



# Embedded Ethics: CSC207

## Prelecture video 1

# Welcome to Embedded Ethics!

This embedded ethics module is a collaboration between **philosophy** and **computer science**.

The goal of **embedded ethics** is to tie ethics and computer science closely together, so you make ethical considerations in your work and research as computer scientists.

When do you design  
software, who do you  
imagine is going to use it?



Software designers often assume that their user is...



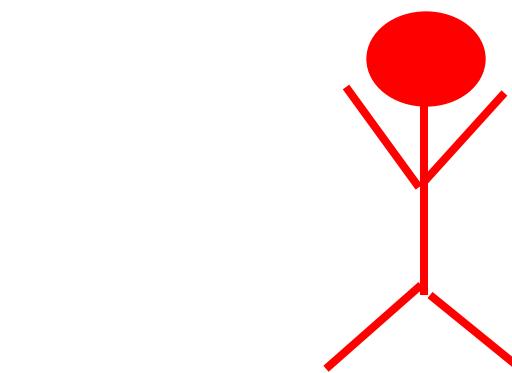
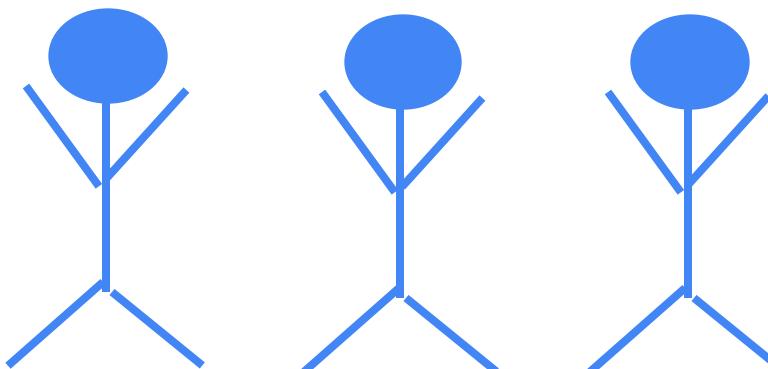
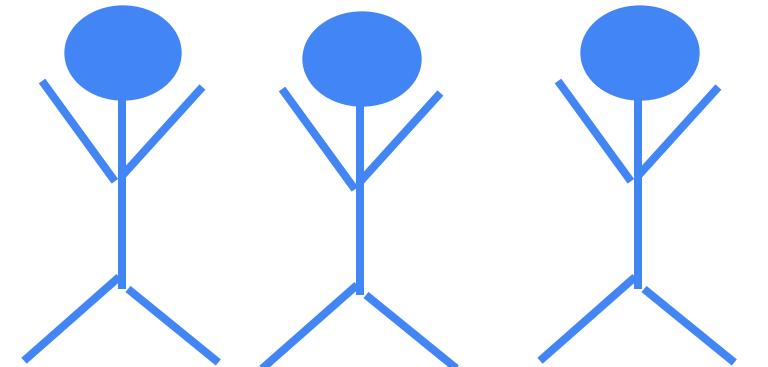
Software designers often assume that their user is...

Like themselves



Software designers often assume that their user is...

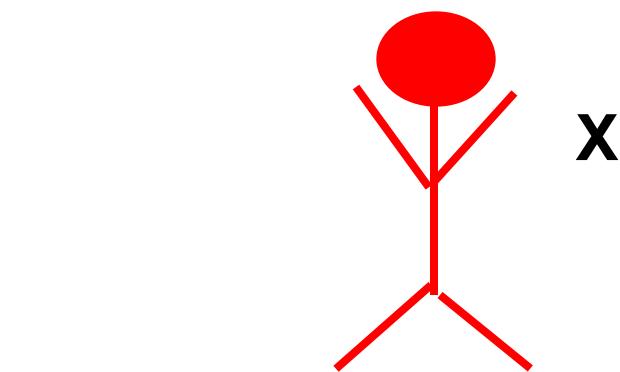
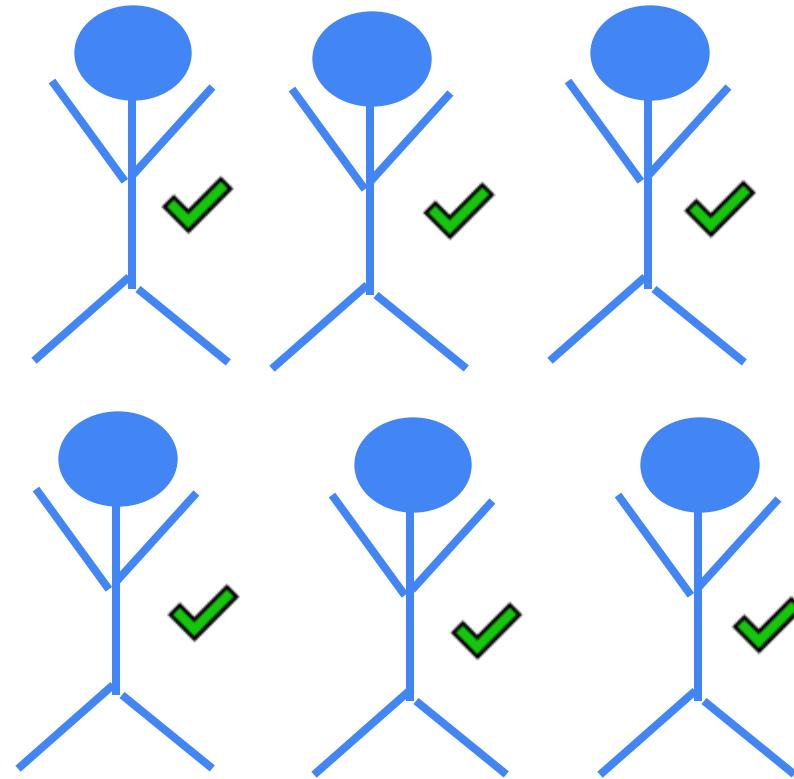
Like themselves  
or  
A member of the majority

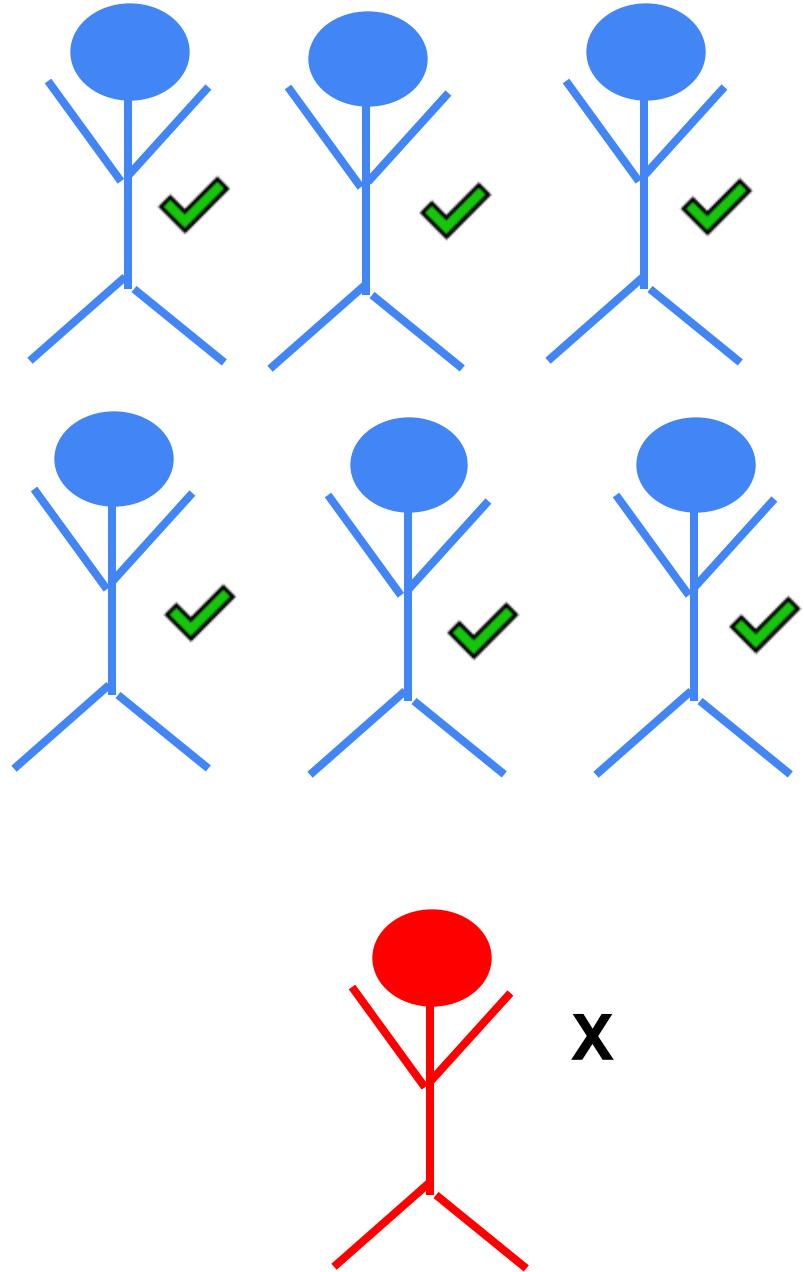


Software designers often assume that their user is...

Like themselves  
or  
A member of the majority

And this leads them to design products that exclude some people from being able to use those products.





What sort of harms can someone suffer if they are excluded from using software?

It partially  
depends on  
**what** the  
software  
does!



Messaging app



Rideshare app



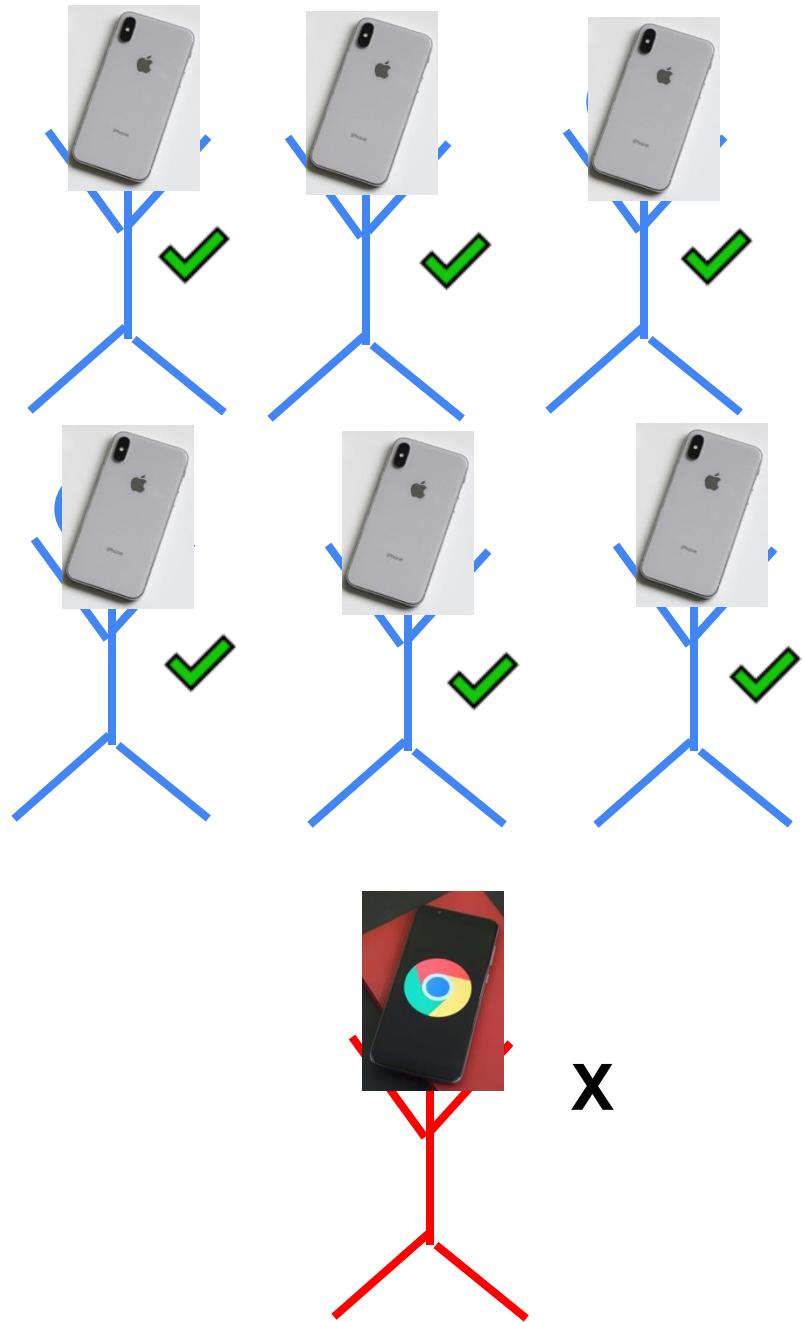
Passport control app



Dating app

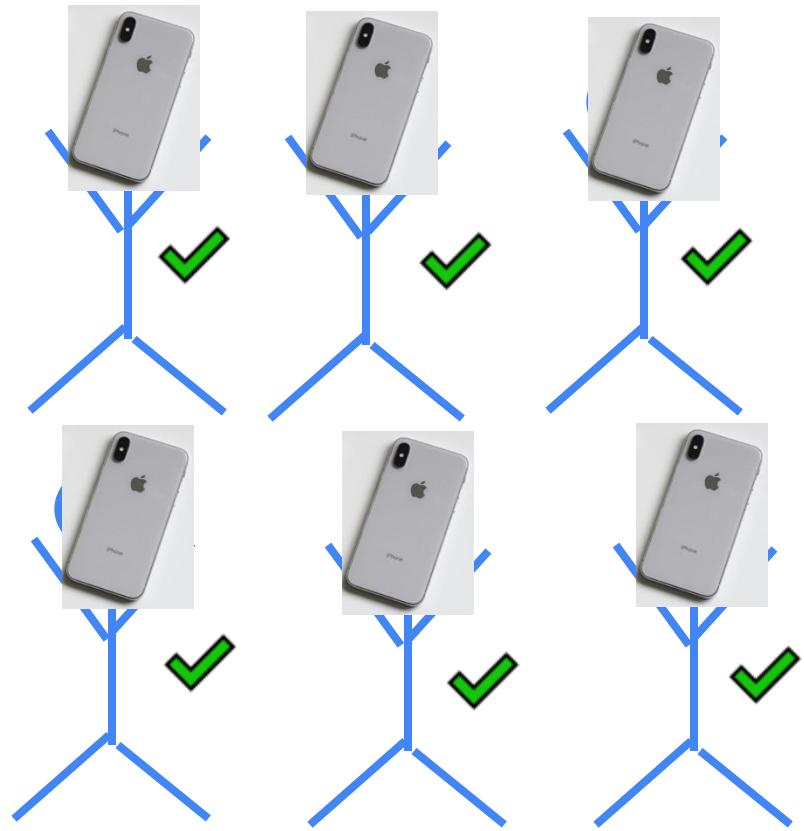
But now we will think about a harm caused by exclusion that is much harder to quantify....





Apple  
users

Android  
users



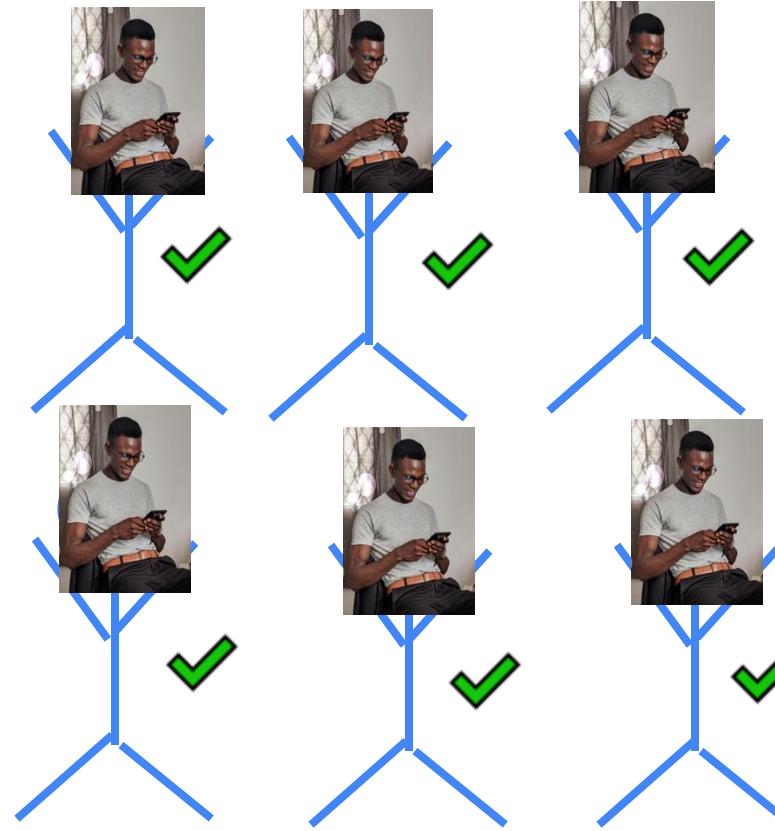
Apple  
users



x



Android  
users



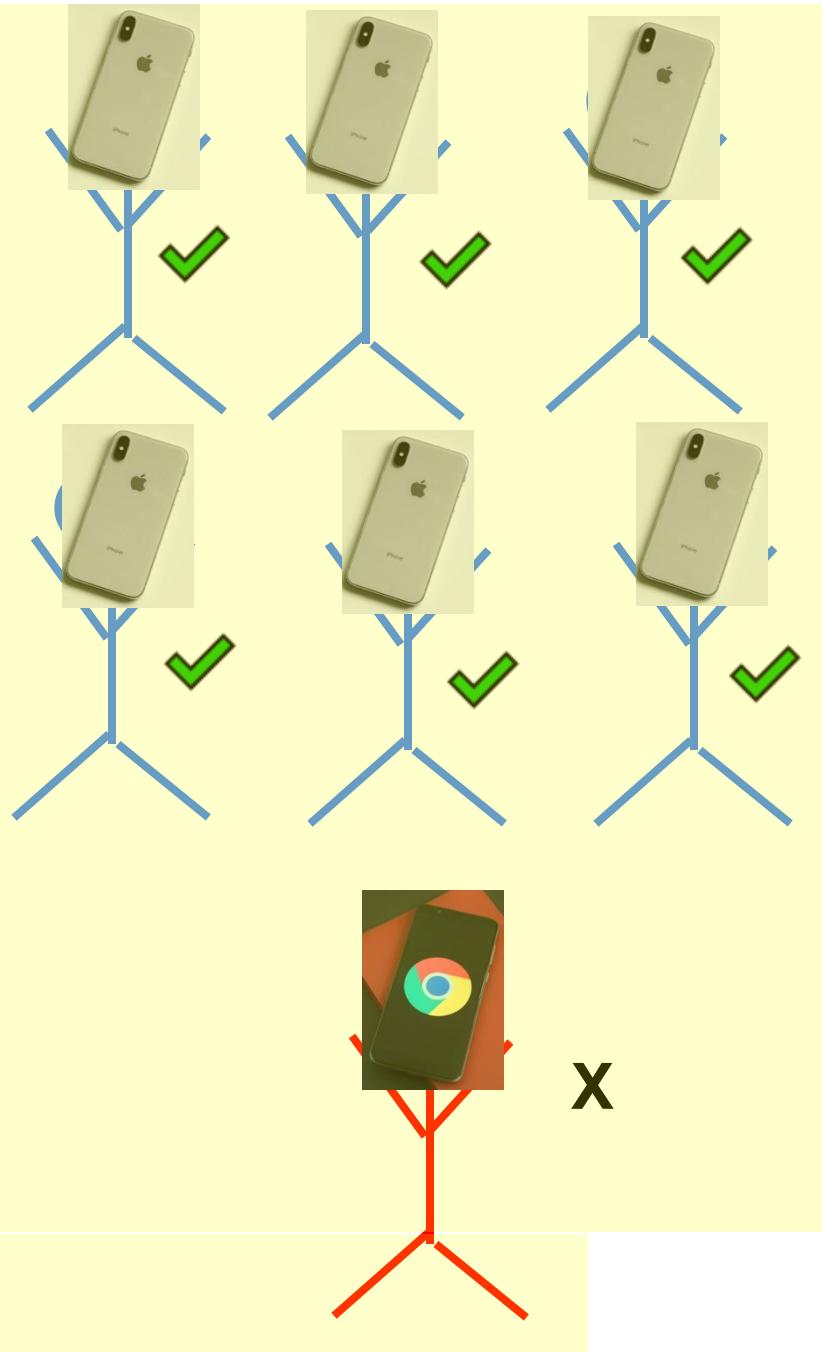
Young  
and  
middle-  
aged  
users



x

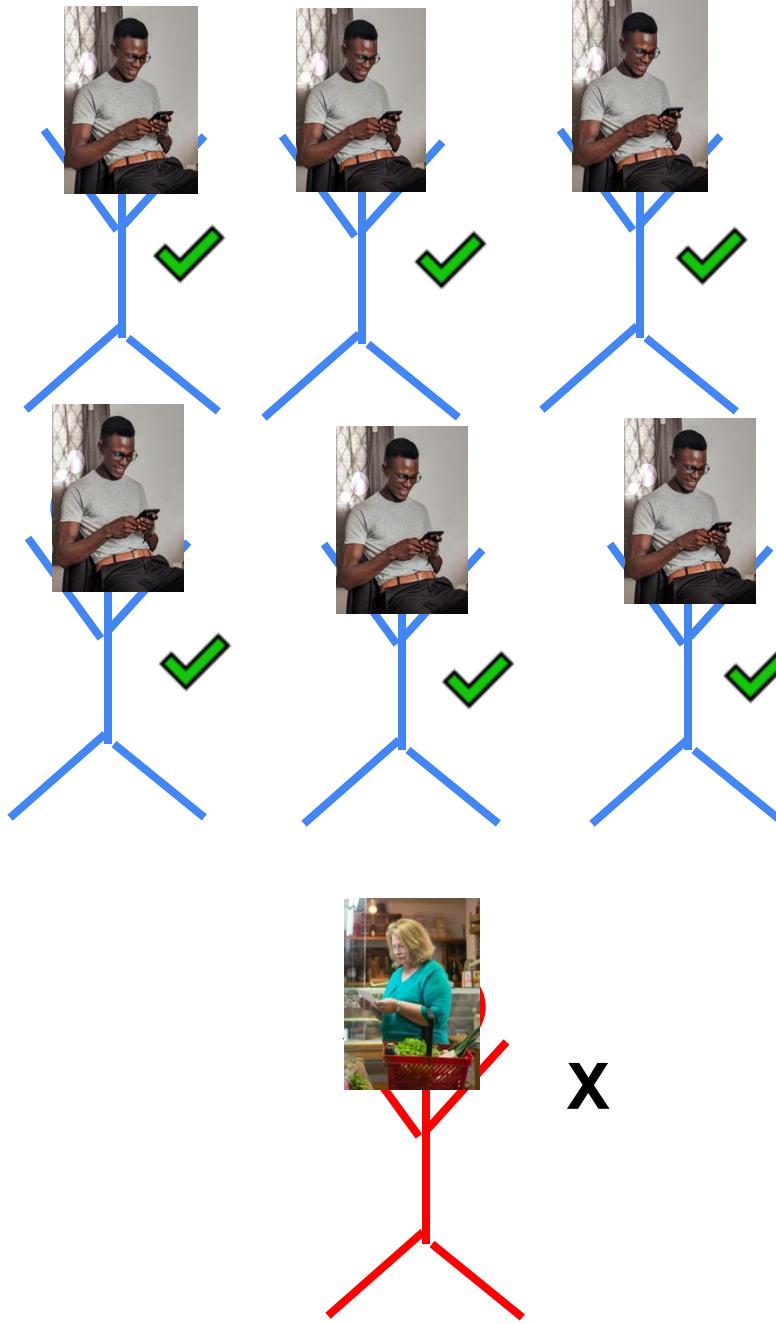


Elderly  
users



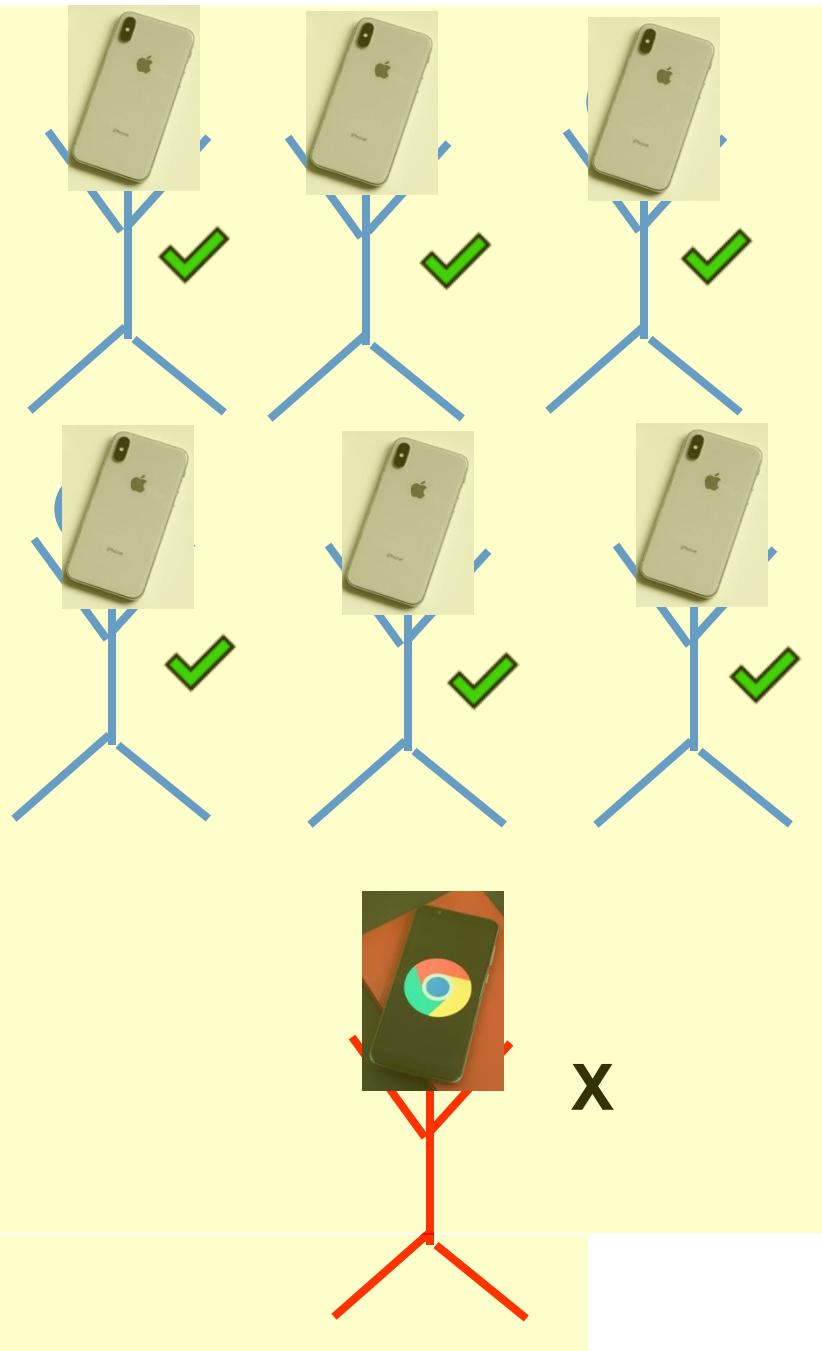
Apple  
users

Android  
users



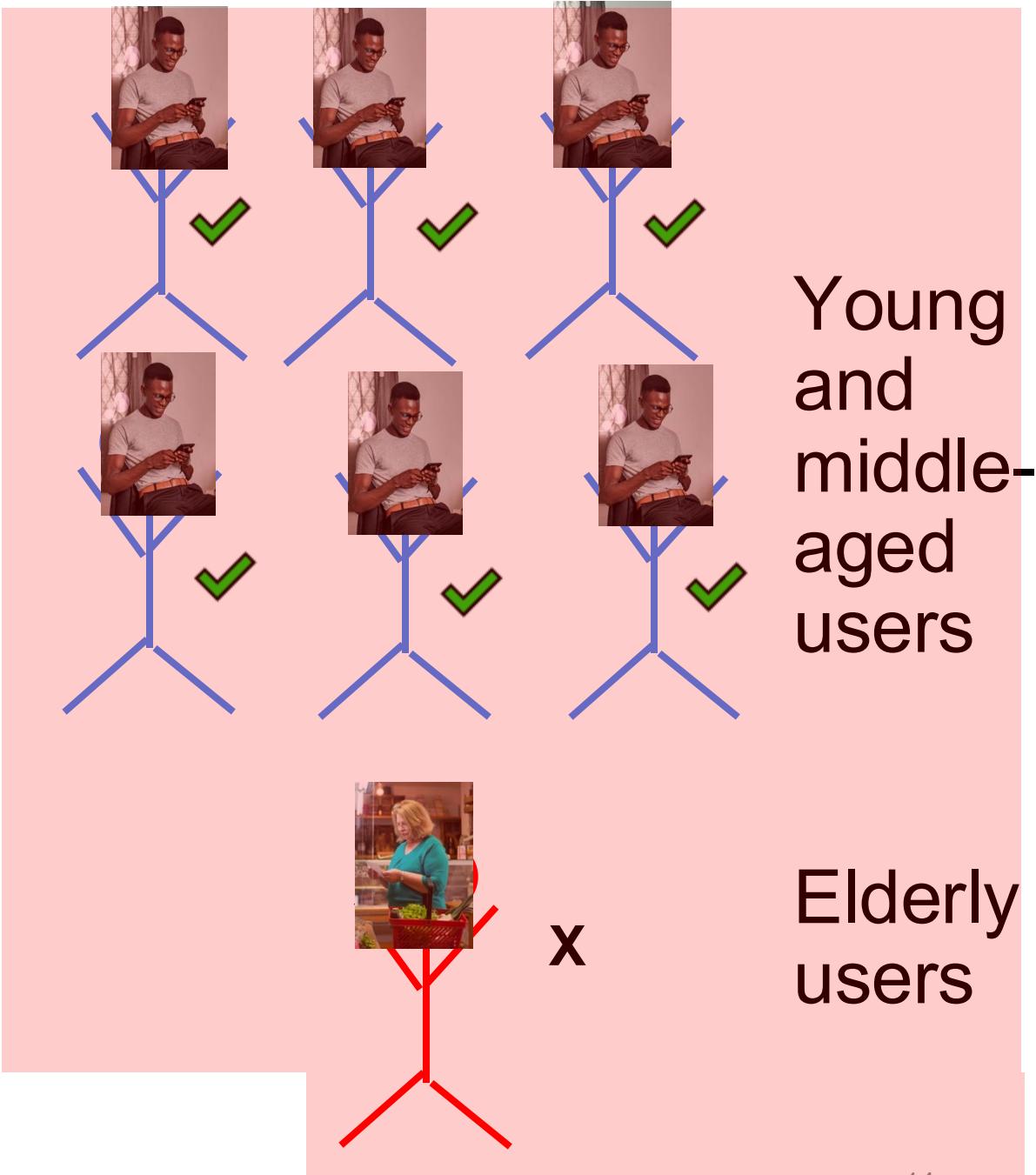
Young  
and  
middle-  
aged  
users

Elderly  
users



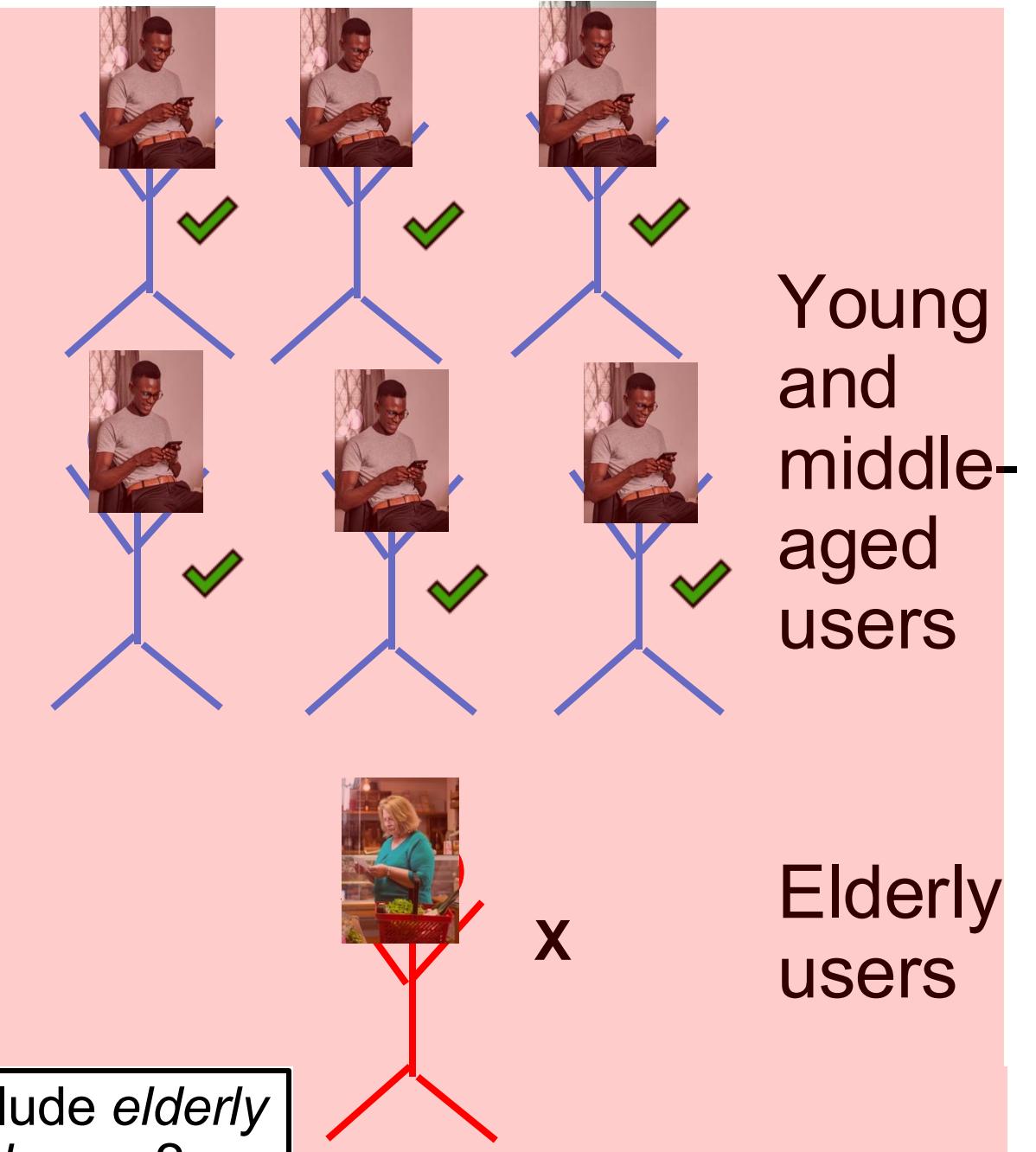
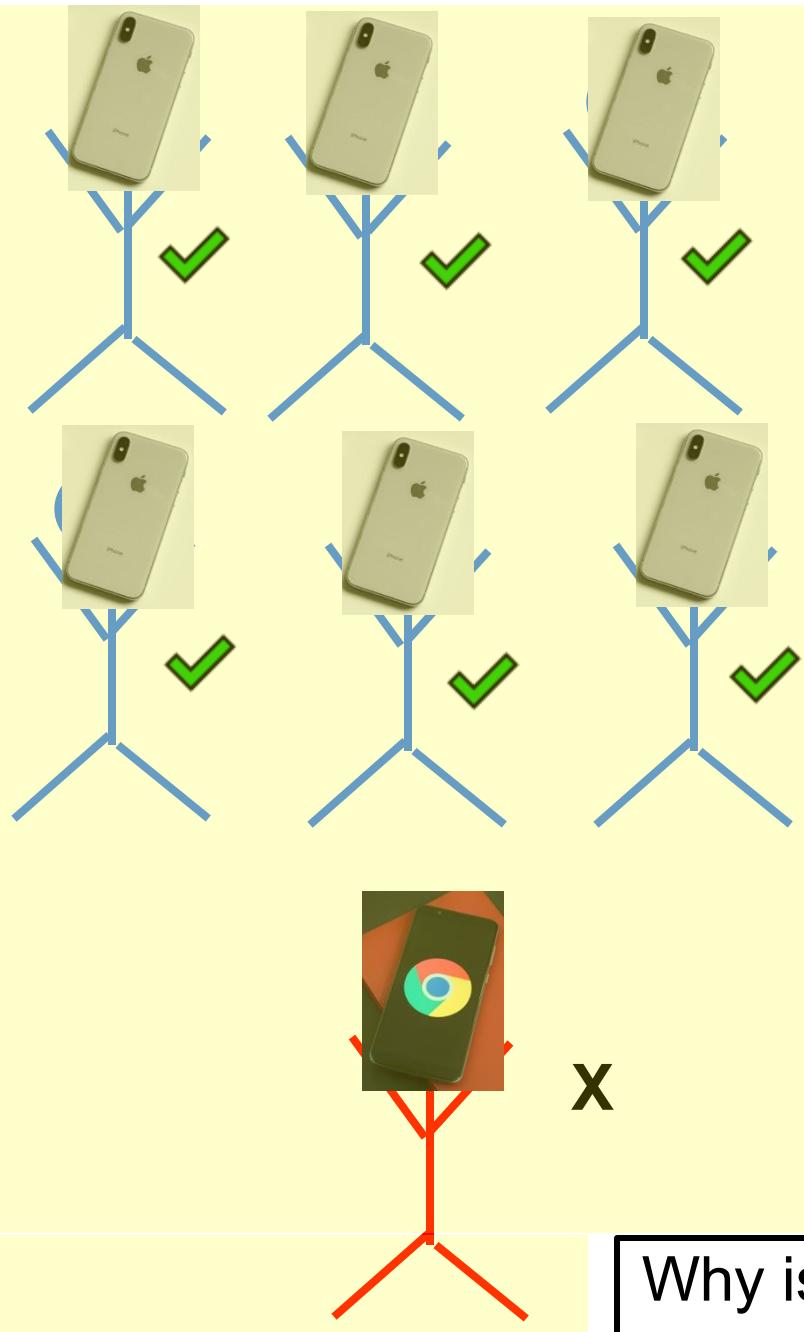
Apple  
users

Android  
users



Young  
and  
middle-  
aged  
users

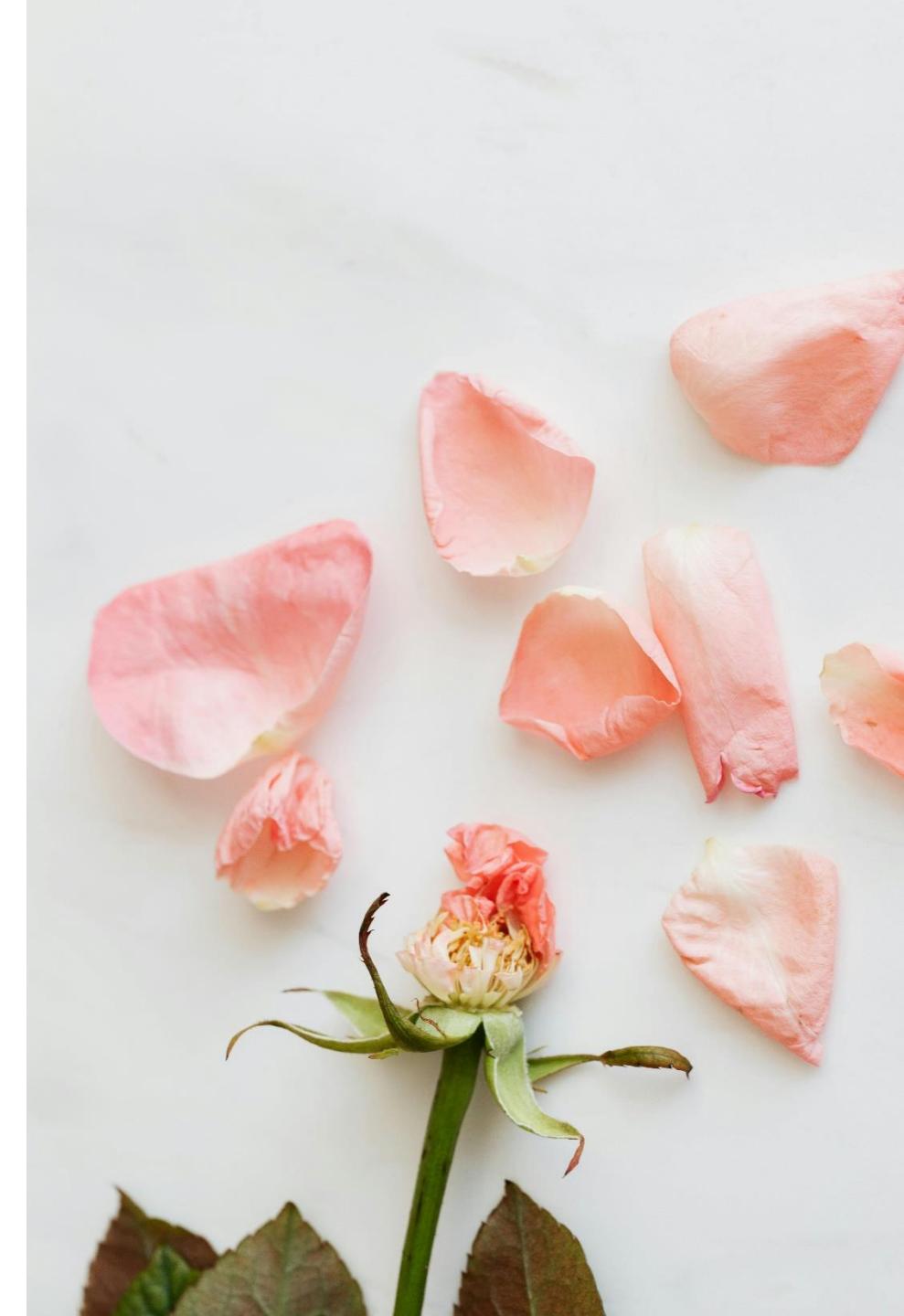
Elderly  
users



One reason why it is worse to exclude elderly users in designing software: Elderly users are often more vulnerable than younger users.

They may suffer more **material harm** than others without access to an app – loss of happiness, health, freedom, opportunities, etc.

But is that the *only* reason it is worse to exclude elderly users?





Many of us would say that there is some *other* reason left over...

(We will use three philosophical ideas to explain this other reason!)

1) Language is the typical way that we communicate meaning to each other.

However, other things can communicate meaning too:

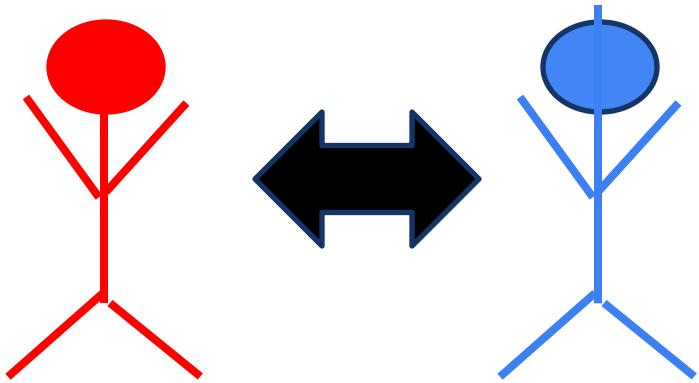
- Artifacts
- Actions
- Decisions



2) Philosopher J.L. Austin suggests that some forms of communication do more than convey information – they directly make changes in the world. These are called **speech acts**. E.g.

- Apologies
- Promises
- Official declarations





3) Philosopher Elizabeth Anderson talks about the idea of **relational equality** or **democratic equality**: being able to relate to someone as an equal

Not about who has what tangible things, but comparative status.

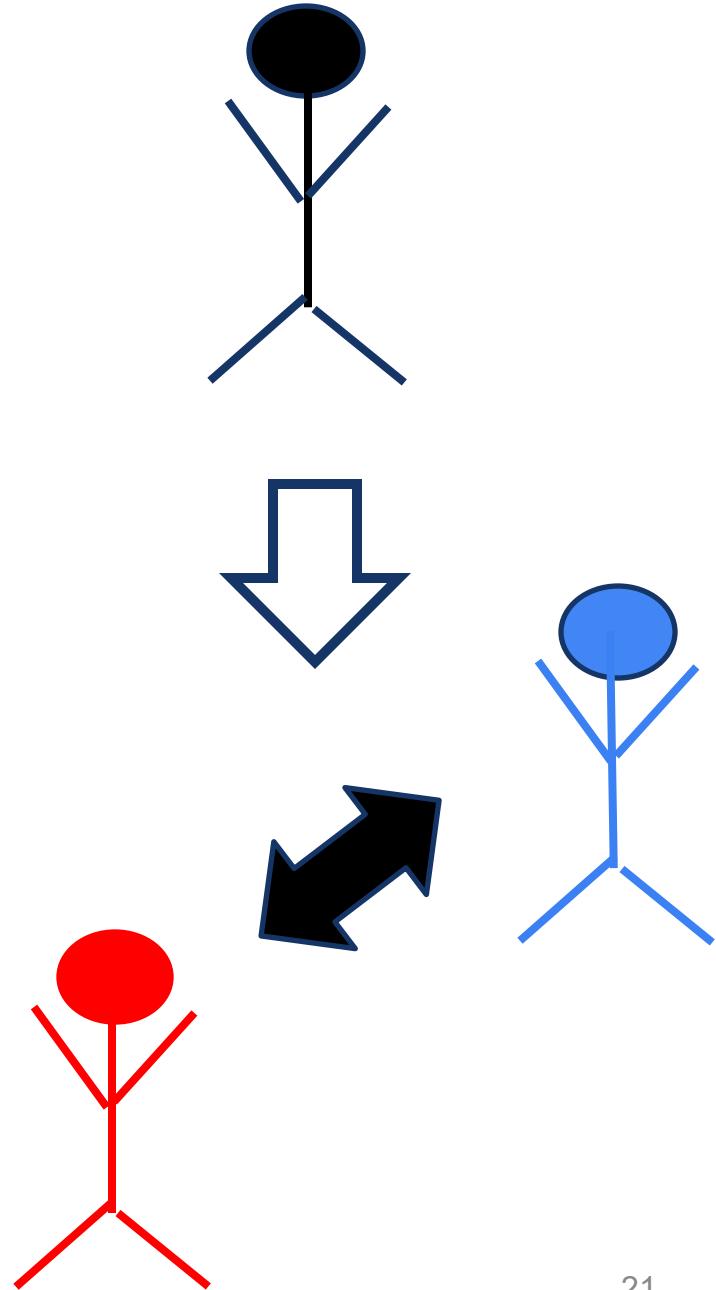


Let's put those three ideas together...

Some design decisions that exclude people are speech acts:

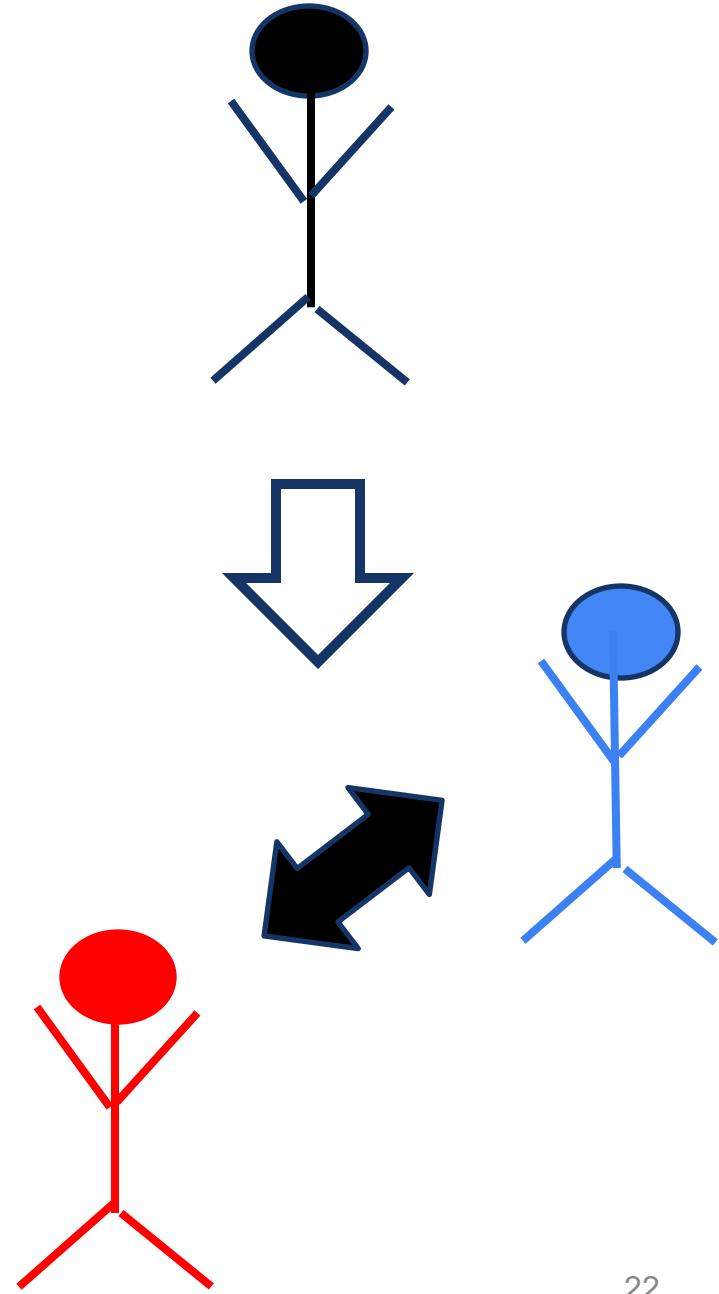
- They express that those people are less than equal
- They have the power to demote those people's status

This may be intentional or unintentional.

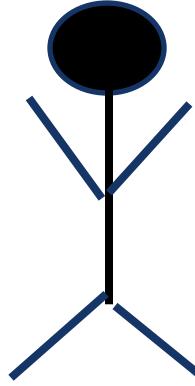


**Relational harms:** harms that come from someone expressing that another person is less than equal

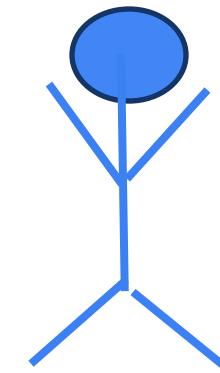
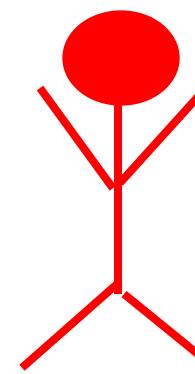
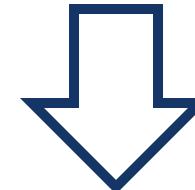
**Material harms:** all other harms (like the harms we identified earlier caused by exclusion from various apps – harms to happiness, health, freedom, social options, etc)



When do words or actions cause relational harms?



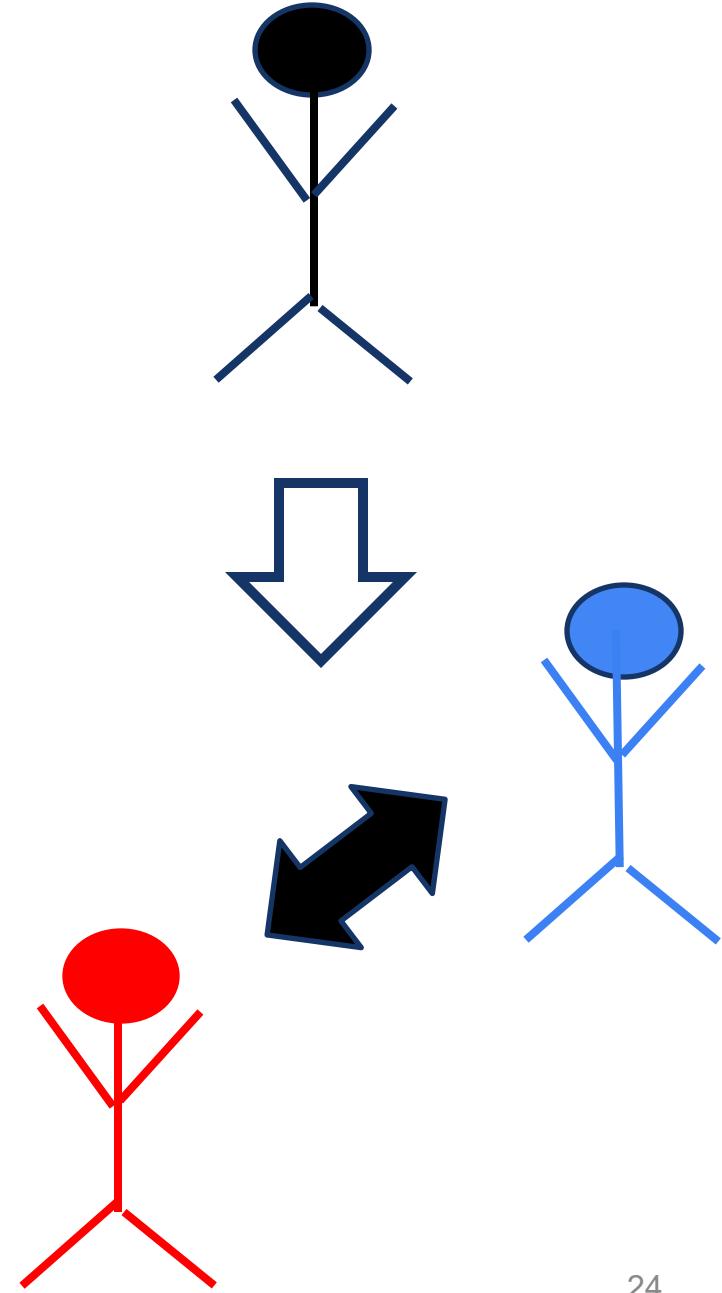
When does a design decision that excludes someone cause them relational harms?



Philosophers disagree about the answers to these questions!

But here are some factors that may contribute to relational harms:

- A) Does the person making the decision have authority?
- B) What is the subject matter of exclusion?  
Is it closely connected to personal dignity or more trivial?
- C) Who is being excluded? Do they belong to a sensitive group?



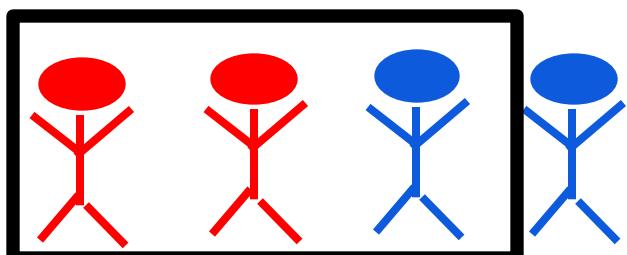
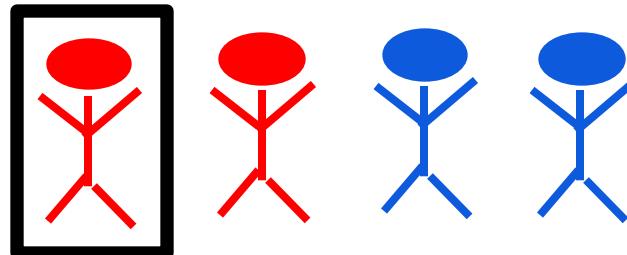
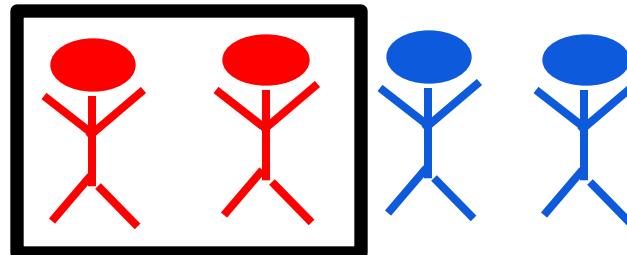
### C) Who is being excluded? Do they belong to a sensitive group?

Some groups of people seem to be more vulnerable to relational harm through exclusion because of history, etc.

The relational harm is worst when all and only members of a sensitive group are excluded.

It is less relationally harmful if some but not all members of a sensitive group are excluded.

It is less relationally harmful if some members of a non-sensitive group are simultaneously excluded.



When you design an app that works for Apple users, but not Android users....

..... you usually don't communicate that Android users are less than equal to Apple users.



When you design an app that works for young and middle-aged users, but not elderly users....

.... you usually communicate that elderly users are less than equal to other users.

