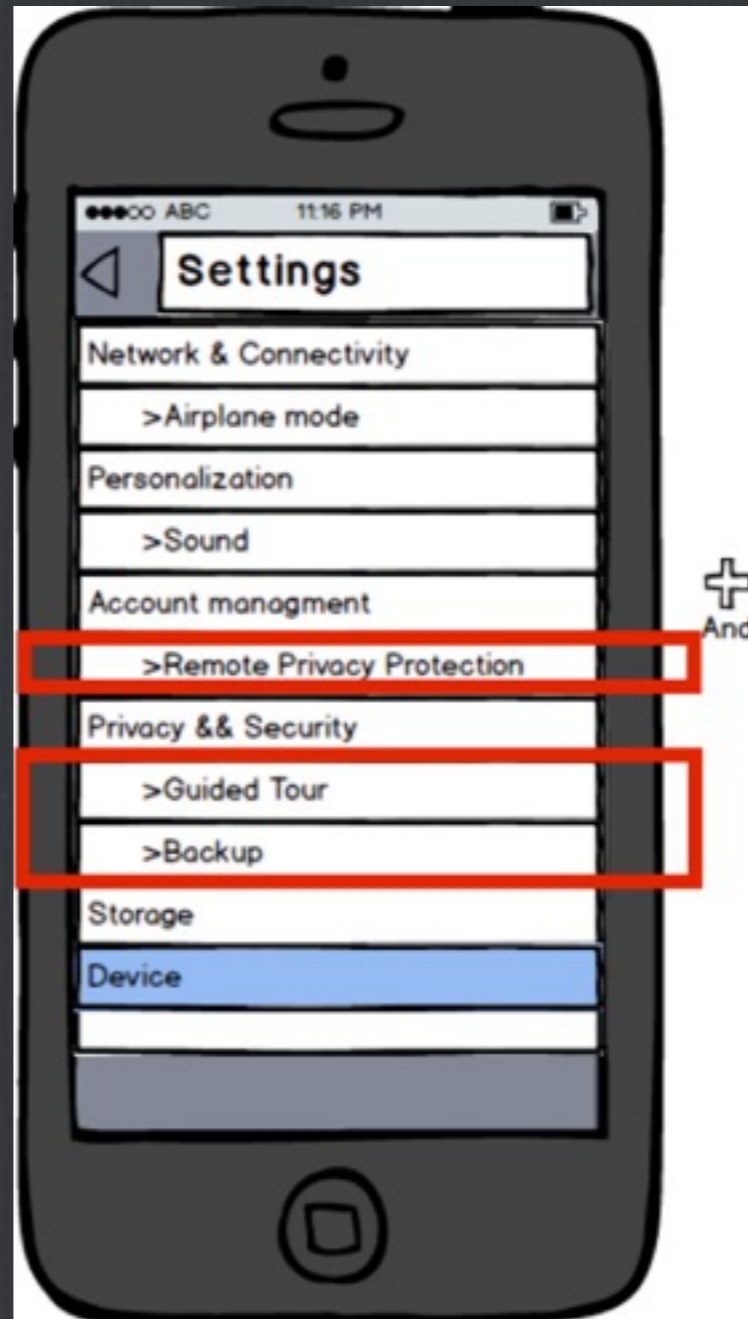
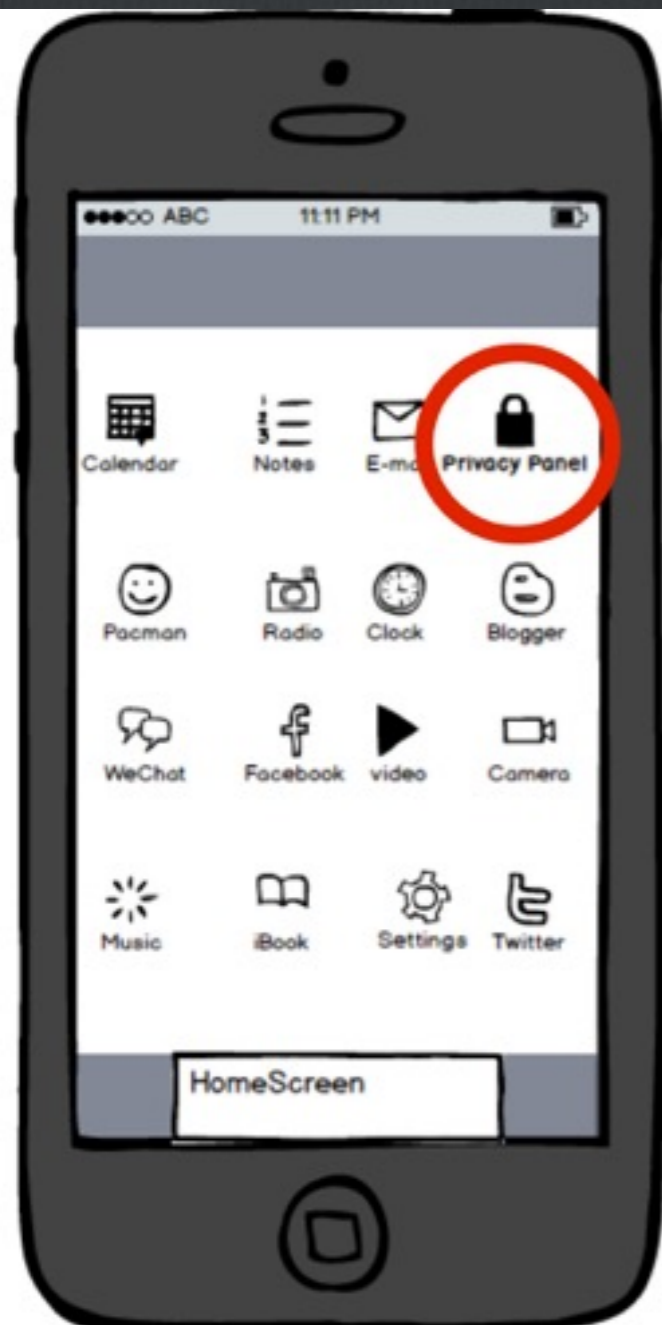
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- Does our Privacy Dashboard bridge the gap and meets users' expectations?**
- What are the users' learnability, performance and satisfaction using the privacy features**
- Does the Guided Tour work? Does it actually have impact on users' awareness?**

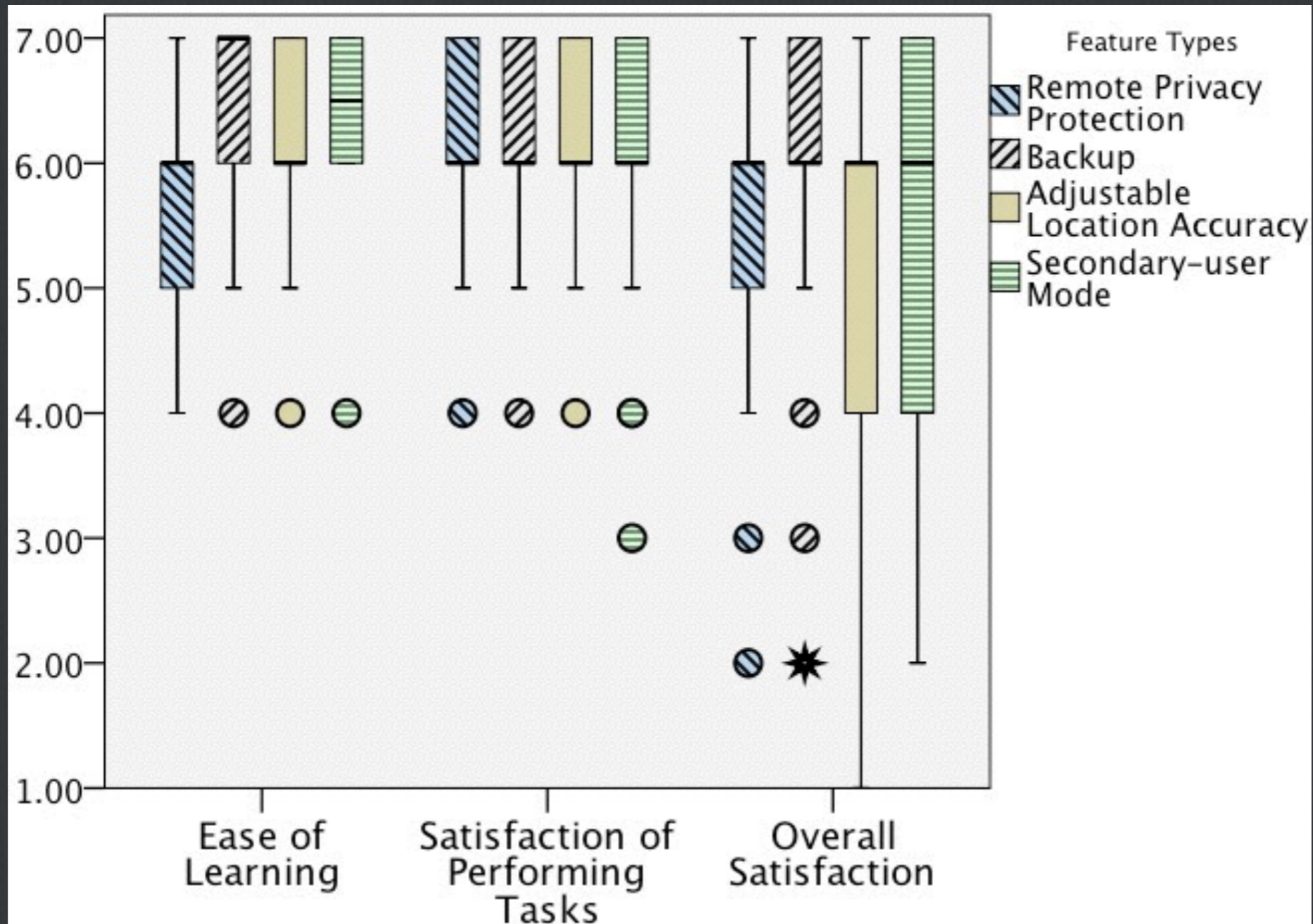
# Categorization



# Placement

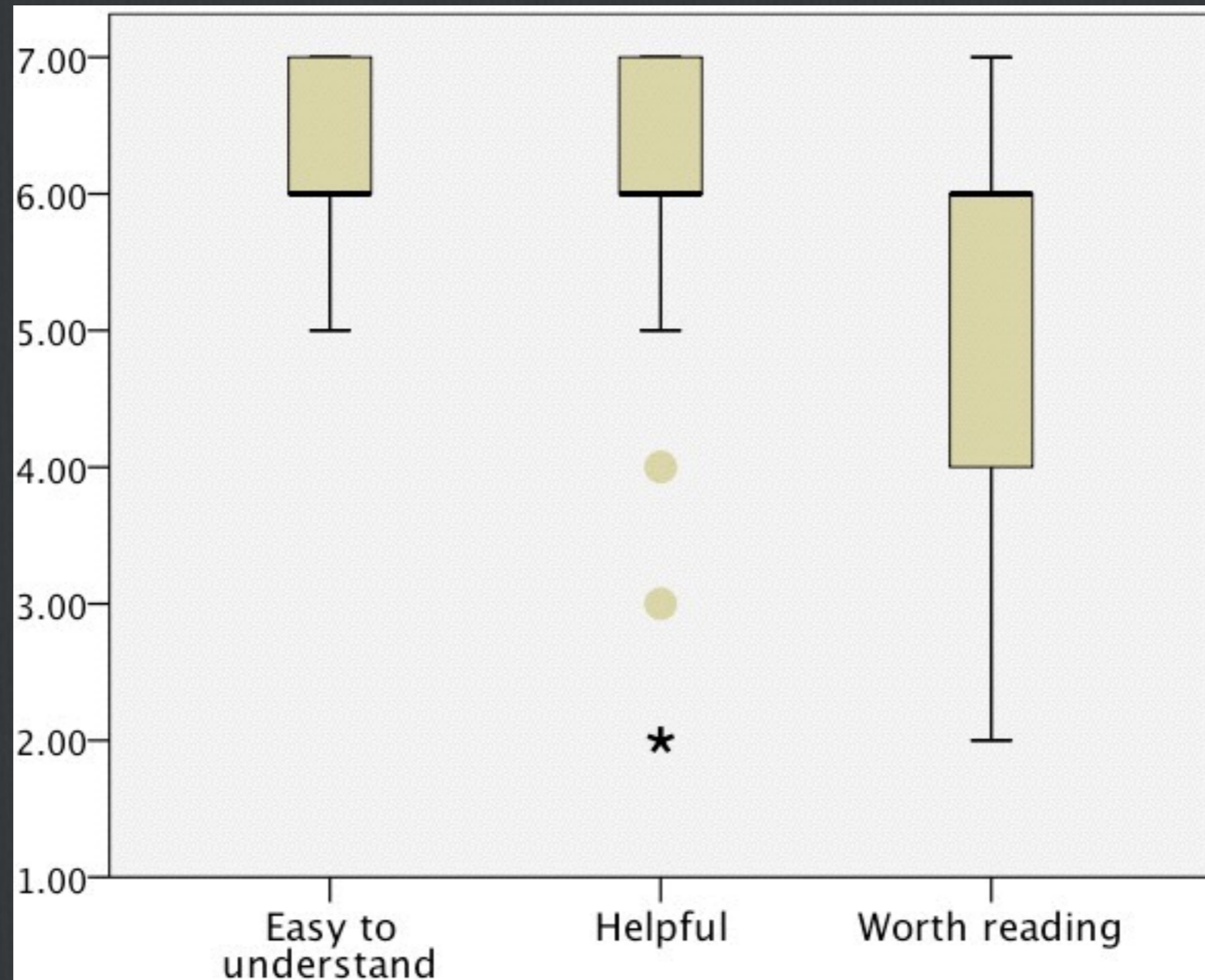


# General Satisfaction





# Guided Tour



# Conclusions

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- Changes in Perception of Privacy**
- The accessibility and arrangement**
- Educating, advertising and tutoring**
- Personalization of settings**