

# MULTI-USER, MULTI-DISPLAY APPLICATION TO INCREASE ENERGY AWARENESS

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# AGENDA

- Introduction
- Aim of the project
- Challenges
- The application(Save-E)
- Results and future work



# INTRODUCTION

- Energy is now a trending issue that the world is talking about
- From 2008 to 2030, world energy consumption is expected to increase more than 55% <sup>(a)</sup>
- It's weird how unaware we are as to how much energy we're really using
- Multi-user, multi-display applications have proven to motivate users more to interact with each other and with the contents on the displays

<sup>(a)</sup> Royston, Angela. 2009. *Sustainable Energy*. Mankato, MN: Arcturus Publishing Limited.

# AIM OF THE PROJECT

- ✓ Letting people know how much Energy they use
- ✓ Allowing people to compare their usage and compete with each other on public displays
- ✓ Increasing energy awareness by giving people tips to help them save energy
- ✓ Maintaining the privacy and sensitive information that each user might have



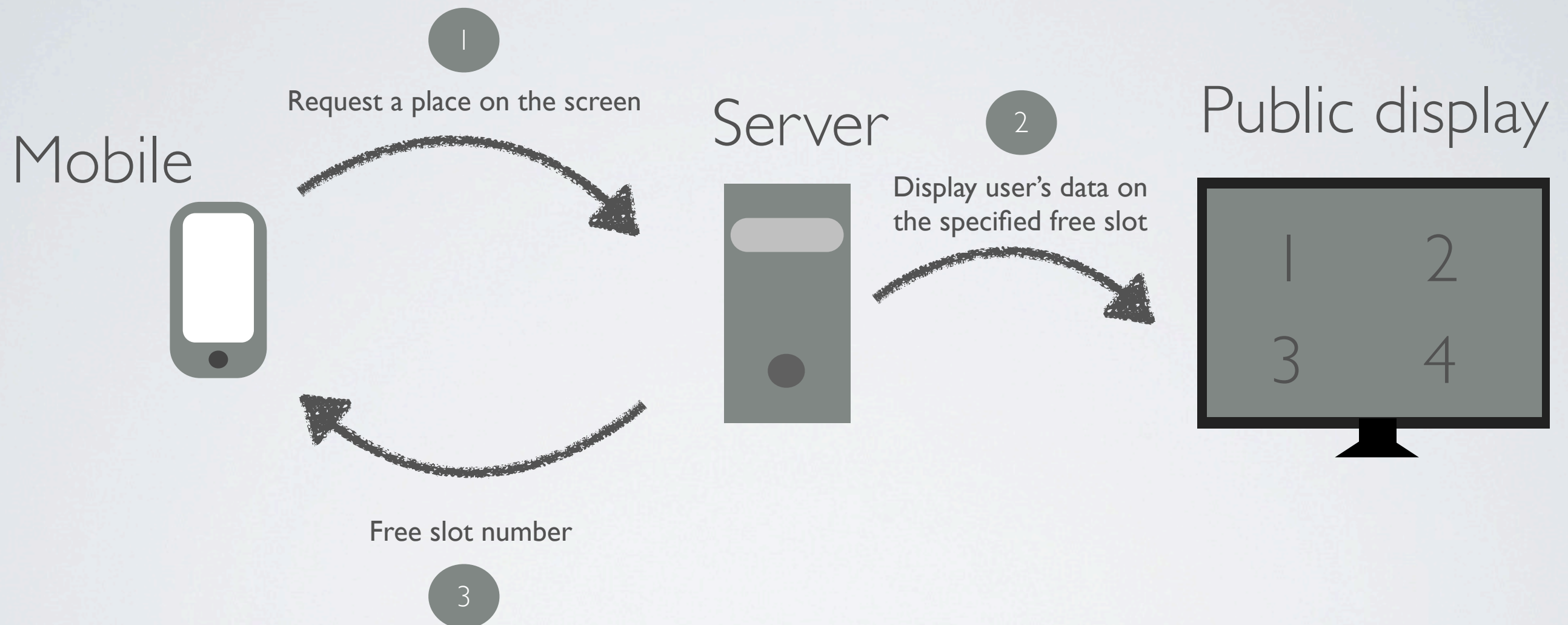
# CHALLENGES

- I. Multi-user setup
- II. Synchronization of the displays
- III. User privacy

# THE APPLICATION(SAVE-E)

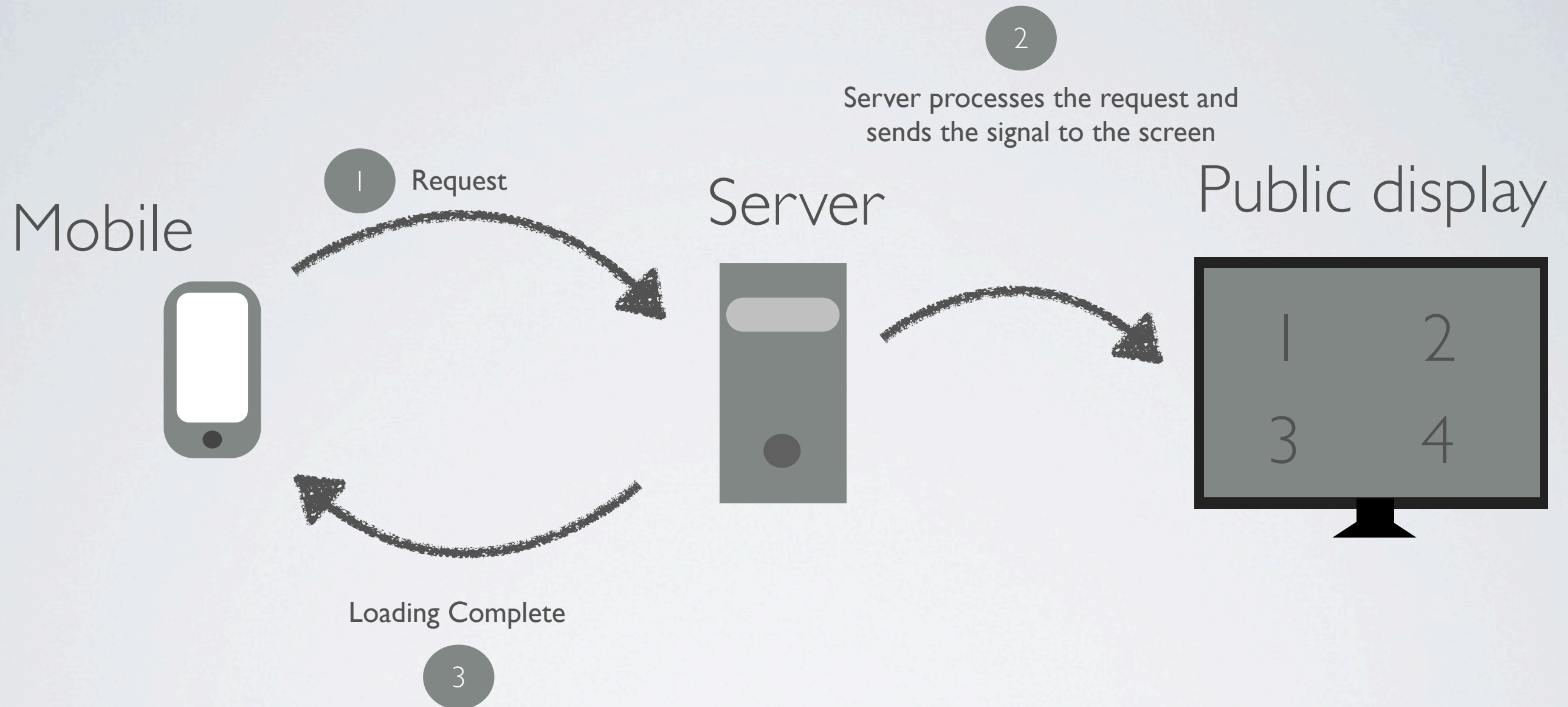
- Connection Setup
- Synchronizing displays
- Charts
- User Privacy
- Managing multi-user on one screen
- Game mechanics

# CONNECTION SETUP





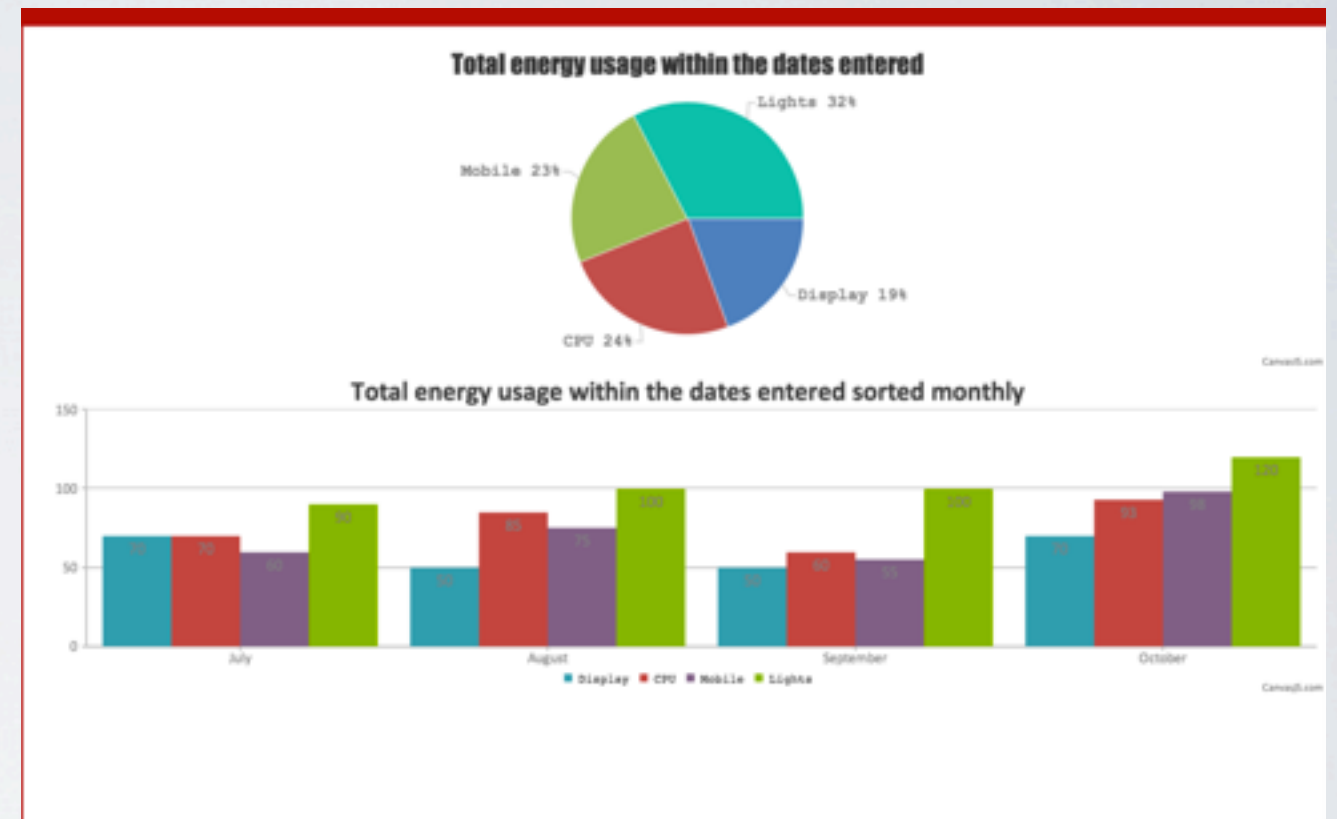
# SYNCHRONIZING DISPLAYS





# CHARTS

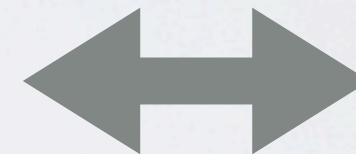
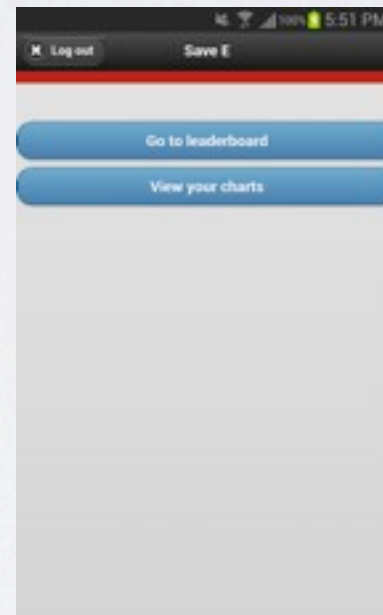
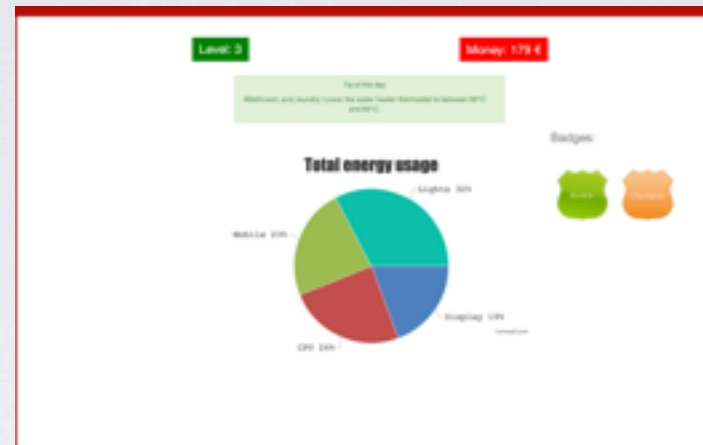
- Users can choose the dates in which they want to view their usage
- The data is displayed as 2 charts :
  - i. Pie chart which represents the total energy usage in the duration the user chose
  - ii. Bar chart which represents the total usage within the duration chosen but classified monthly



# USER PRIVACY

Users get to choose between two privacy profiles:

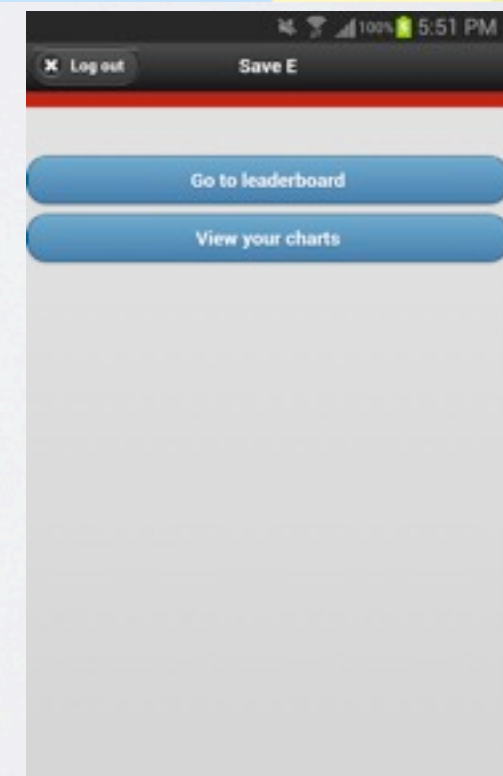
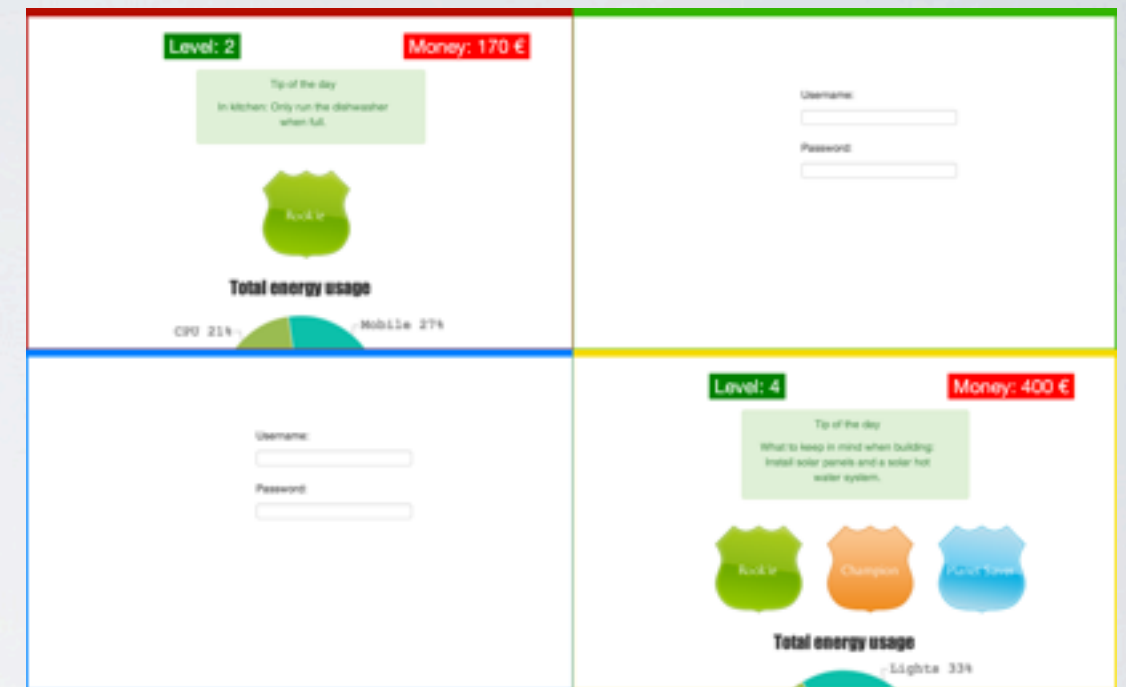
- i. High privacy profile
- ii. Low privacy profile





# MANAGING MULTI-USER ON SCREEN

- Each user has his own channel and space that allows him to interact with the display
- Each user has his own color bar at the top of his slot to be able to identify it which also appears on his mobile screen



# GAME MECHANICS

- Levels

-The level you reach when you have a certain number of badges and money

- Badges

-As long as you are saving energy you keep getting more badges

- Money (virtual)

-You save money when you consume less energy

- Leader board

-Let's you know your rank among the other users using the system and motivates you to be from the top 3 users

Level: 3

Money: 179 €

User	Level	Money	Badges
Karen Terek	4	400	  
Bob Smith	3	270	 
Mia Doron	2	170	
Rachel Roy	1	70	

Badges:



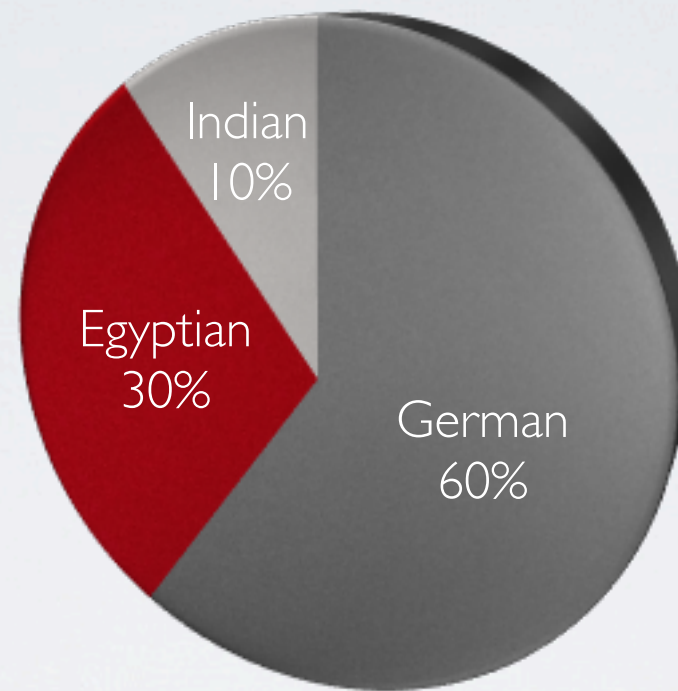


# STUDY

- Users were asked to perform certain tasks to test usability and motivation to save energy

# STUDY

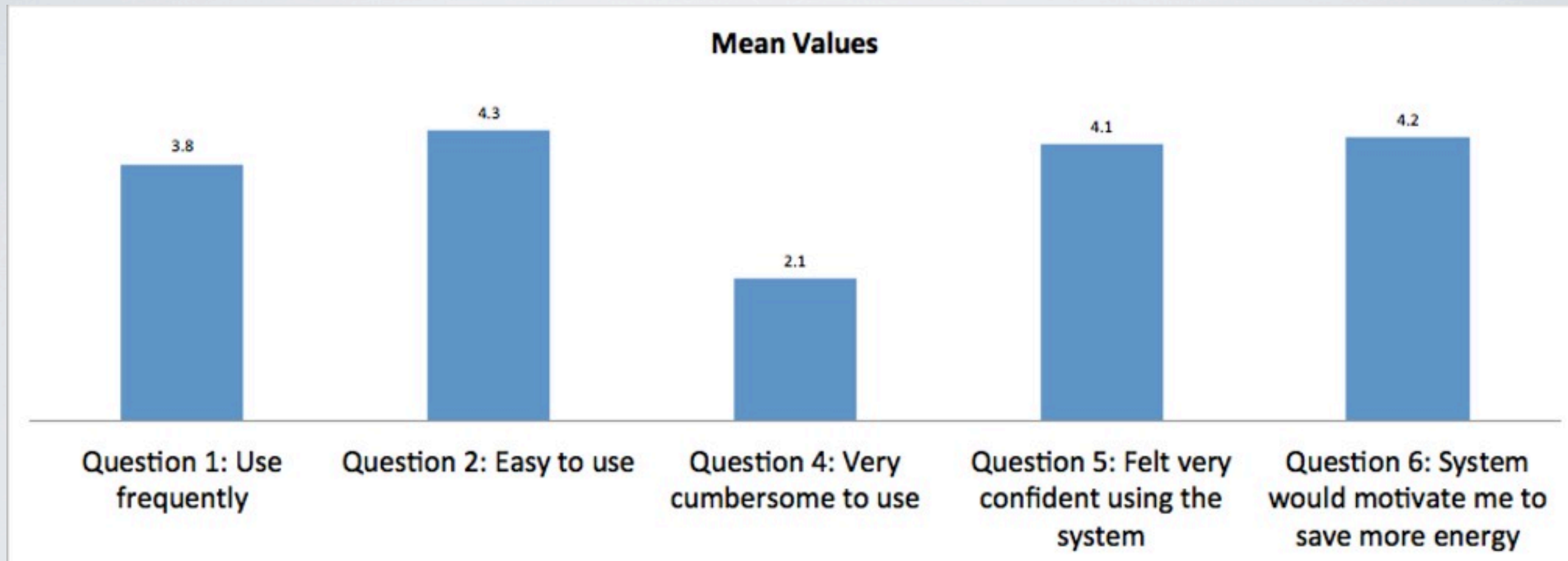
## Nationality



- Users were asked to perform certain tasks to test usability and motivation to save energy



# RESULTS



# QUESTIONS

Thank you for your attention