

Responsive Design

Network Visualization Playback 1
Emerging Products Design Team
03/30/2015

Agenda

- Introduction
- Core Elements
- Design Iterations + User Testing
- Final Design Wireframe
- Next Steps

Introduction

Stakeholders

- Implementations Design or Outside Design Studio
- Design Acceleration - Pattern Library

Origin

- **Genesis** - Design Camp Equity Research
- **Learning + Validation** - Legal Research and Additional User Research

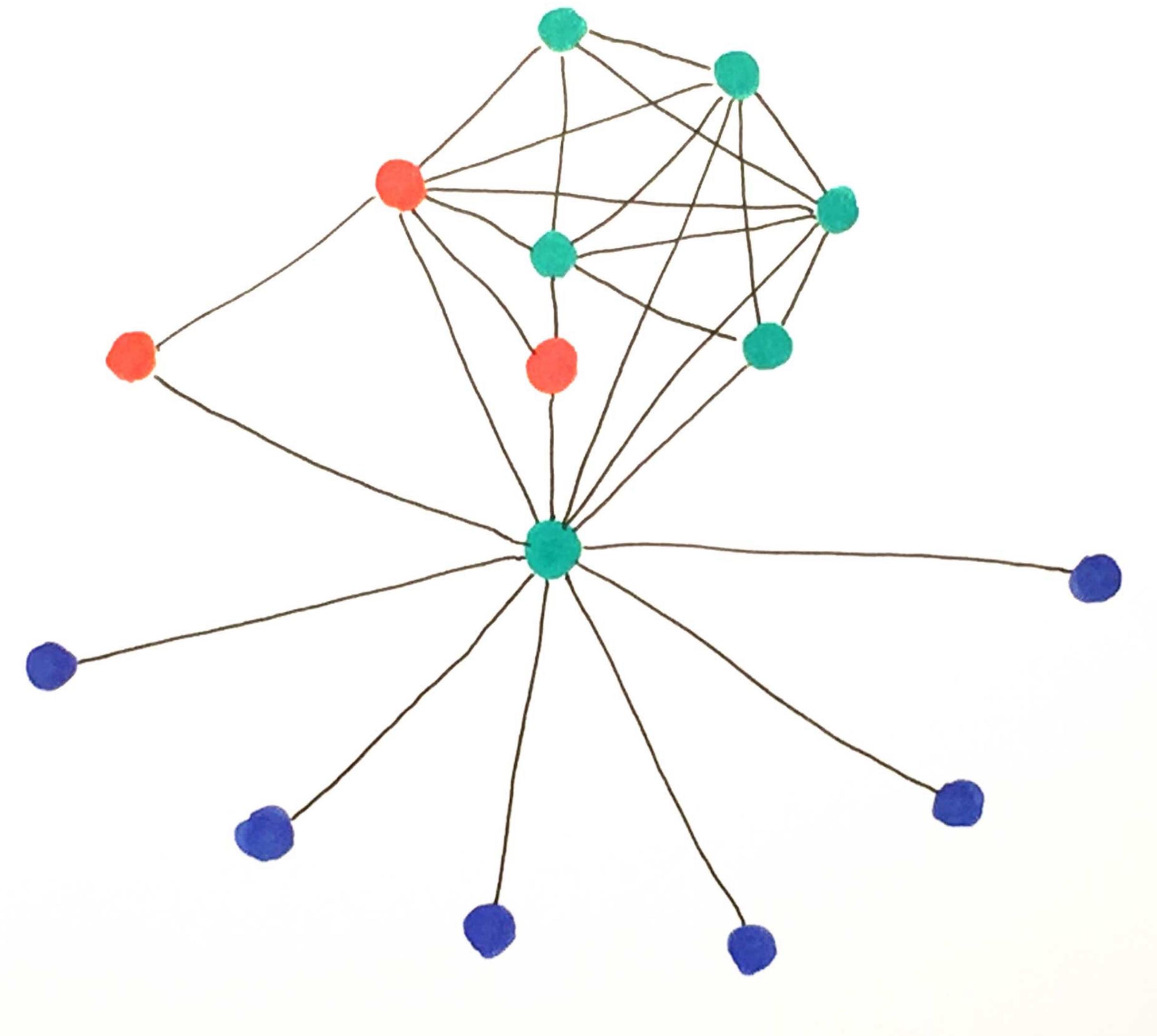
Core Elements

Mobile First

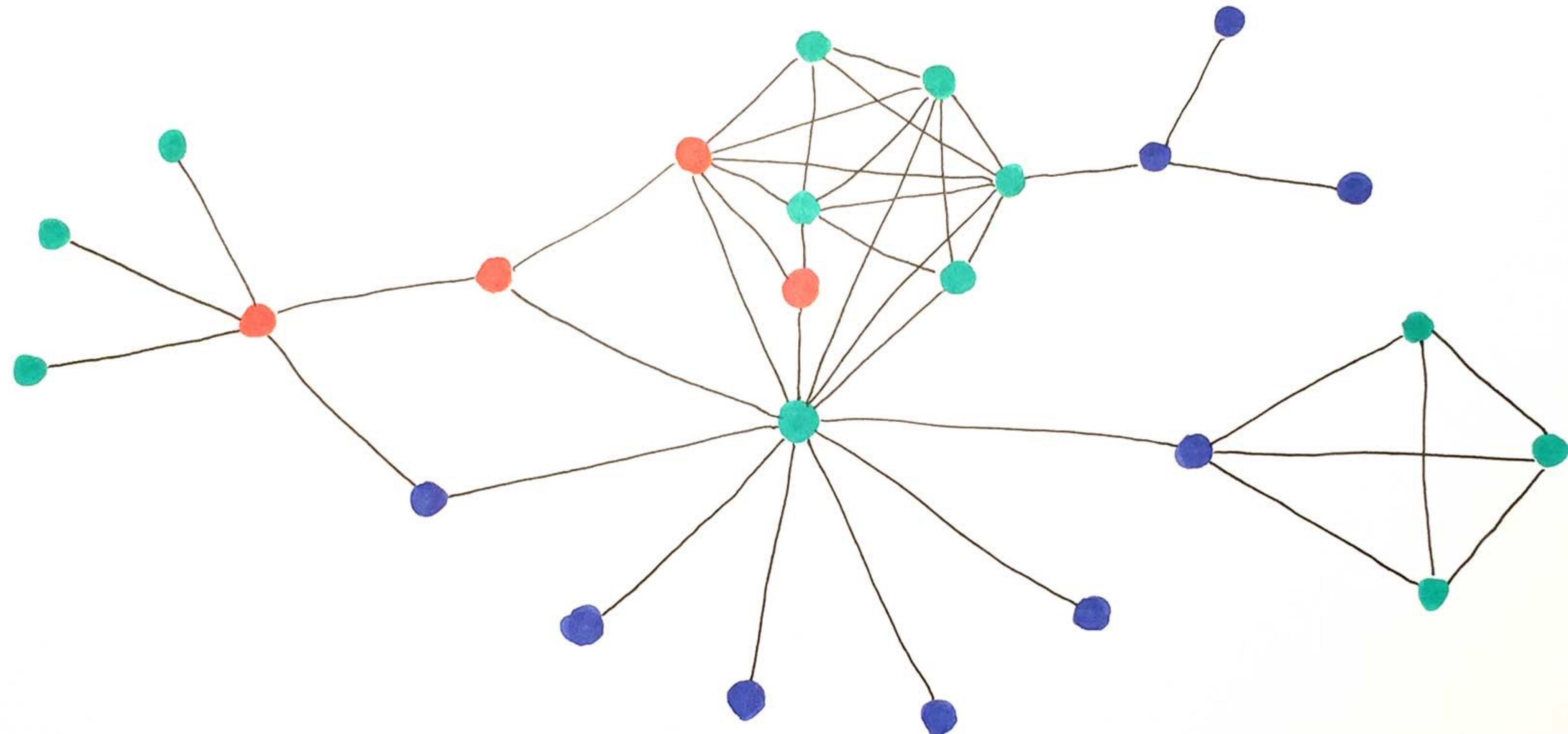
What makes a network visualization a network visualization?

Characteristics

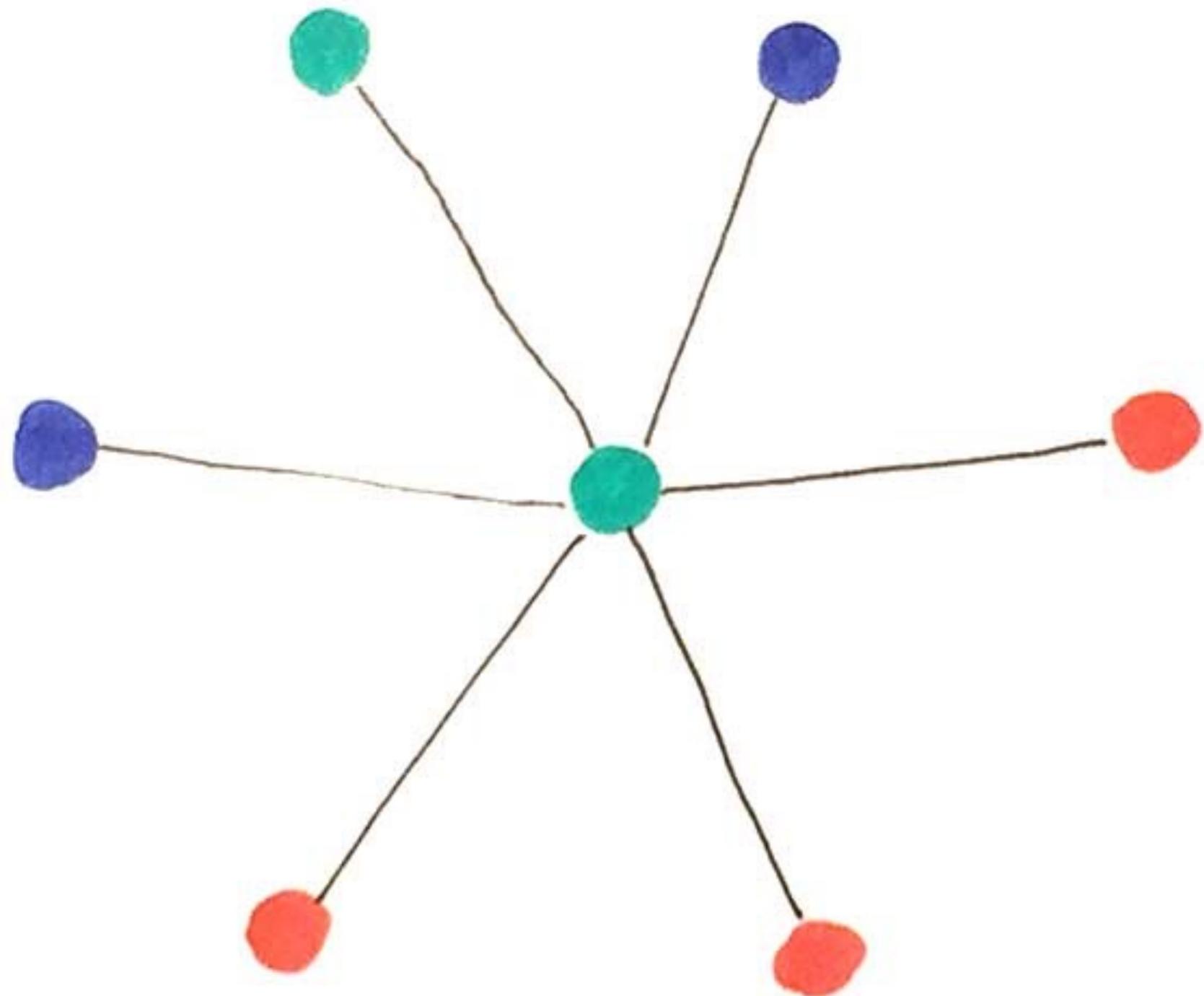
- network
- node
- connection



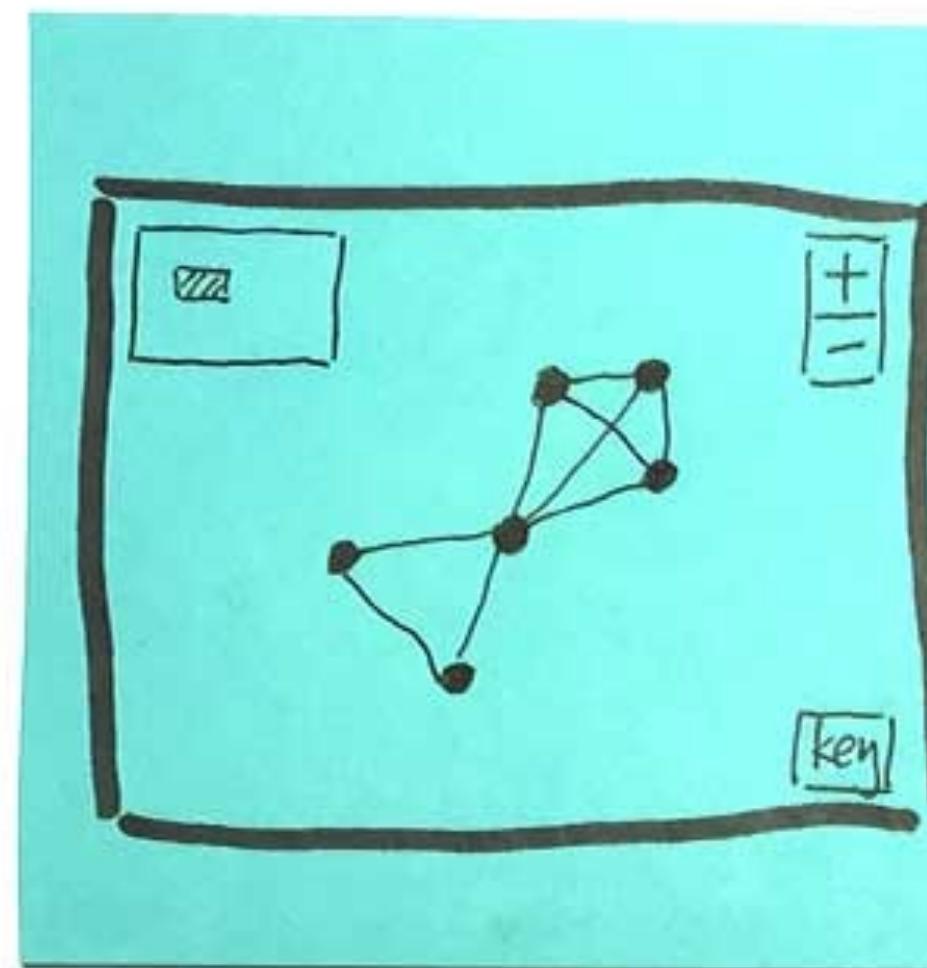
Network Expansion



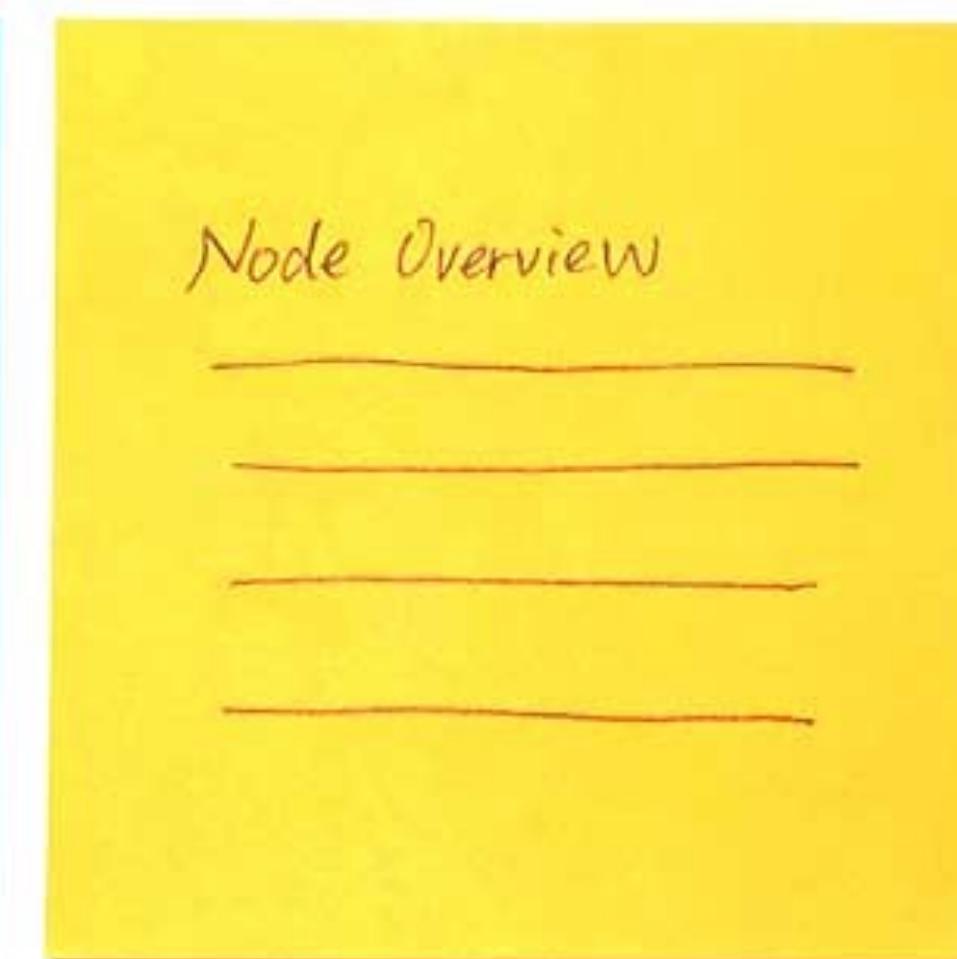
Network Subtraction



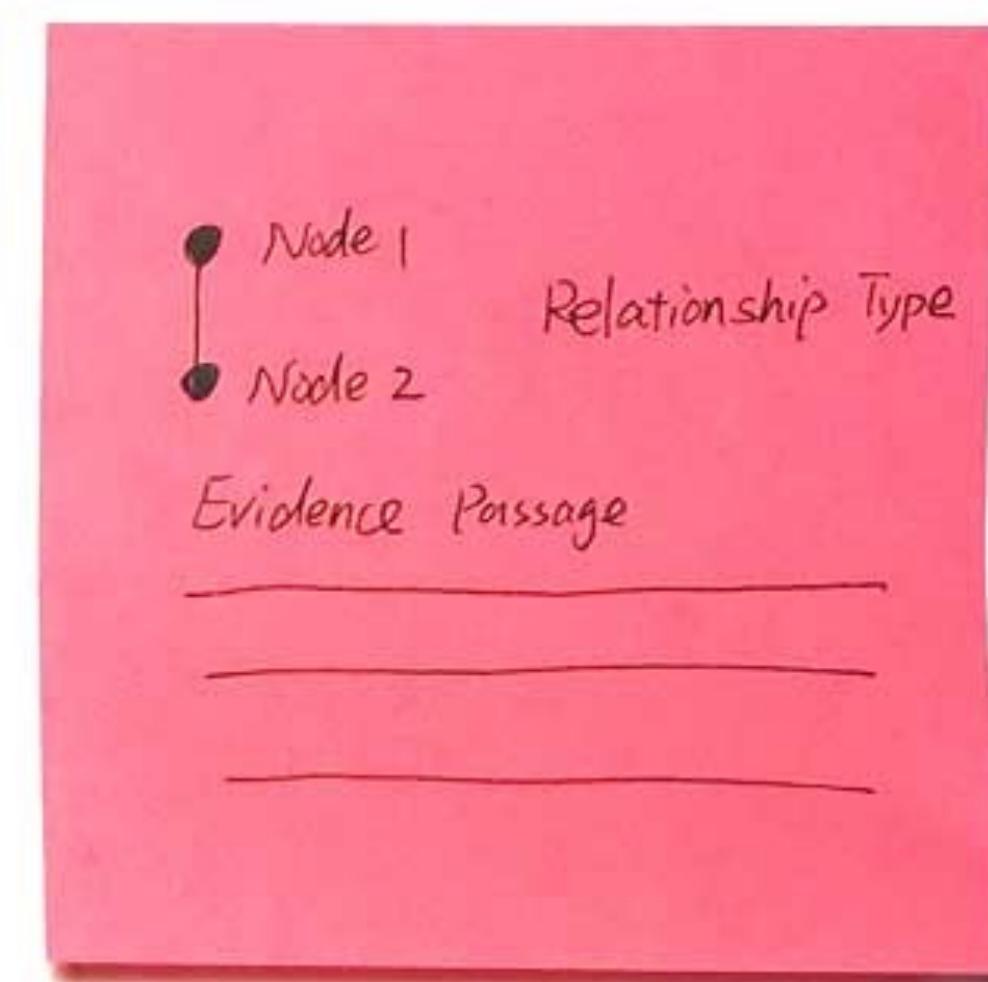
Canvas



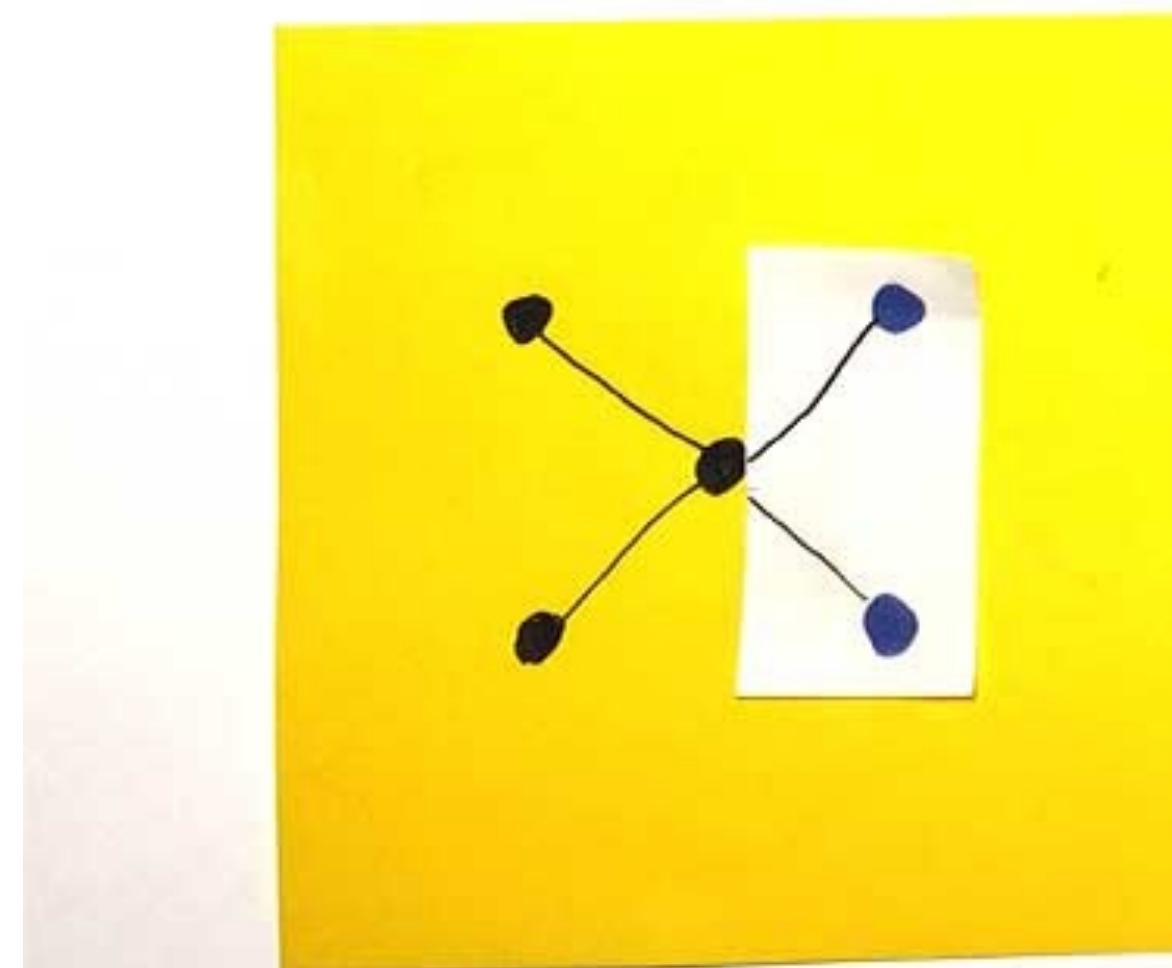
Overview



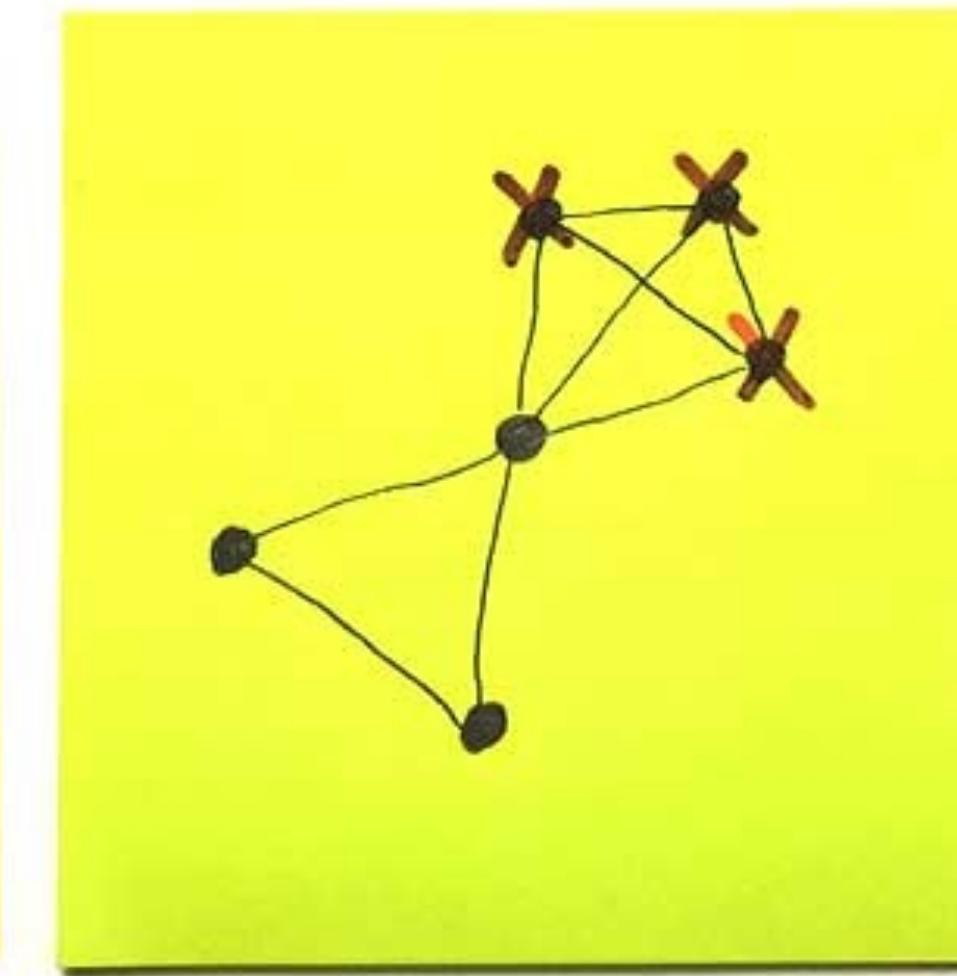
Relationship



Expansion



Remove



Filter

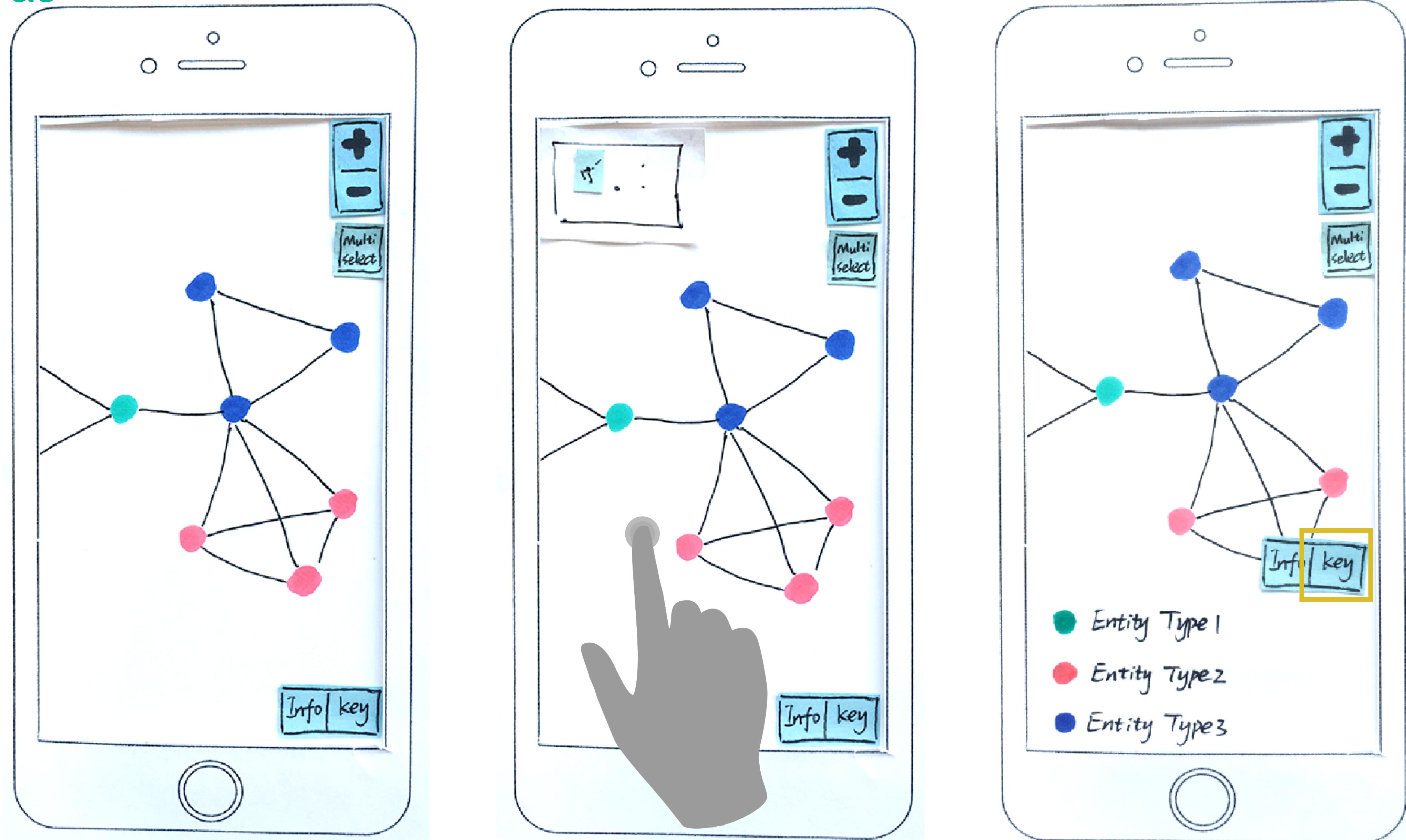
-
- A hand-drawn diagram on a purple sticky note. At the top left, the word "Filters" is written in blue ink. Below this is a list of four filter options, each preceded by a blue checkbox:
- first connections
 - second connections
 - property 1
 - property 2
- The entire drawing is done in blue ink.

A large, solid yellow rectangle covers the majority of the background. A thick, curved white line starts from the bottom right corner and sweeps upwards and to the left, creating a dynamic shape.

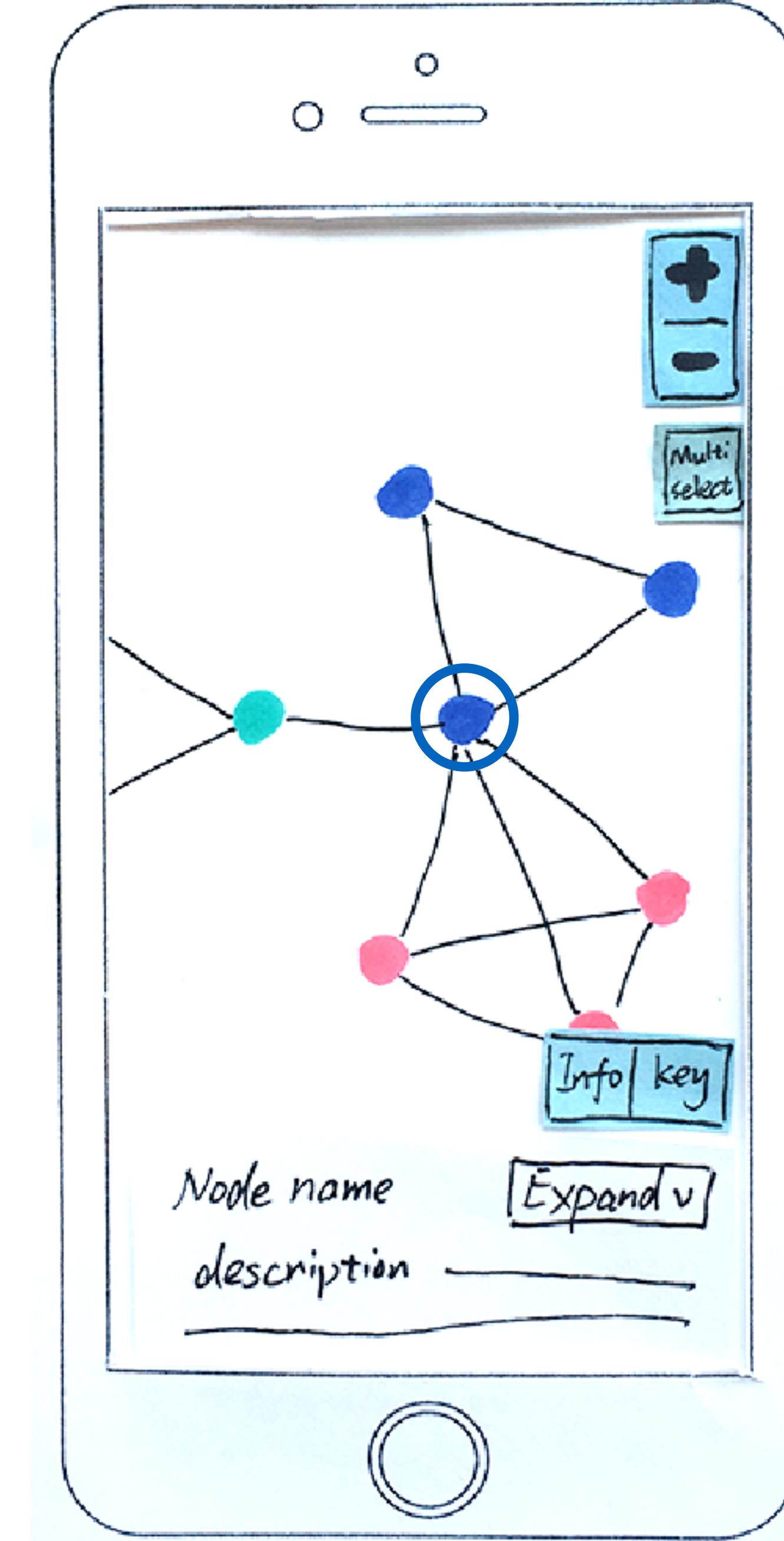
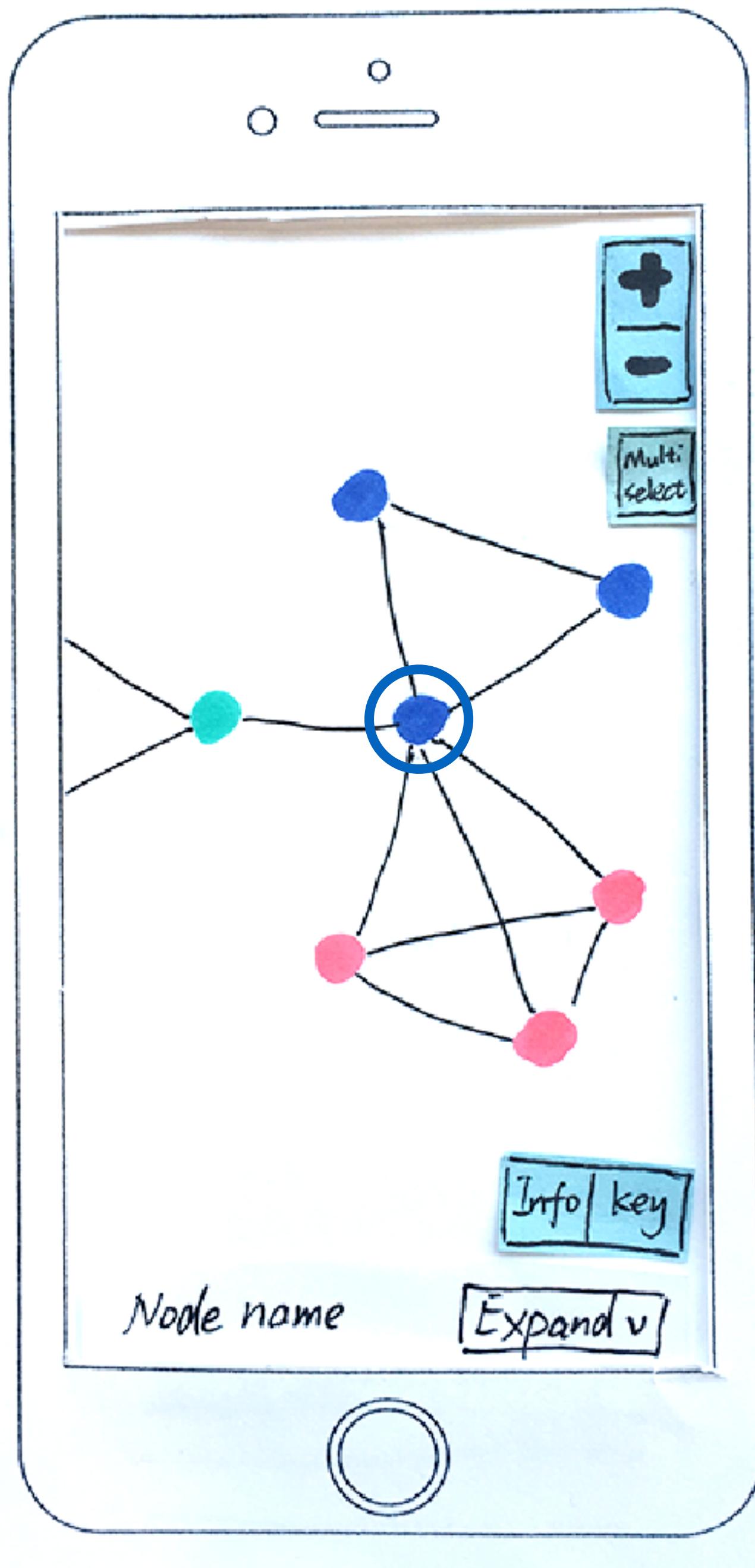
**Design Iterations
+ User Testing**

- First Design Iteration

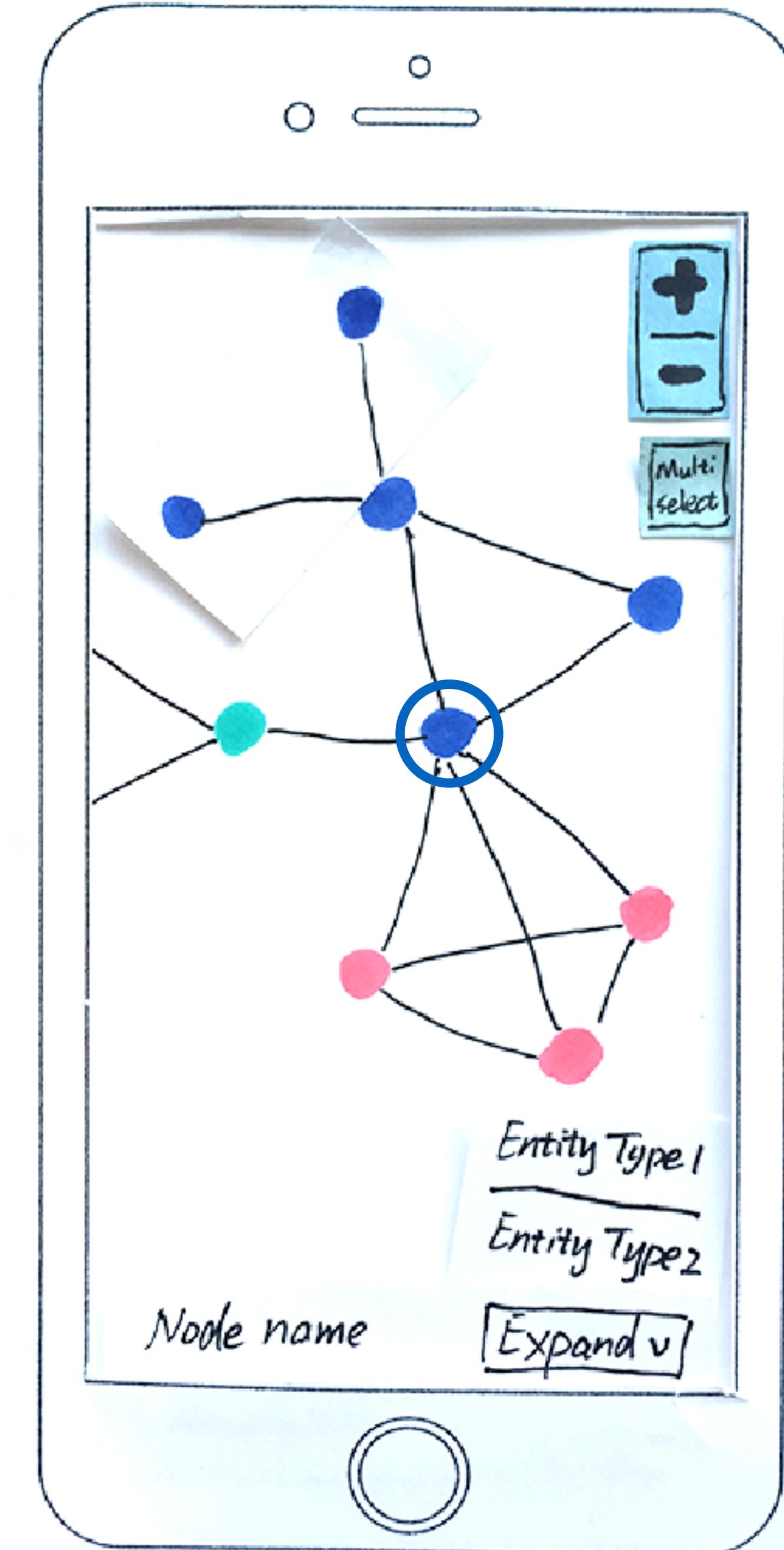
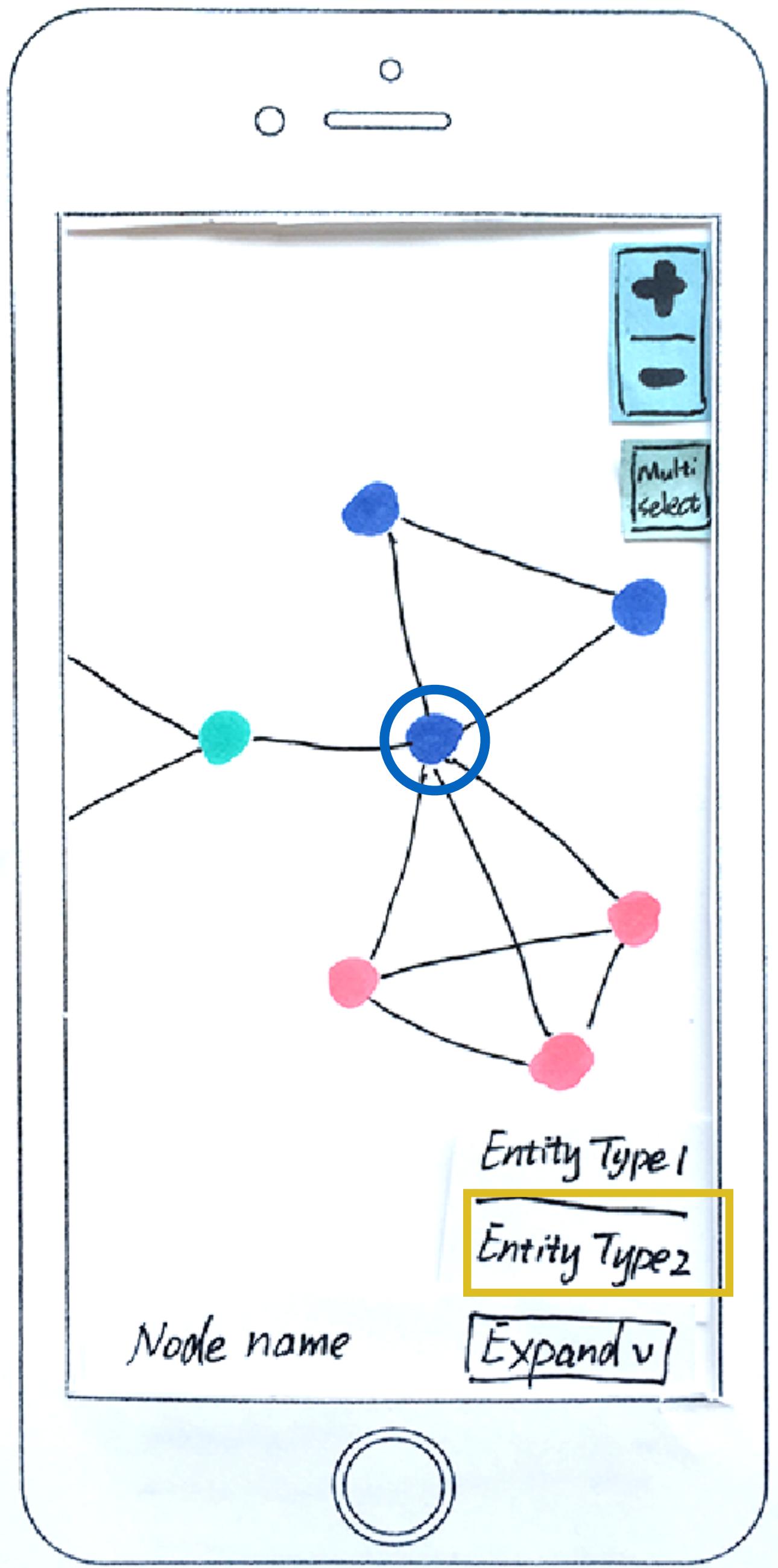
Canvas



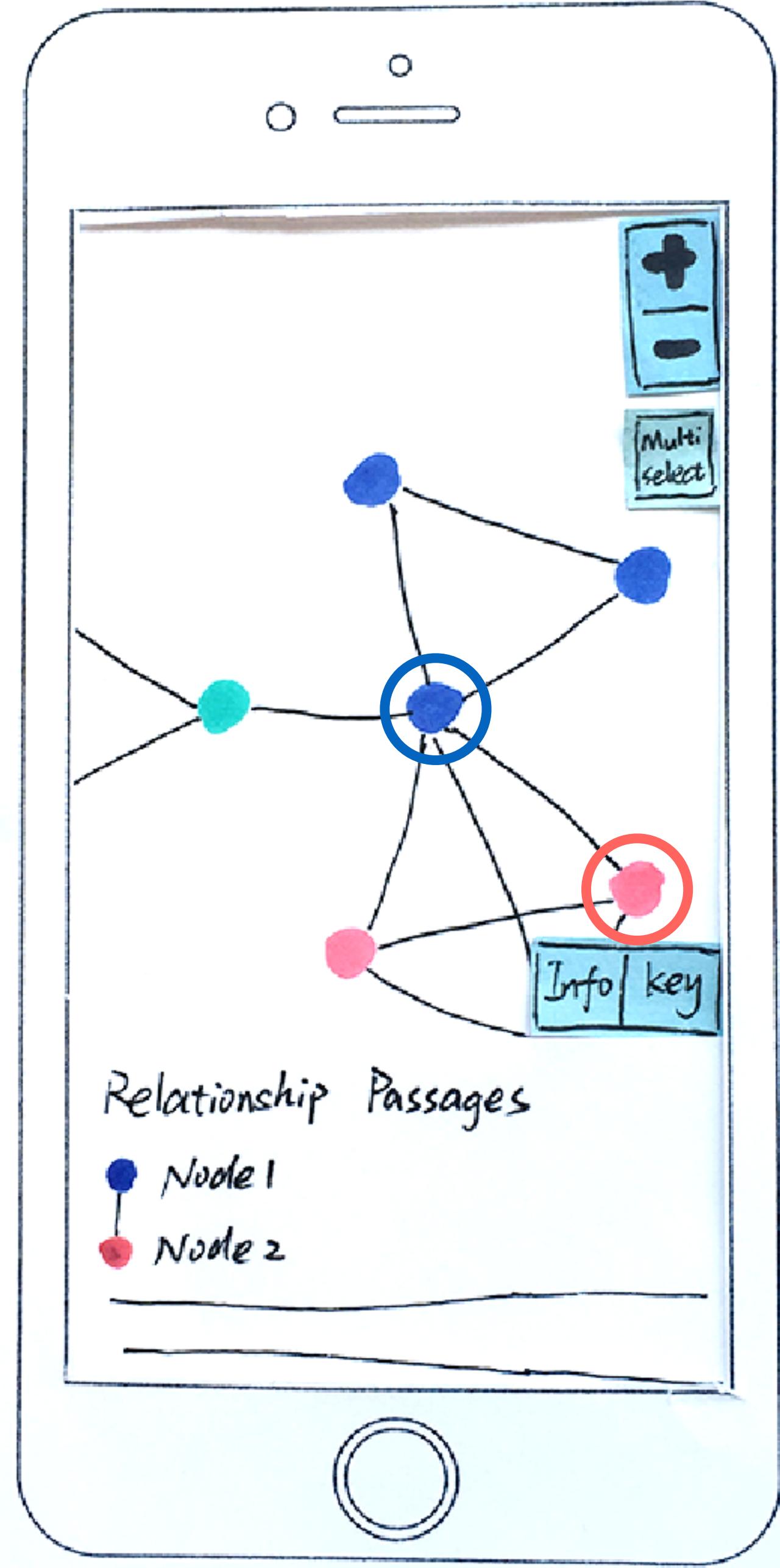
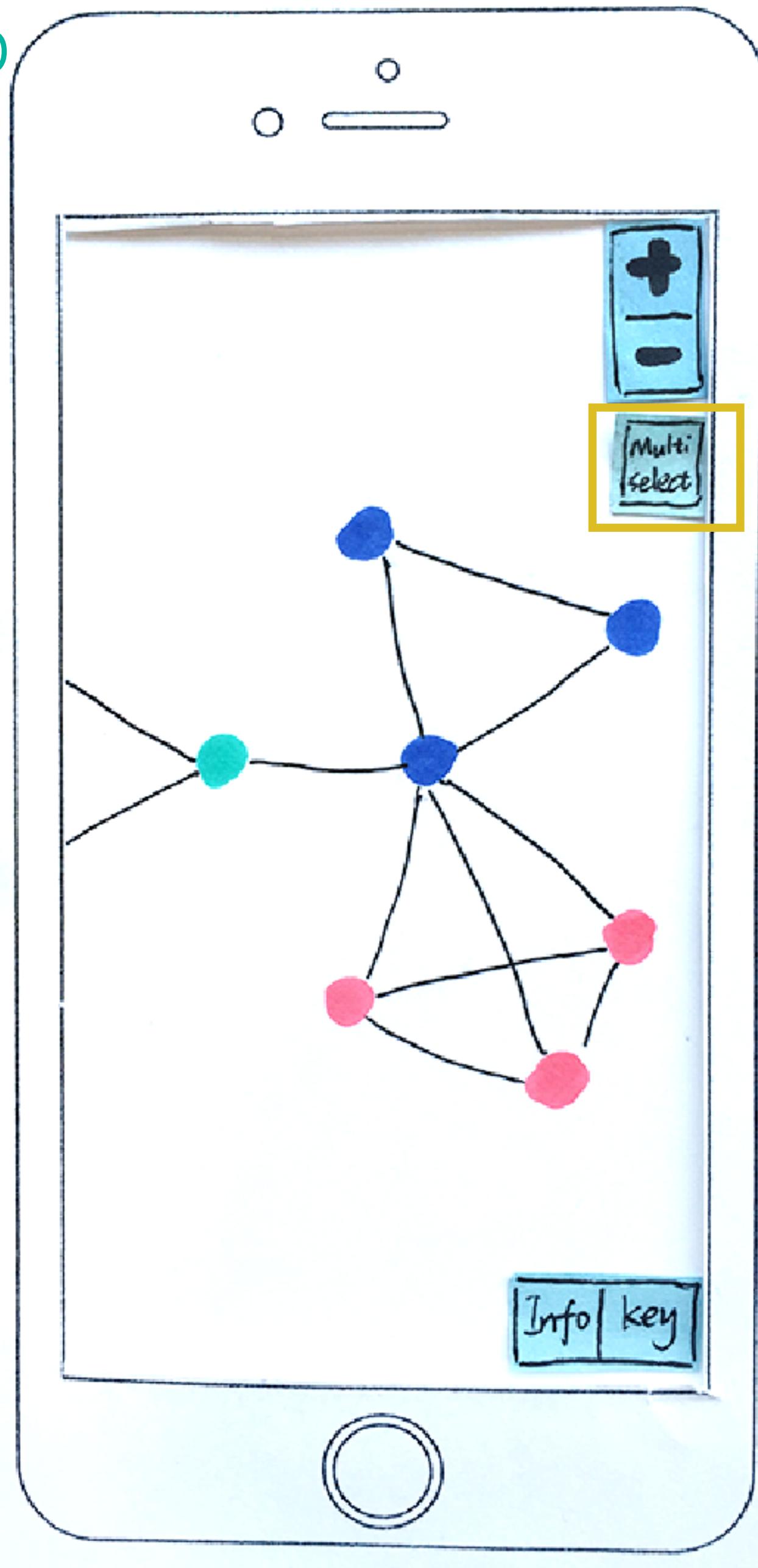
Overview



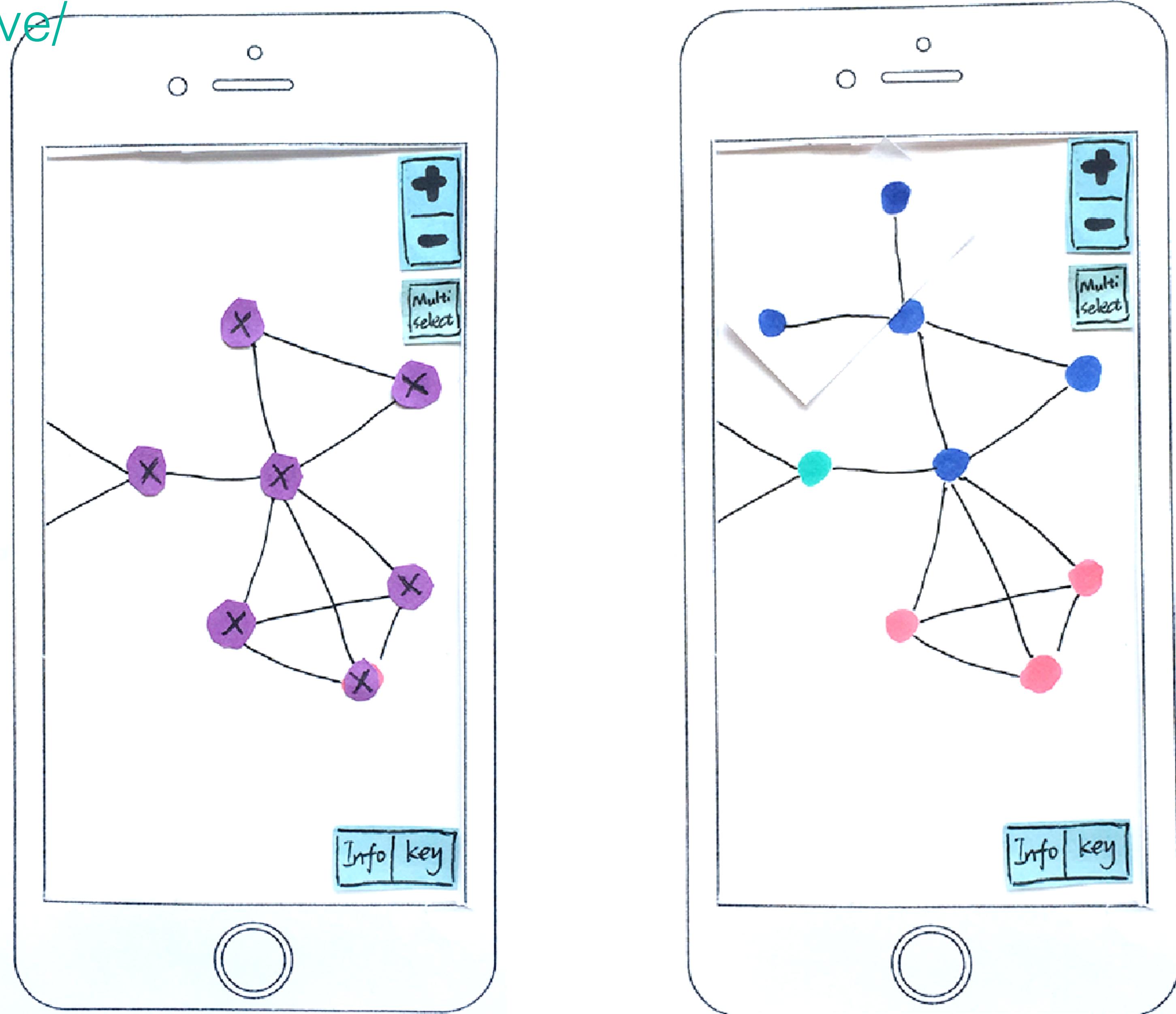
Expansion



Relationship



Quick Remove/ Expansion



- First Design Iteration
- User Testing for First Design Iteration - 7 participants

User Task

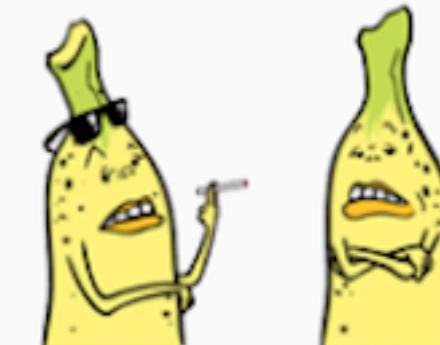
There are designers and engineers working either for WDA or for WDC

Some like apples, and some like bananas

Task 1 - Find all the people who like bananas

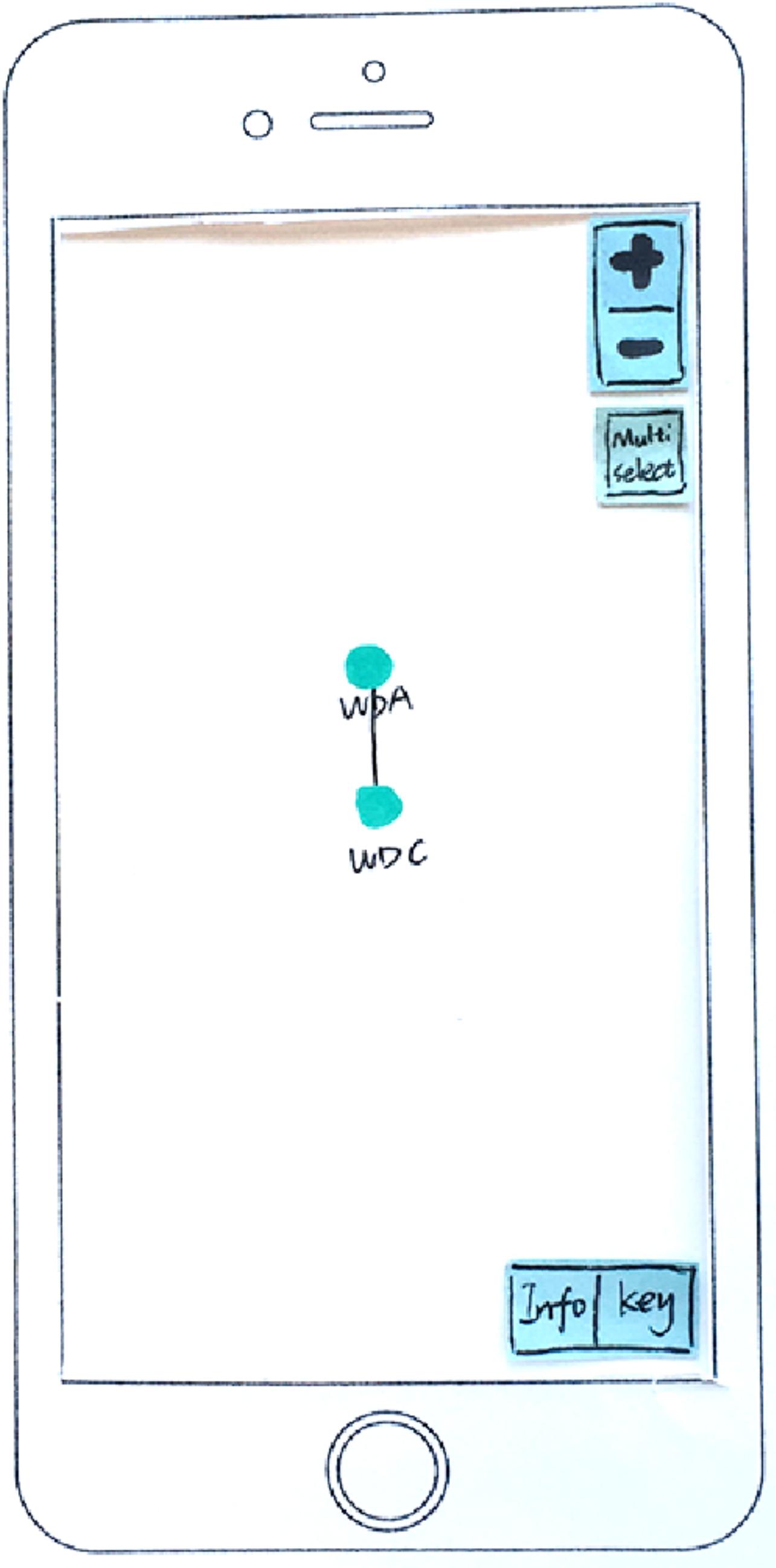


Task 2 - Find out the relationship between people who like bananas



Task 3 - Remove them from the network





User Feedback



"I understand the zoom buttons"



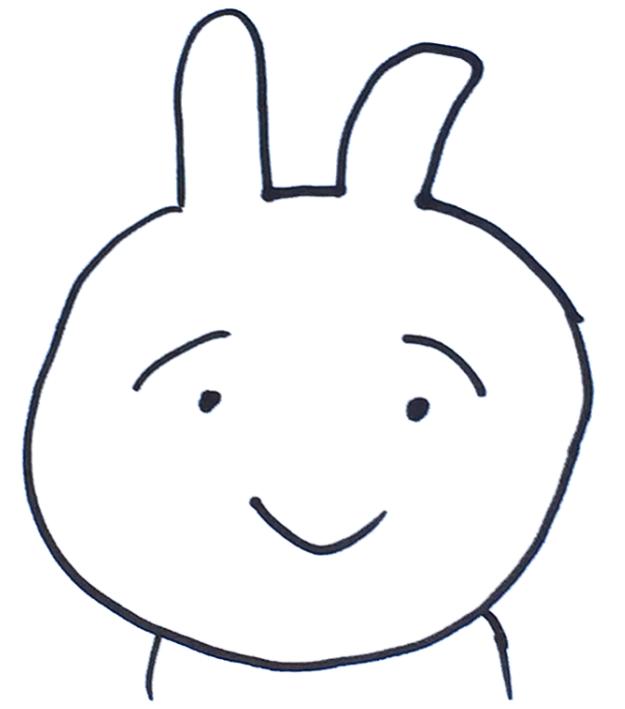
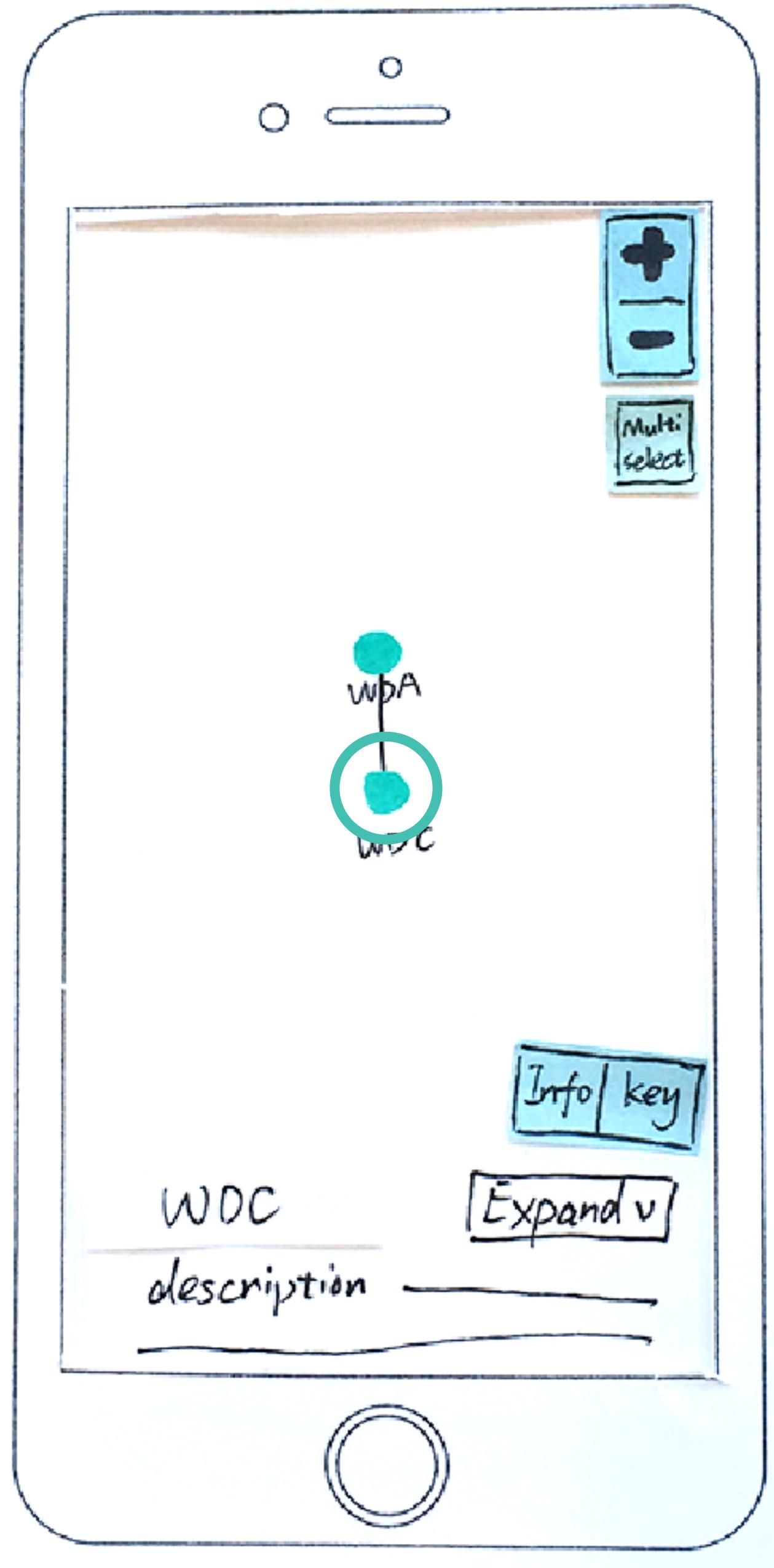
"Guess key will tell me about what those colors are"



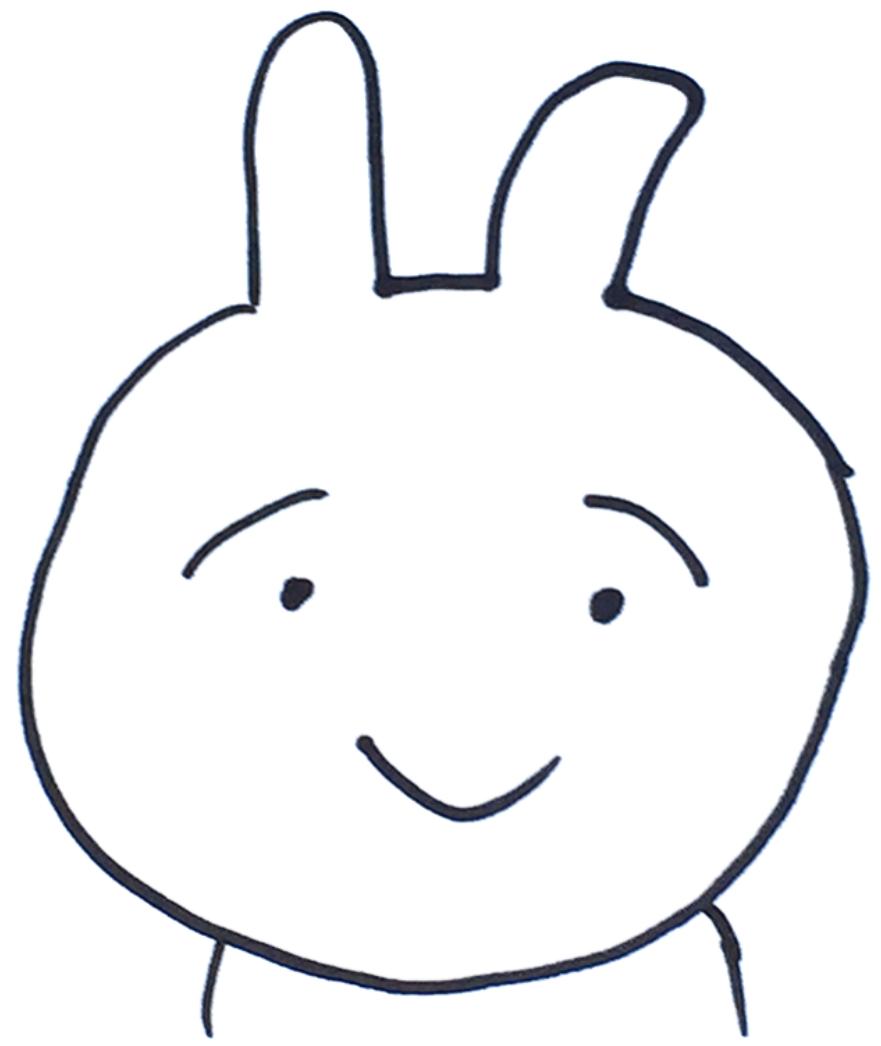
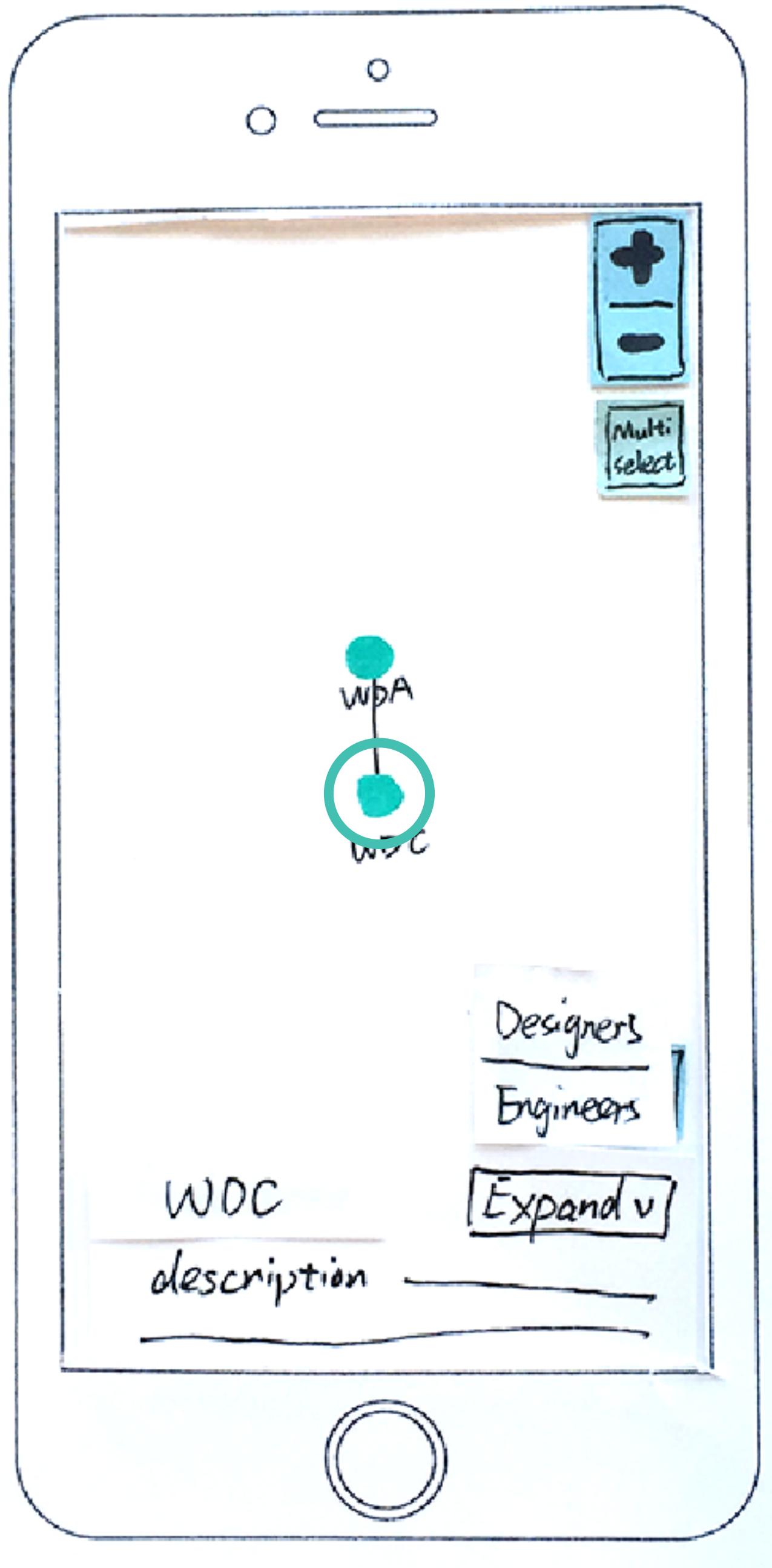
"I'm not sure about multi-select."

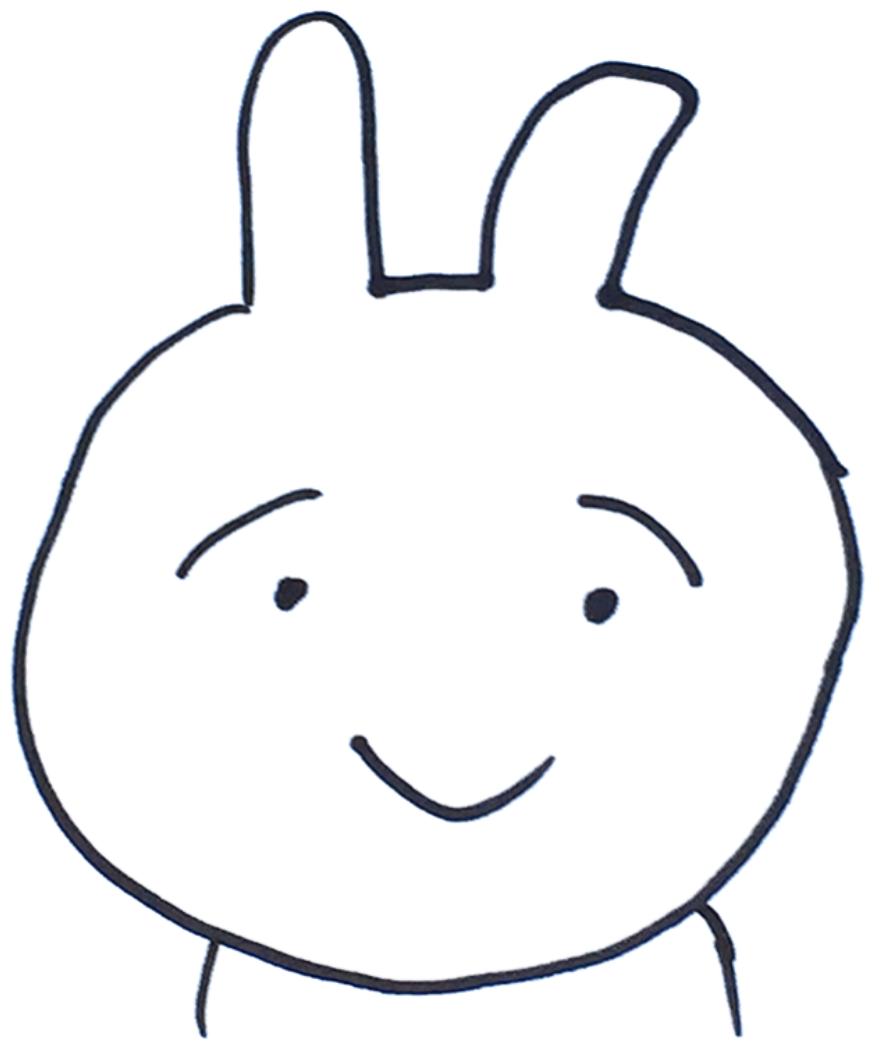
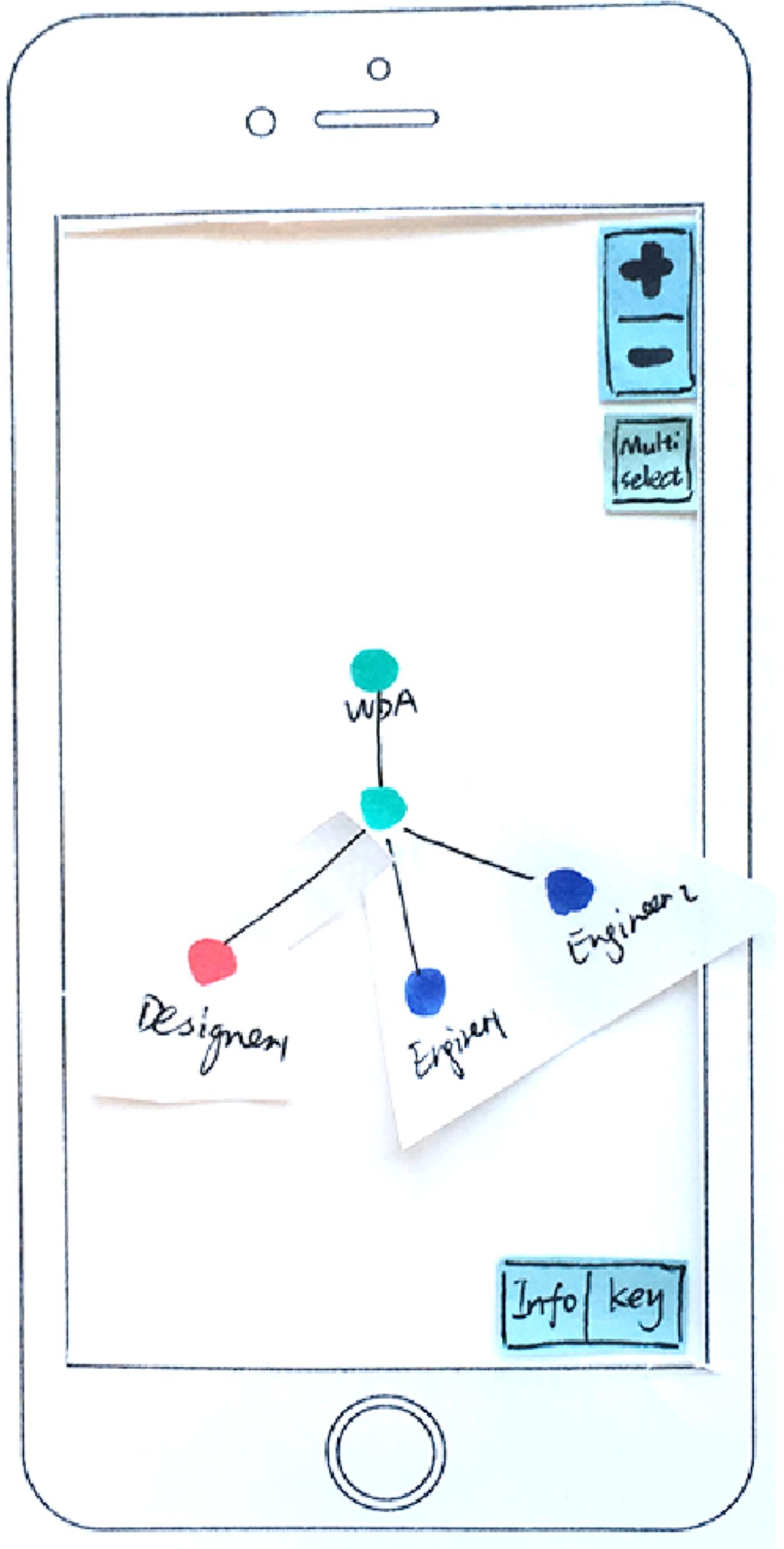


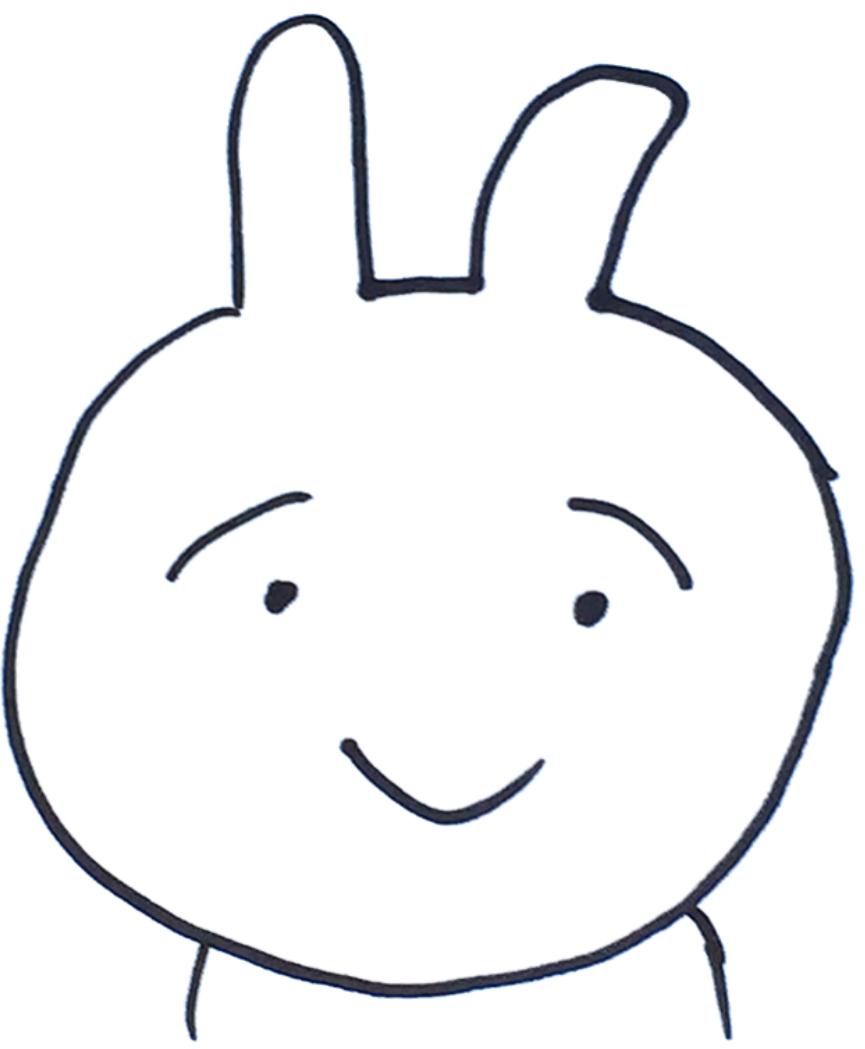
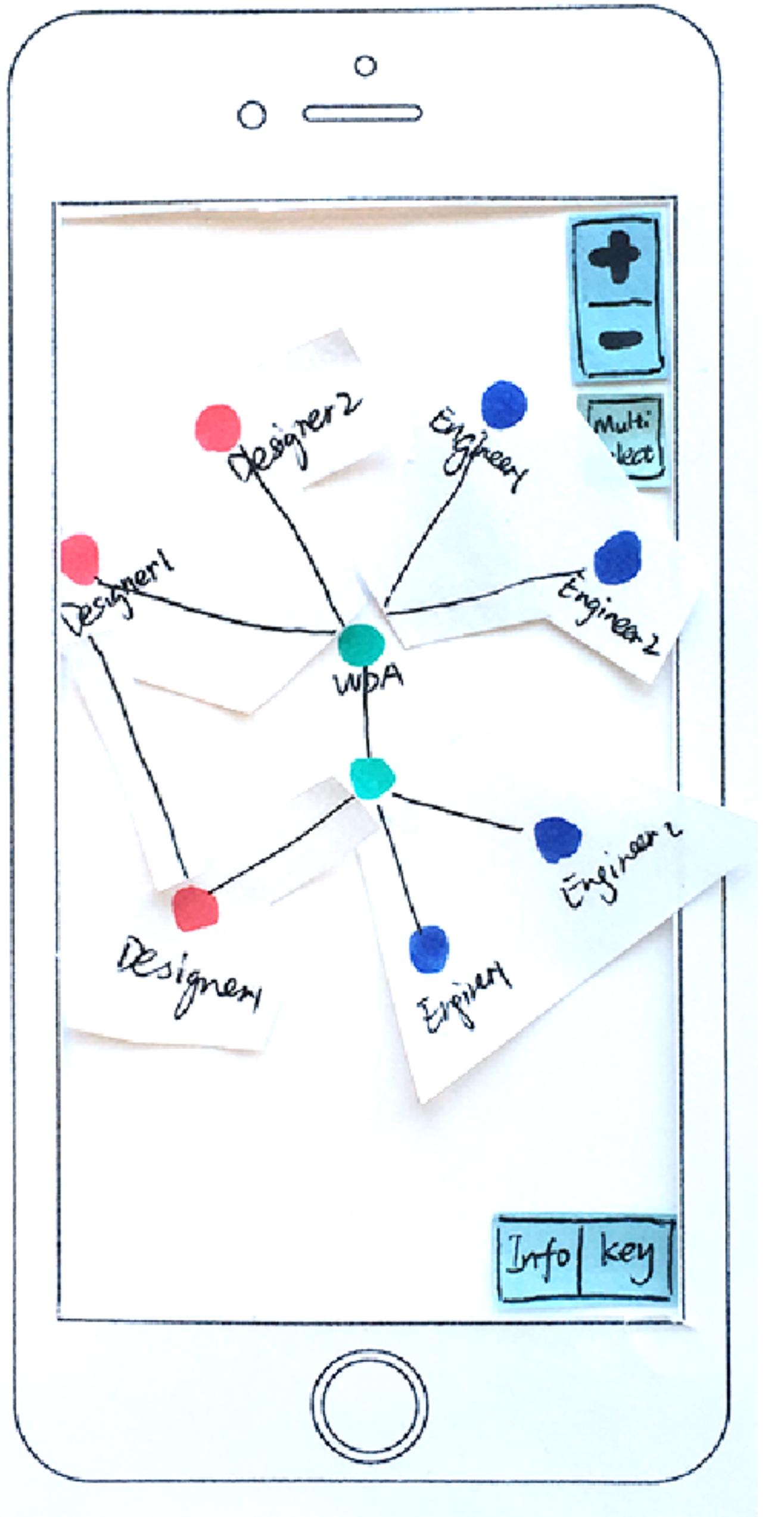
"I think 'info' maybe the global information of the networkVis"

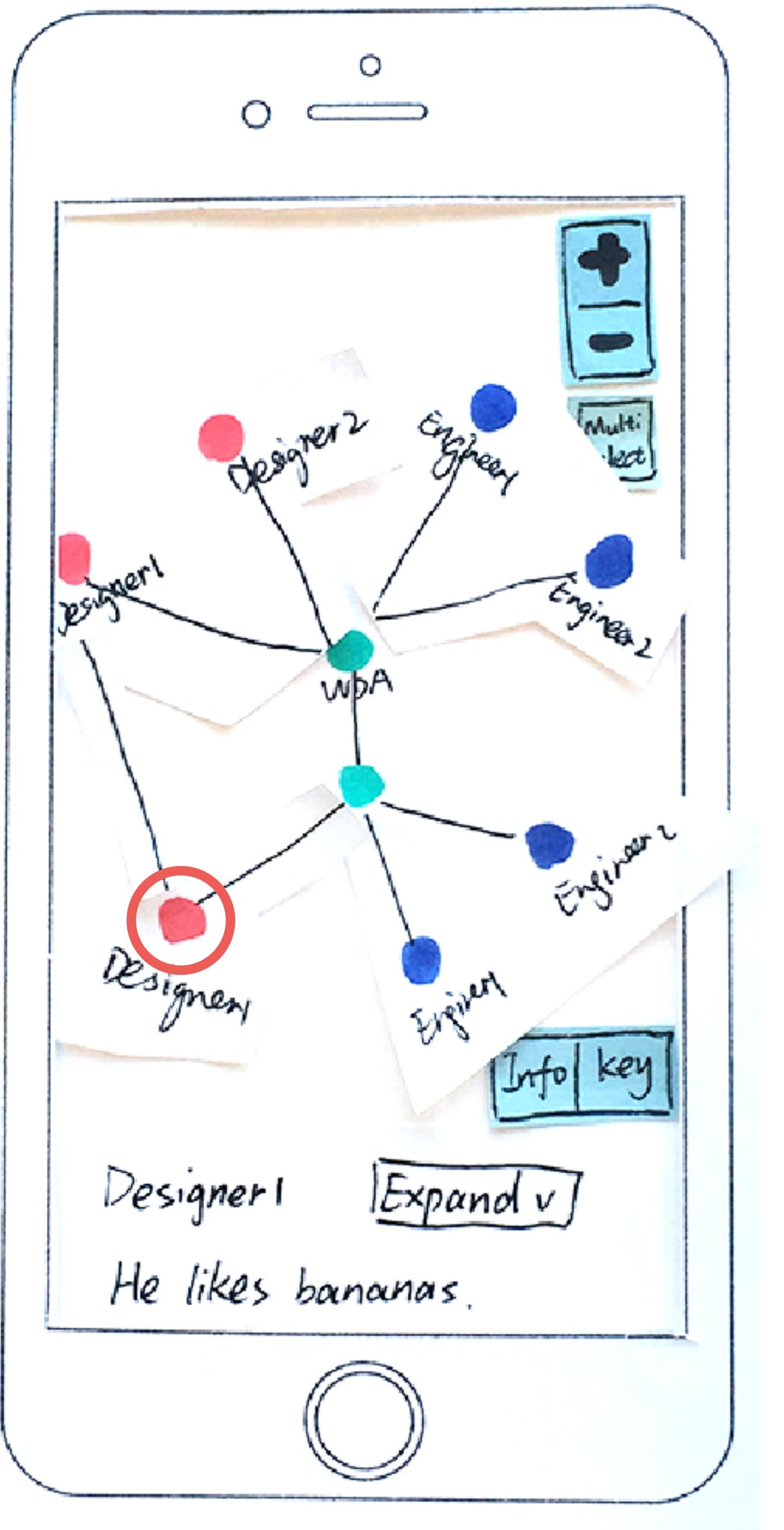


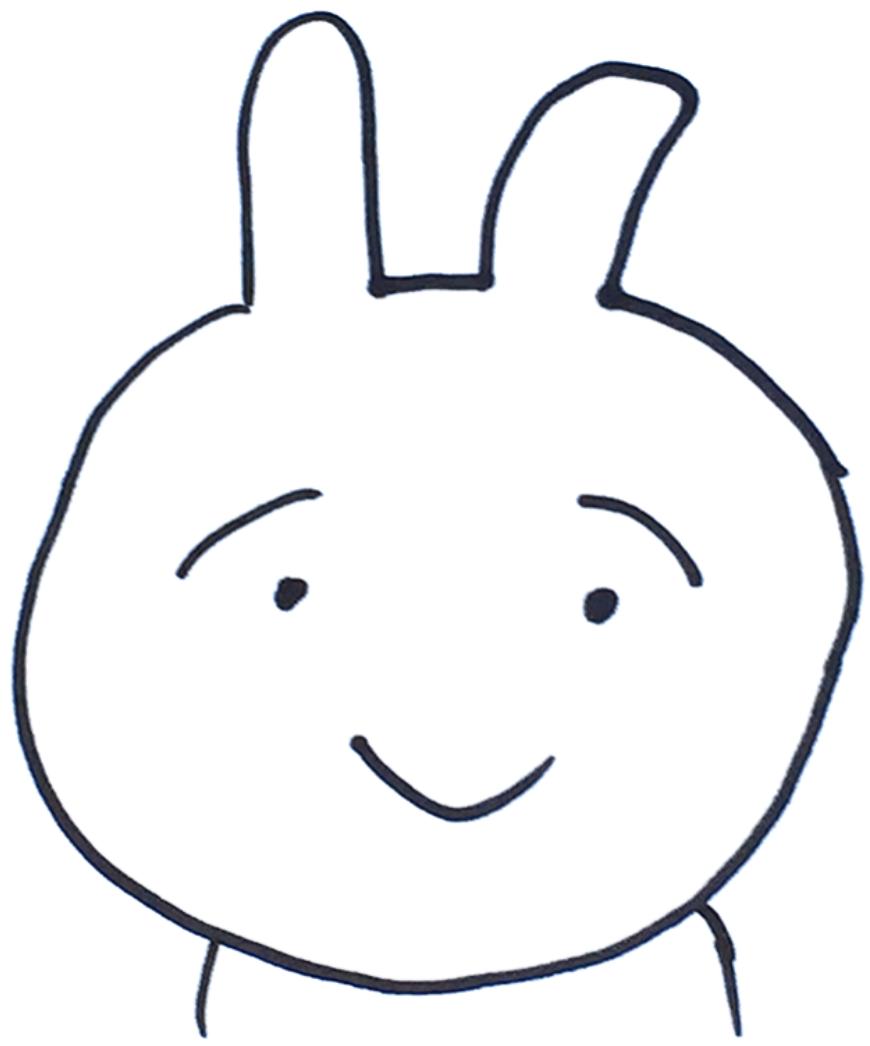
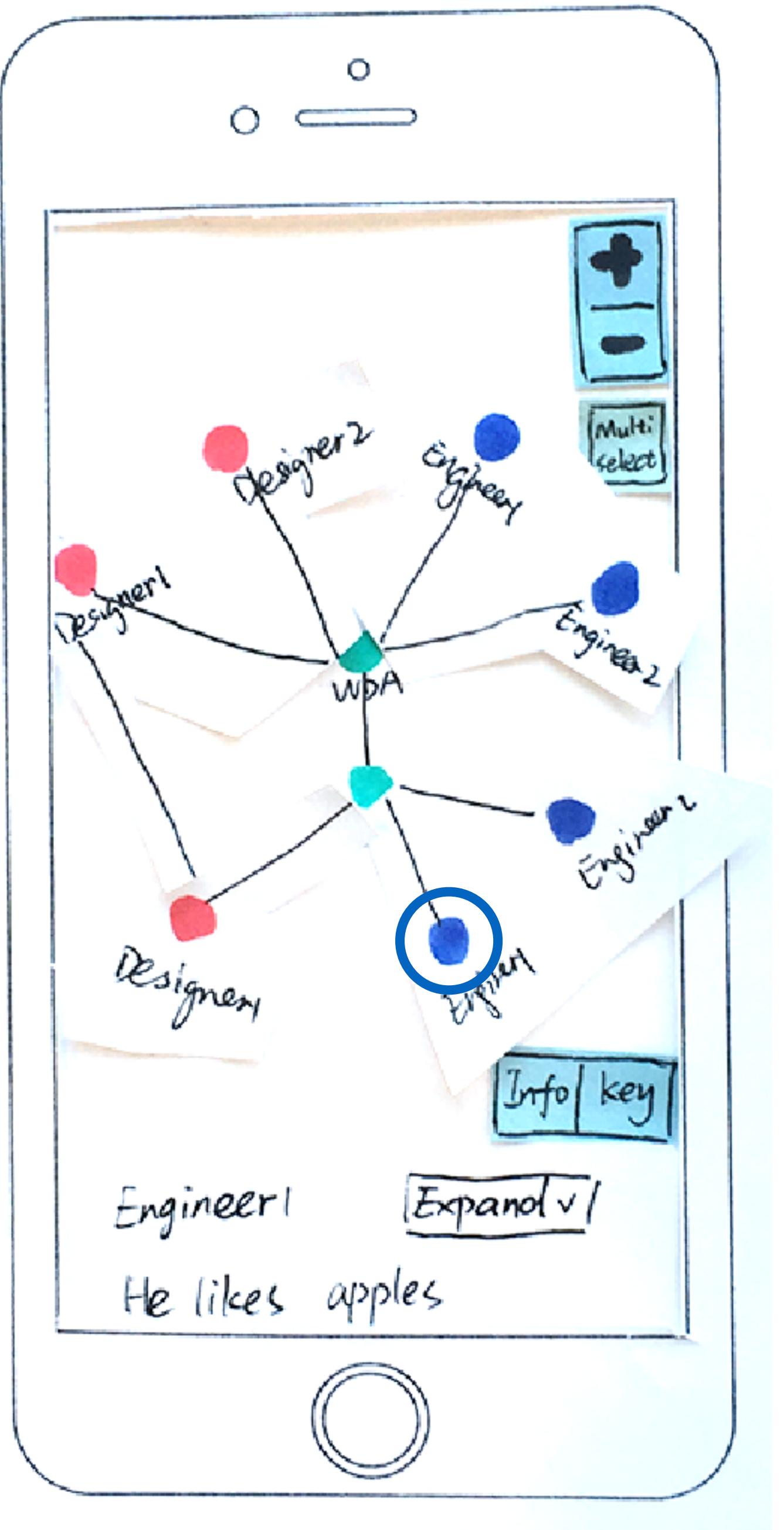
“I see the ‘expand’ dropdown, I will click it to see whether it will expand the node”

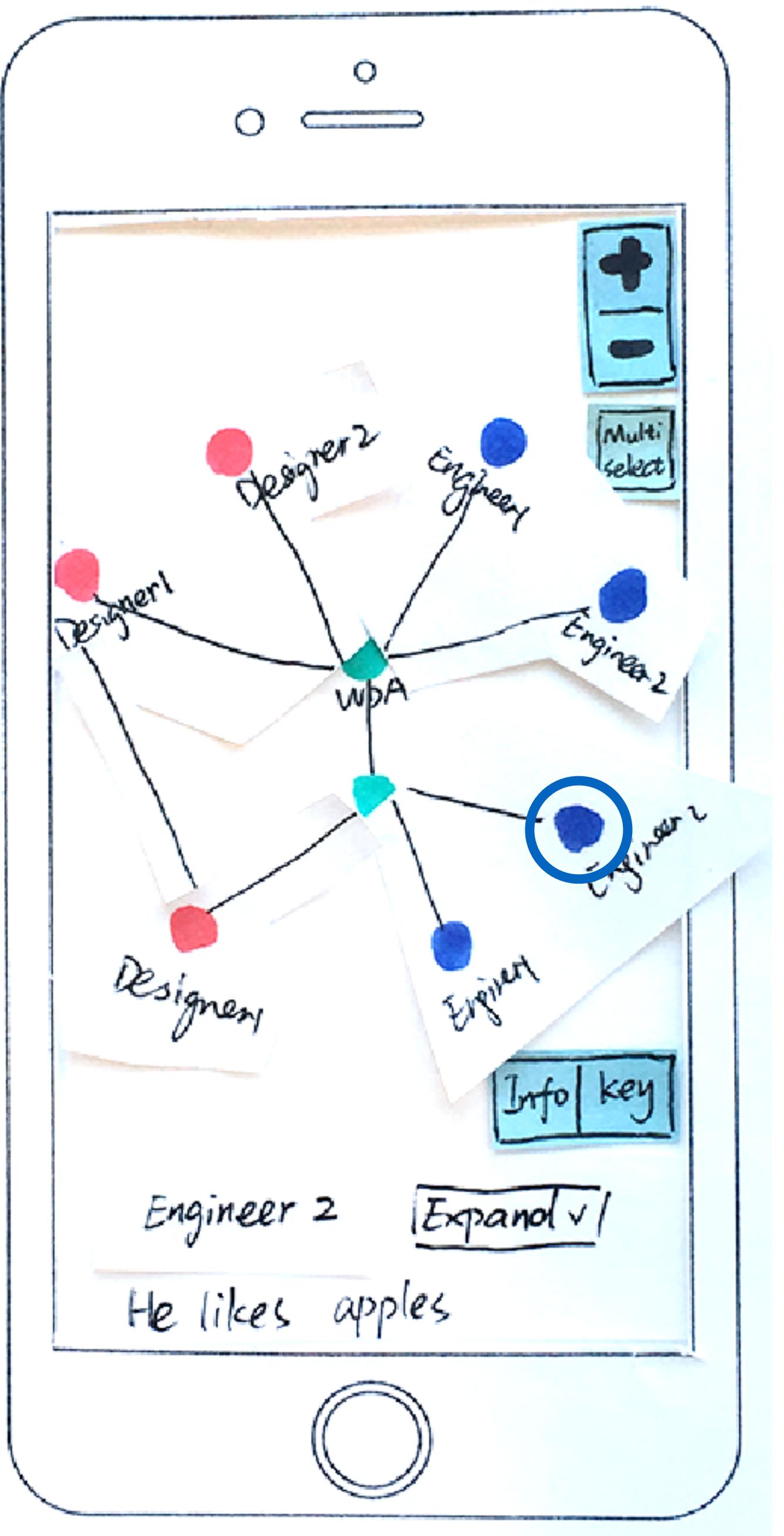


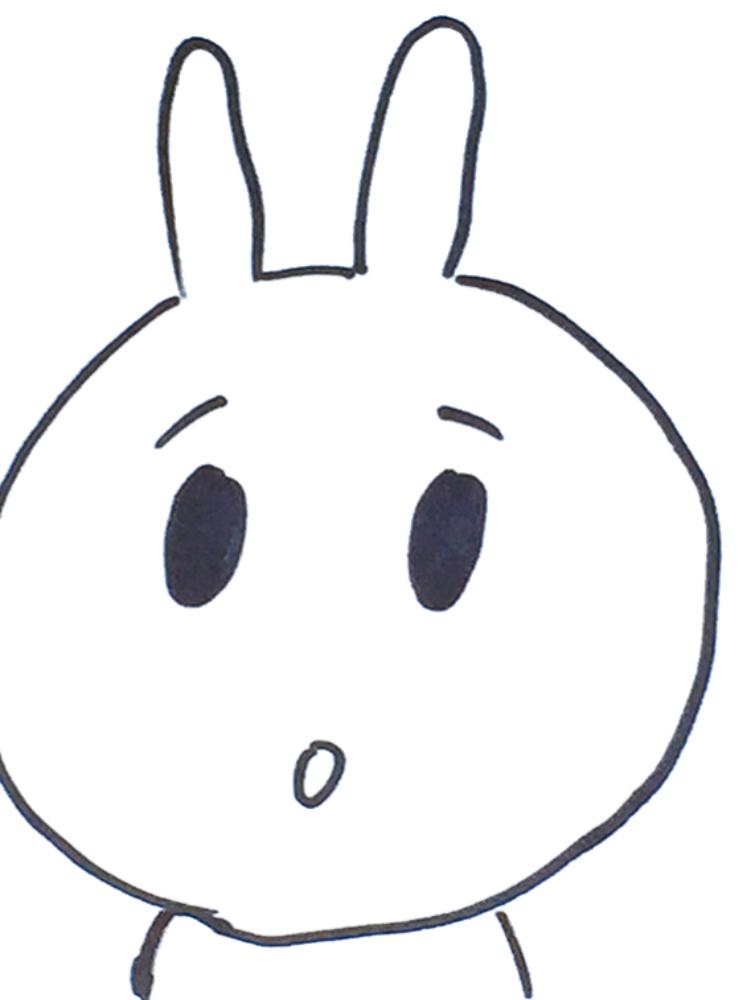
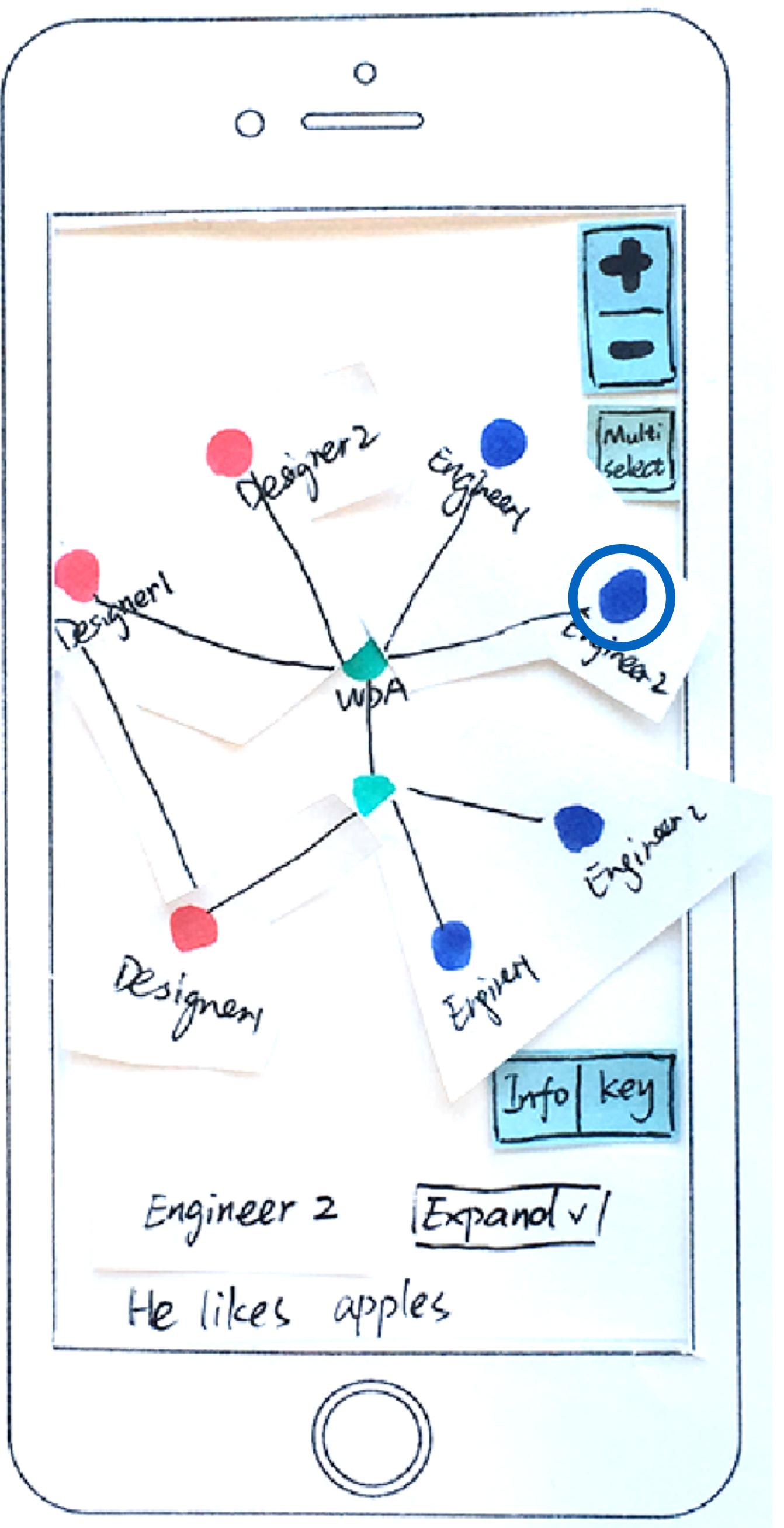


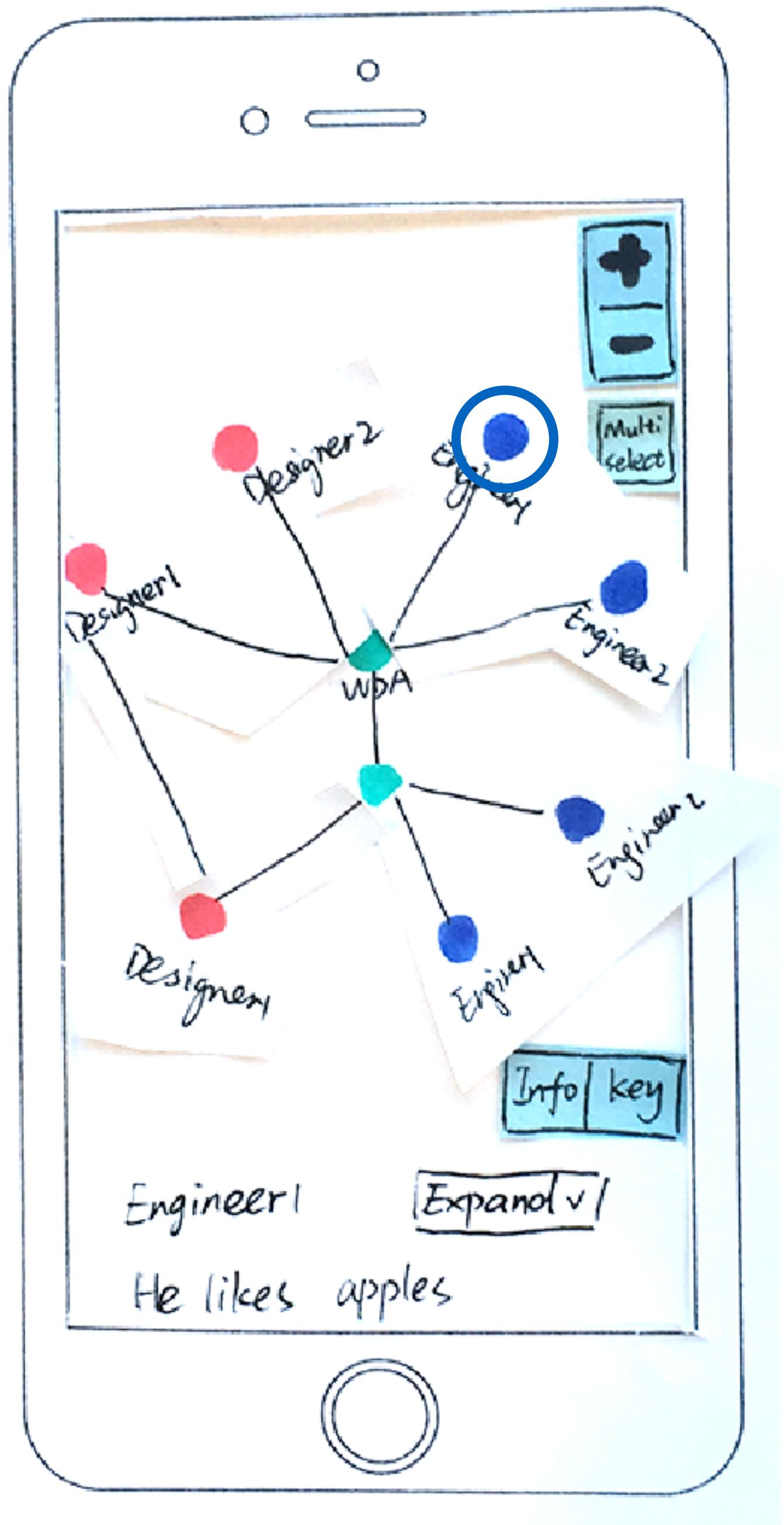


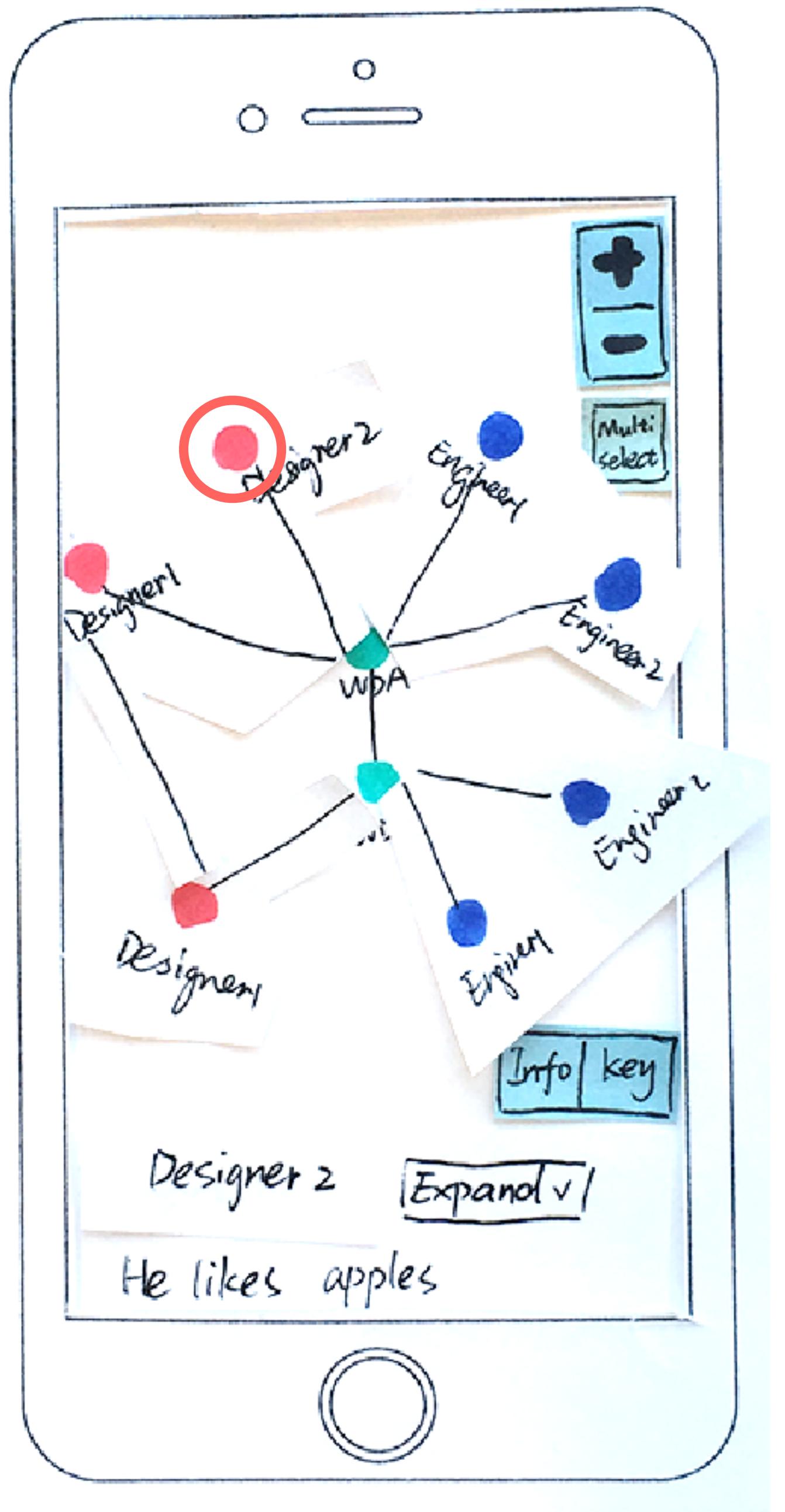


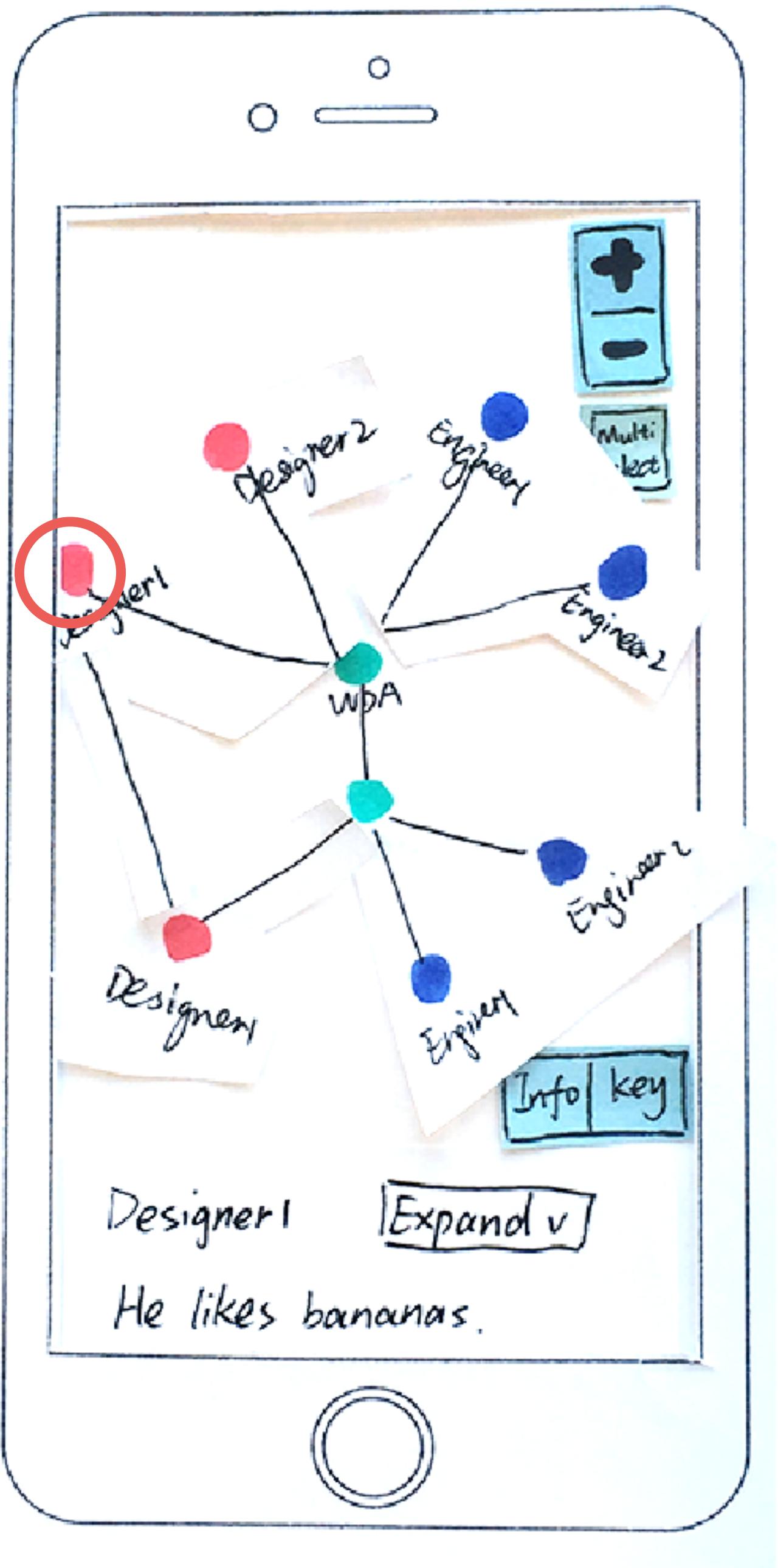




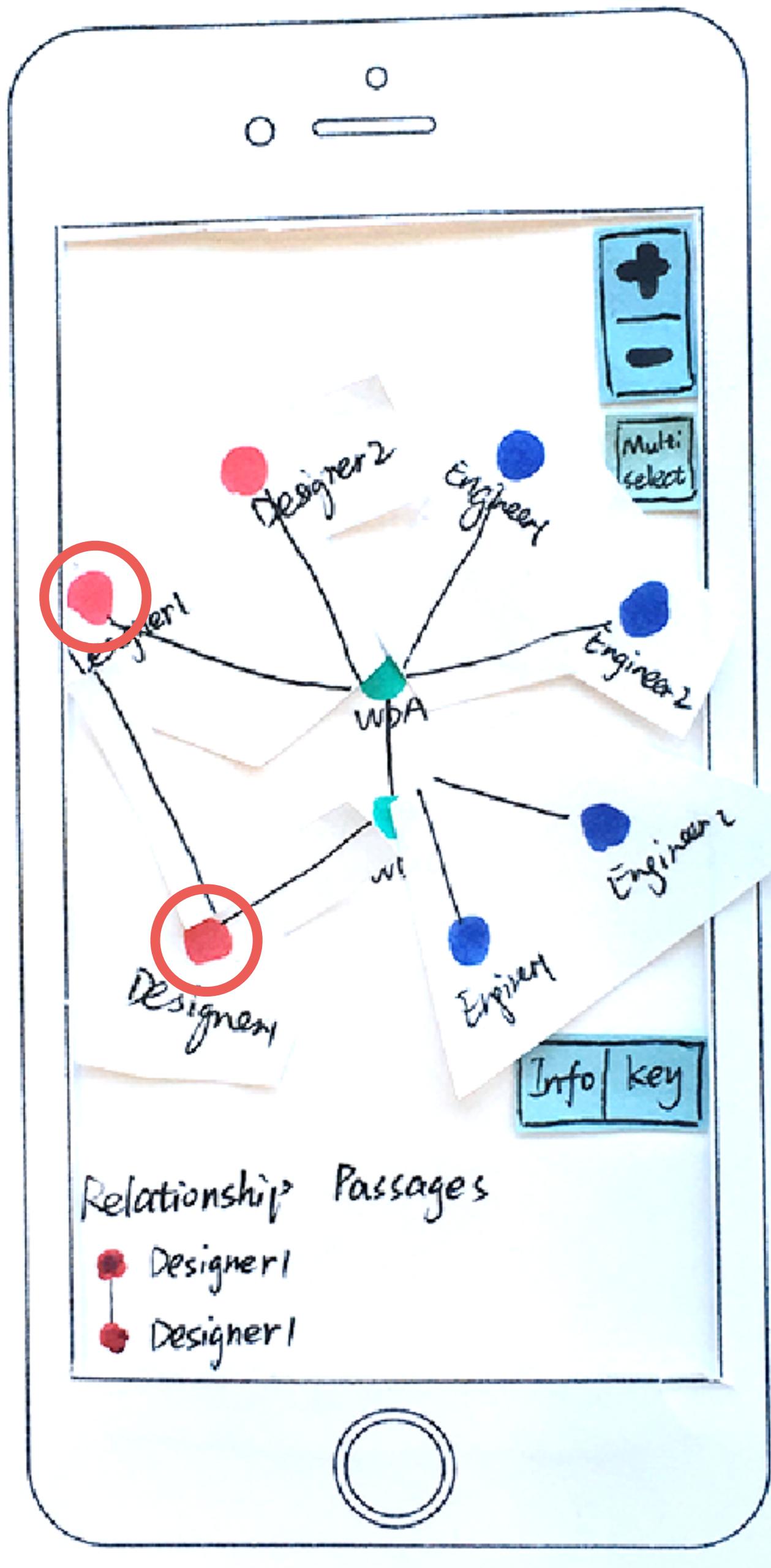








"Too many clicks to get information"



Nobody found relationship information

Most people didn't figure out how to delete nodes

Main Findings

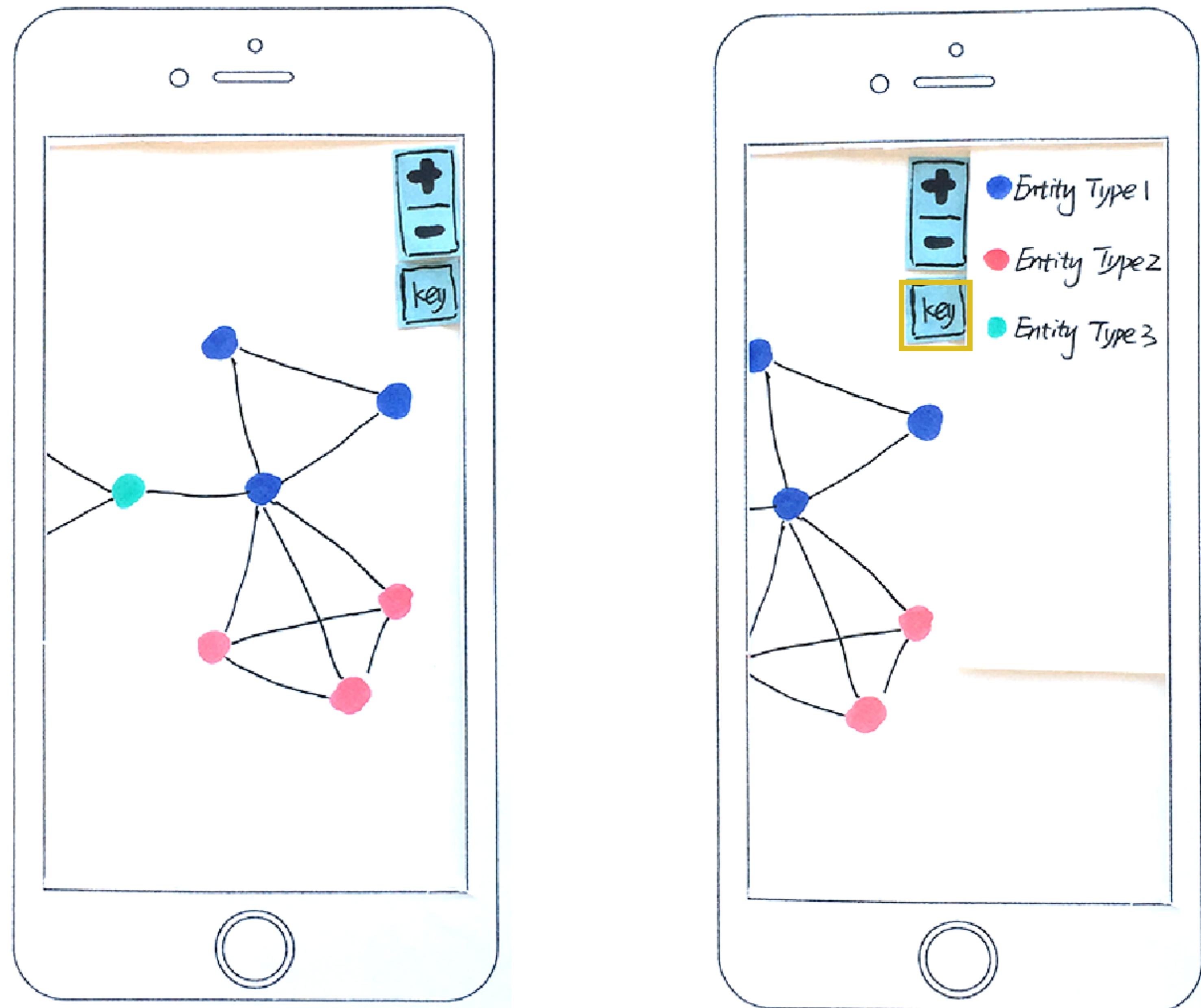
success: 2 / 7



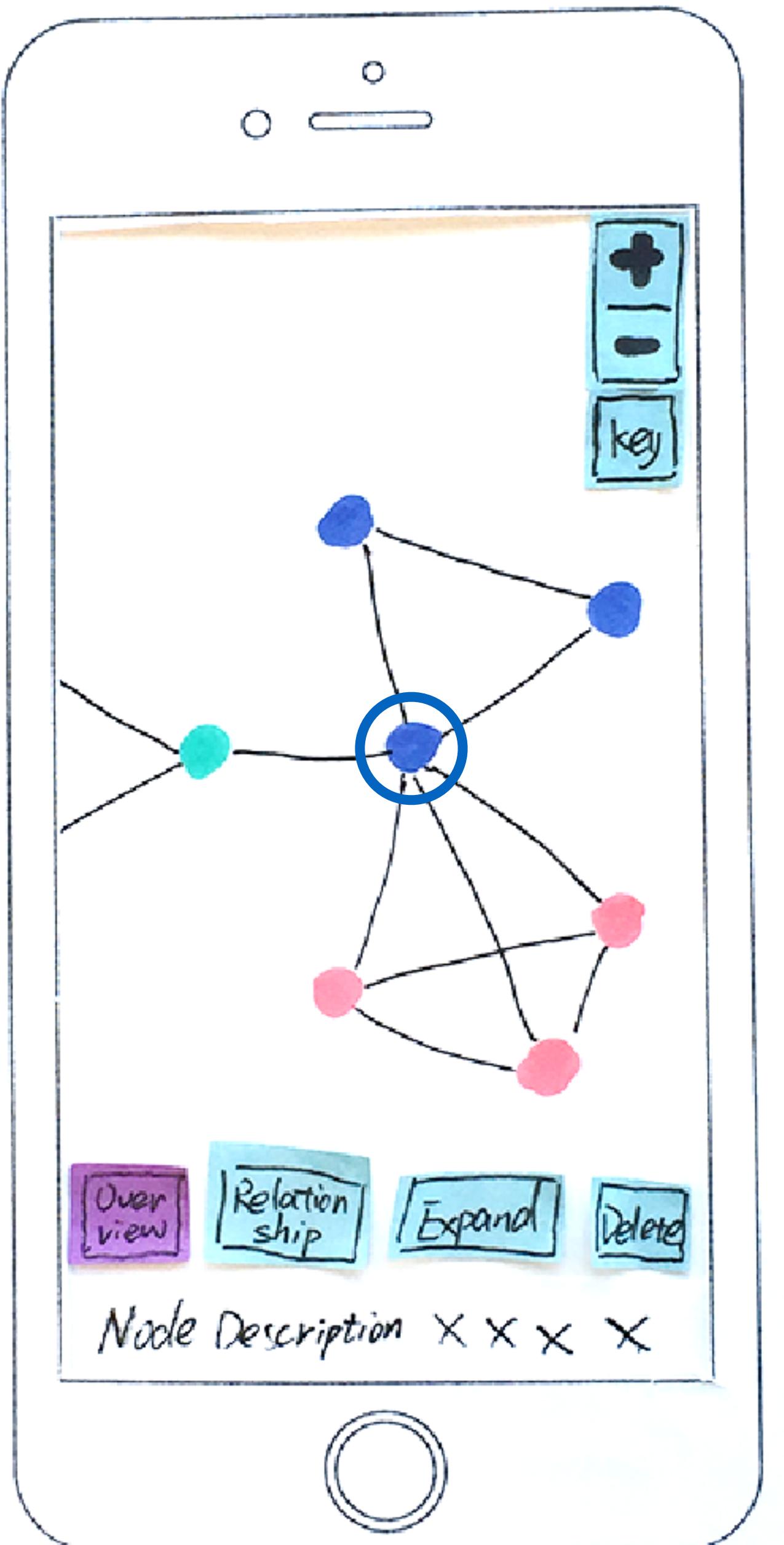
Actions (i.e. expand, delete, overview, relationship) are hidden in different places and are hard to find for first users

- First Design Iteration
- User Testing for First Design Iteration - 7 participants
- Second Design Iteration

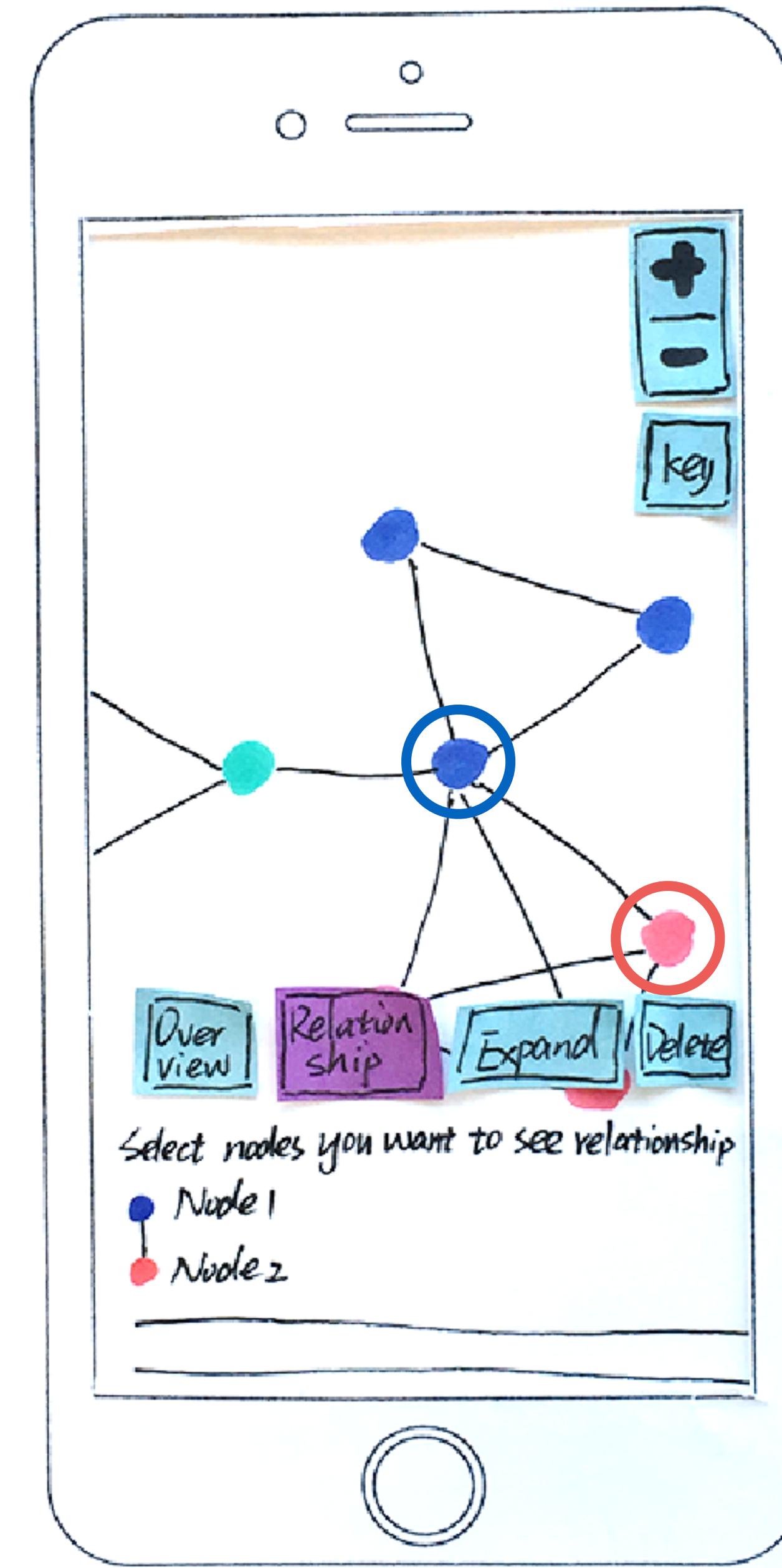
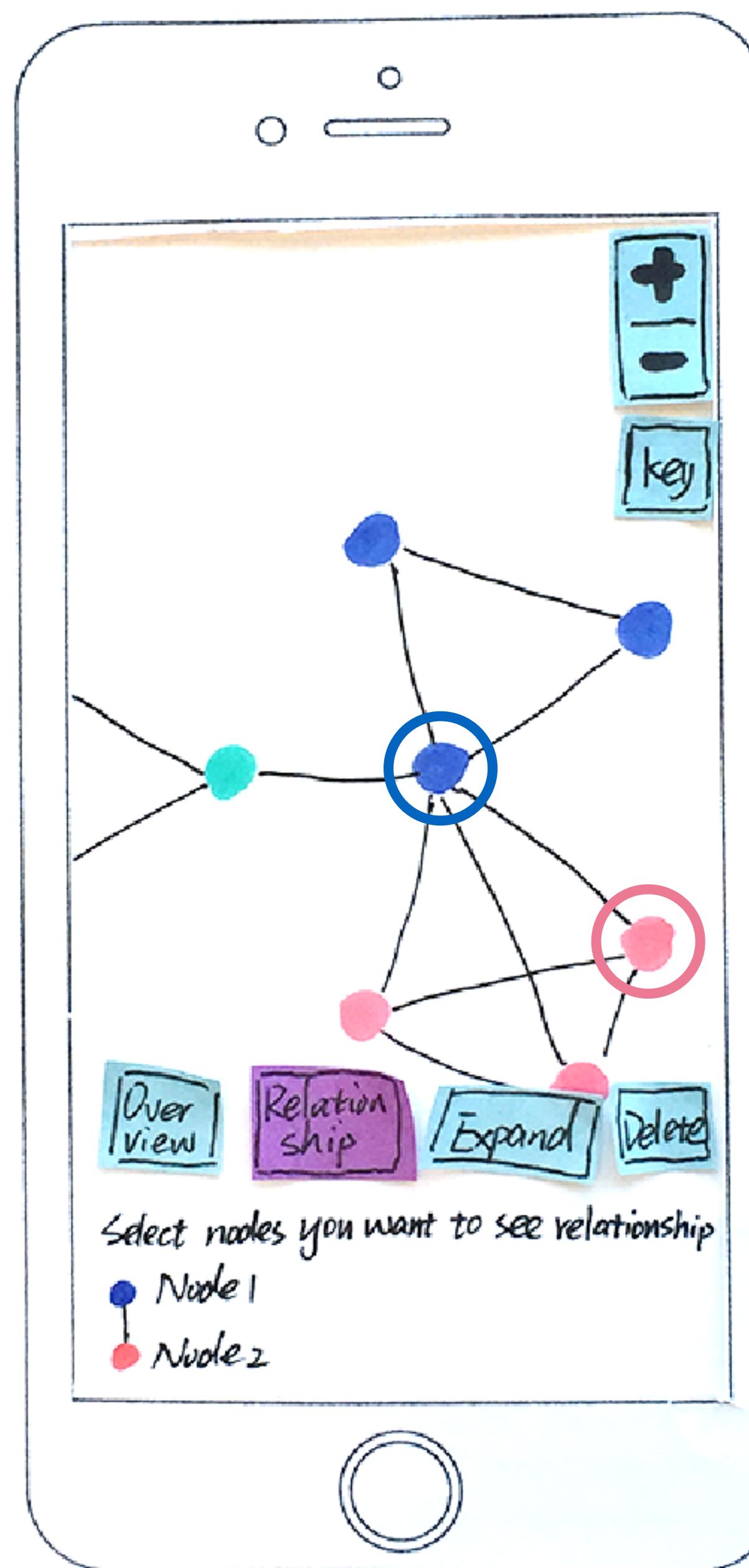
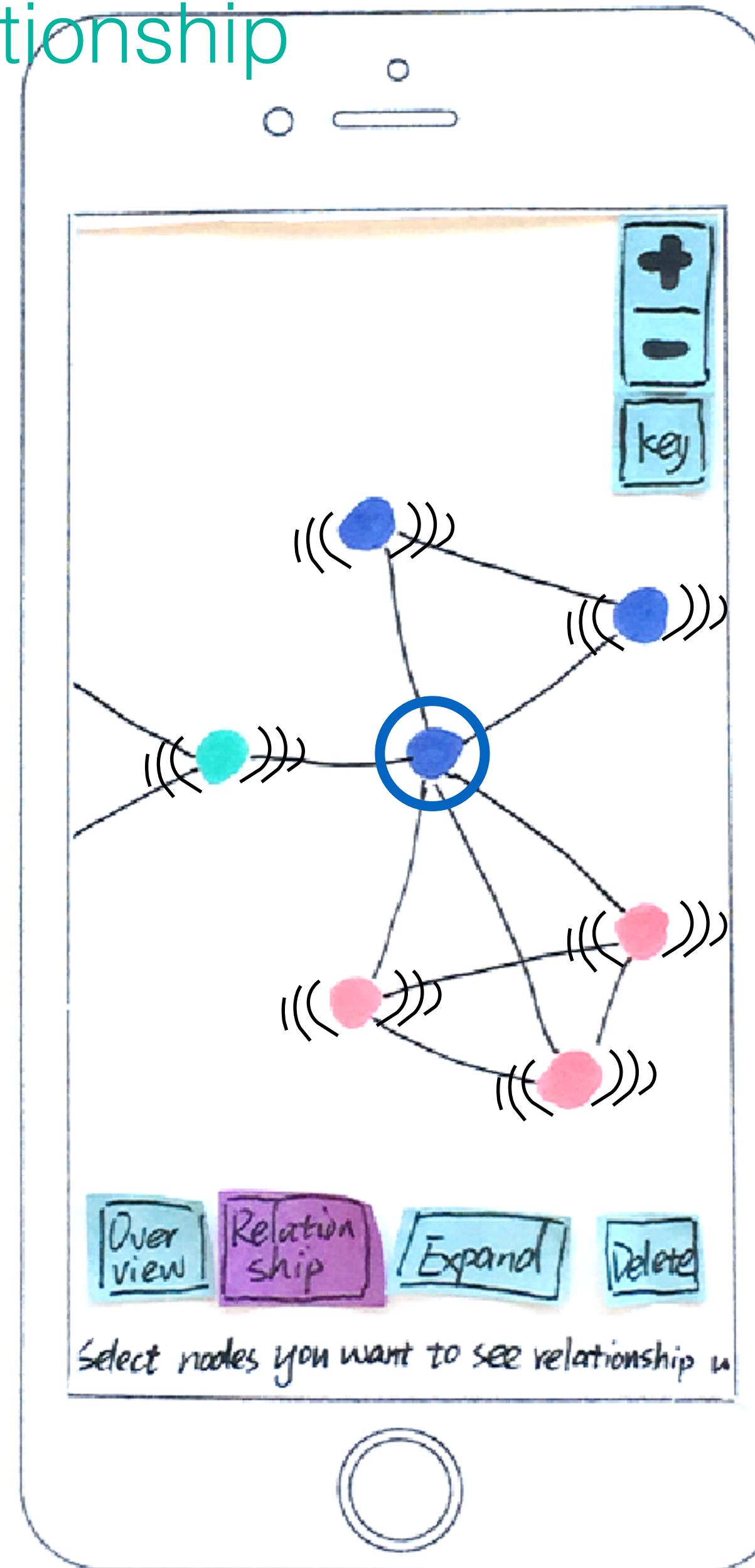
Canvas



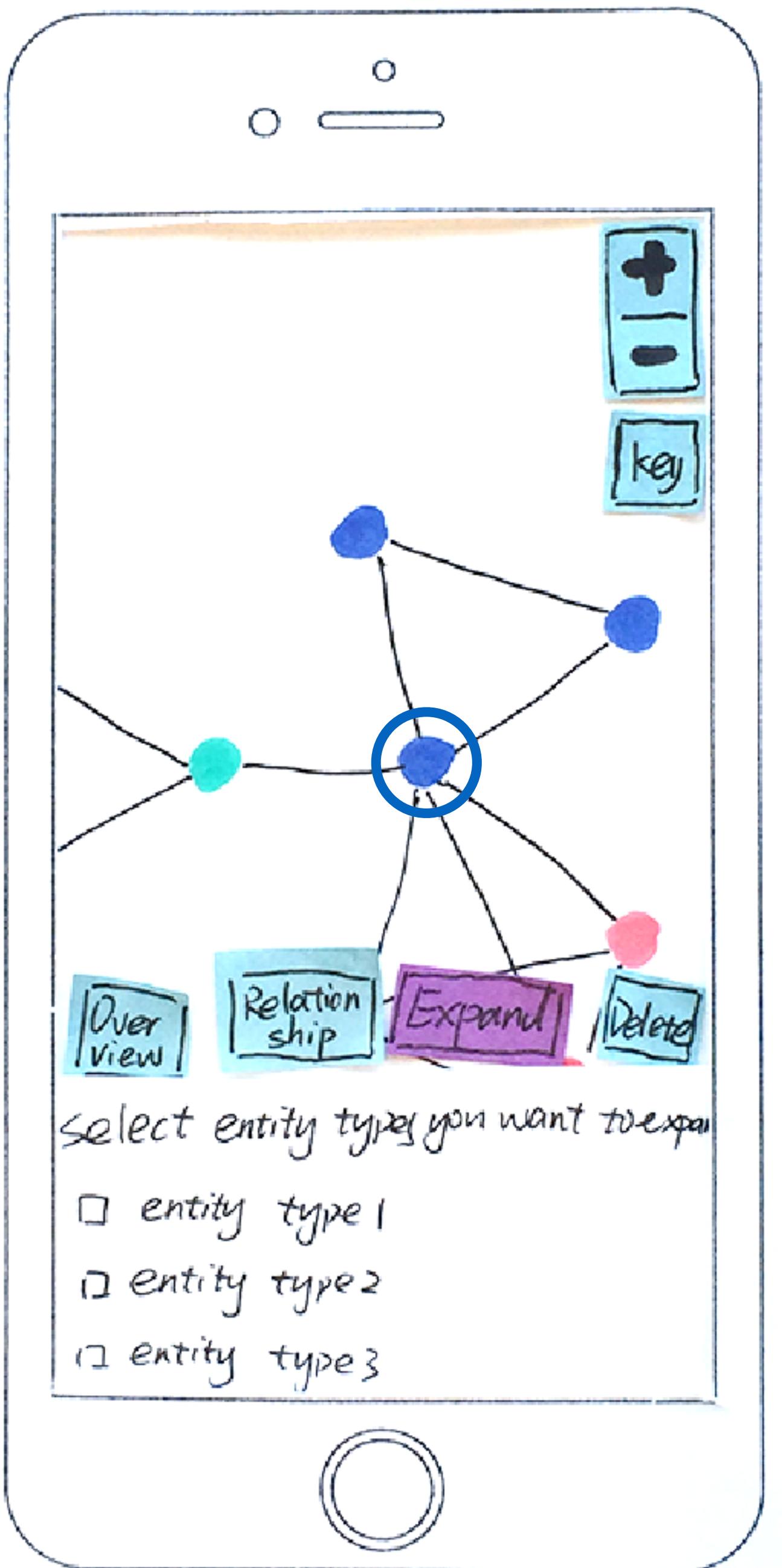
Overview



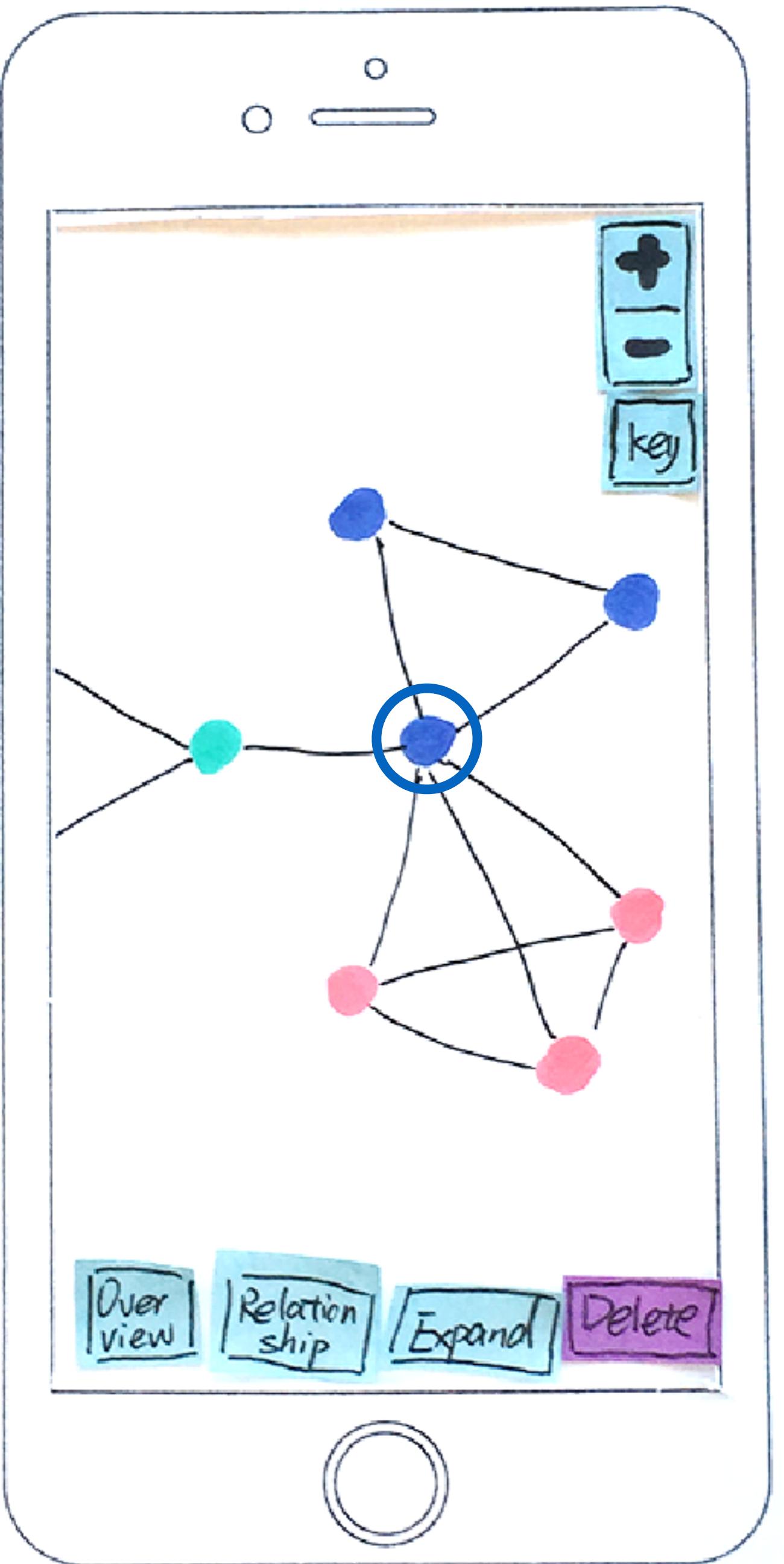
Relationship



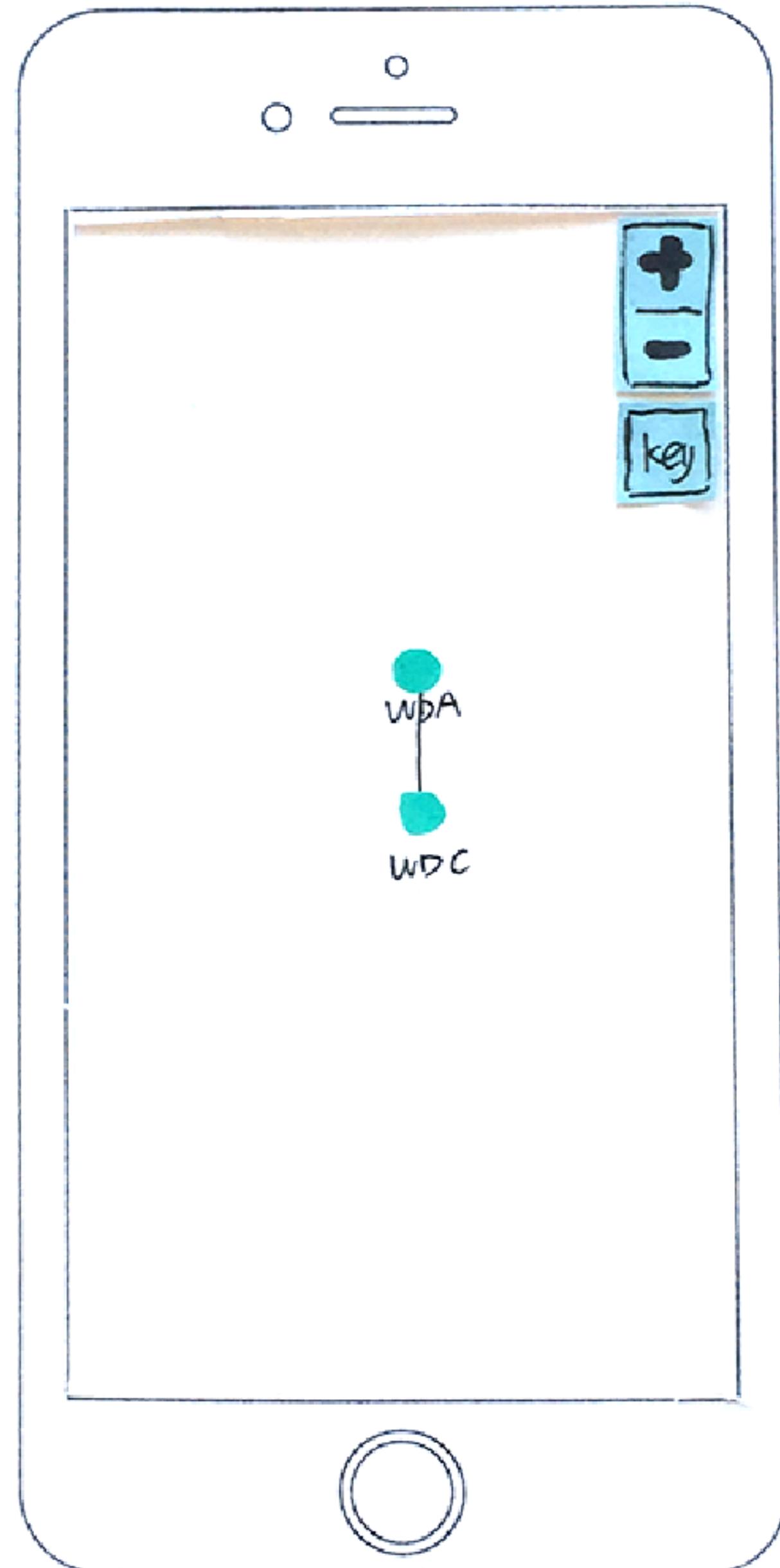
Expansion



Remove

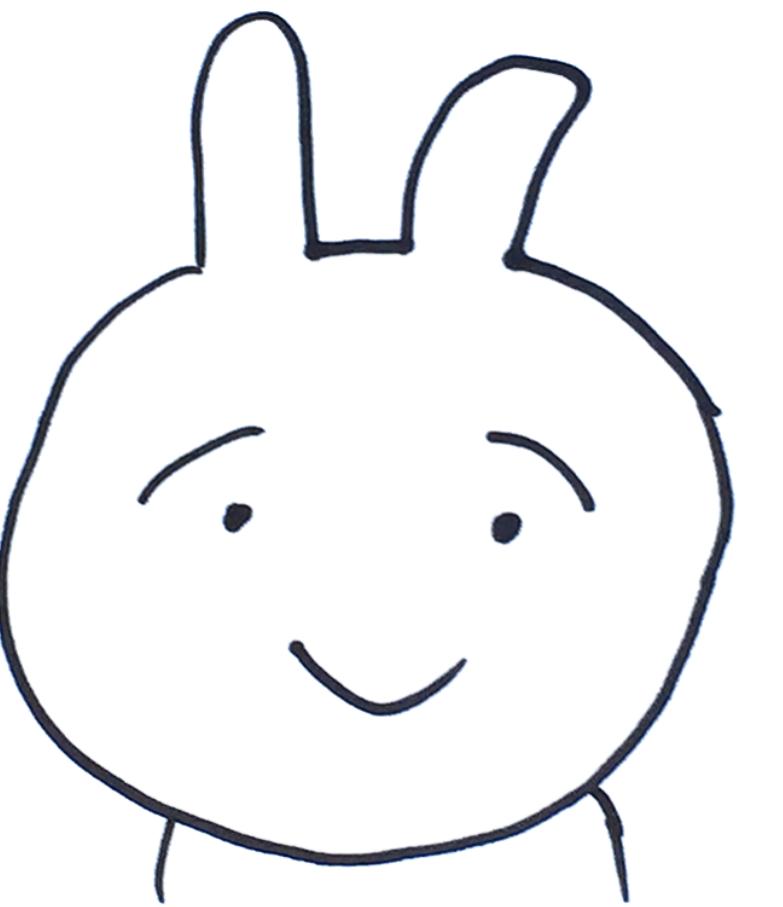
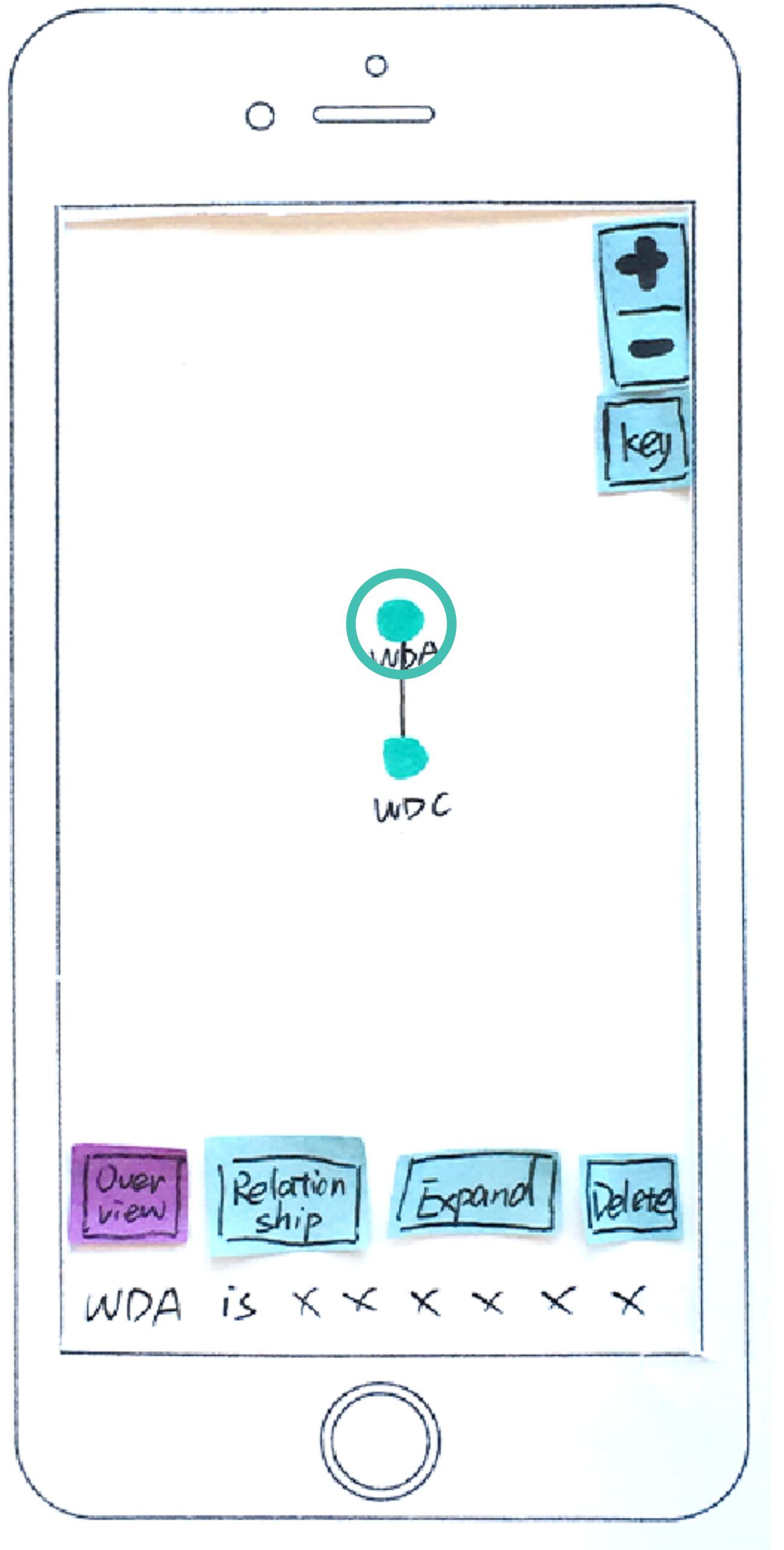


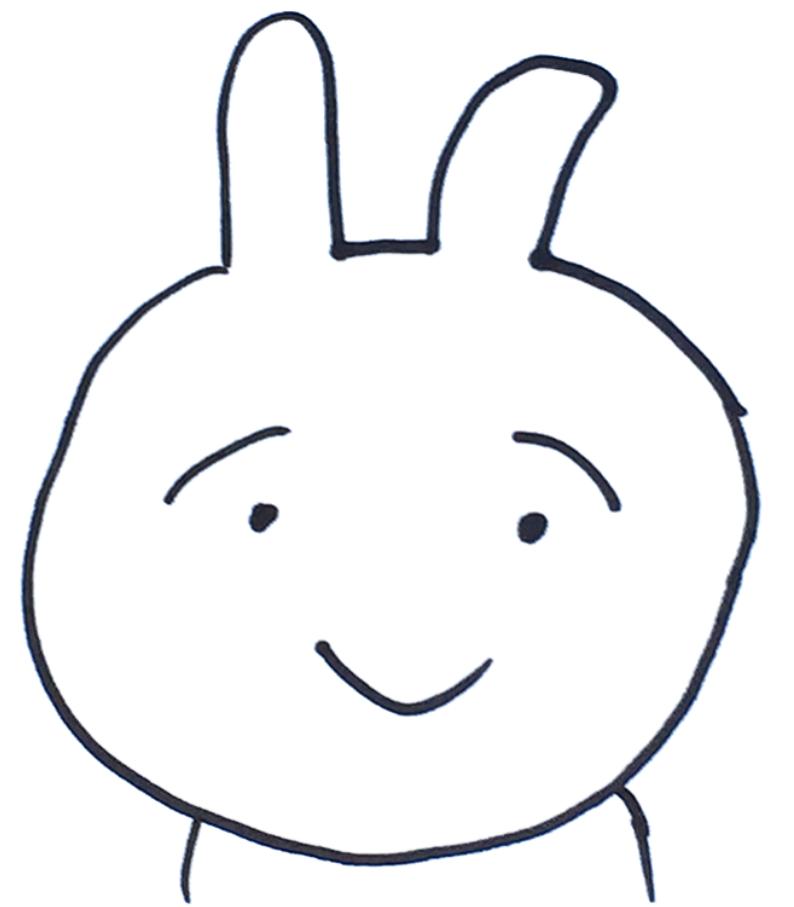
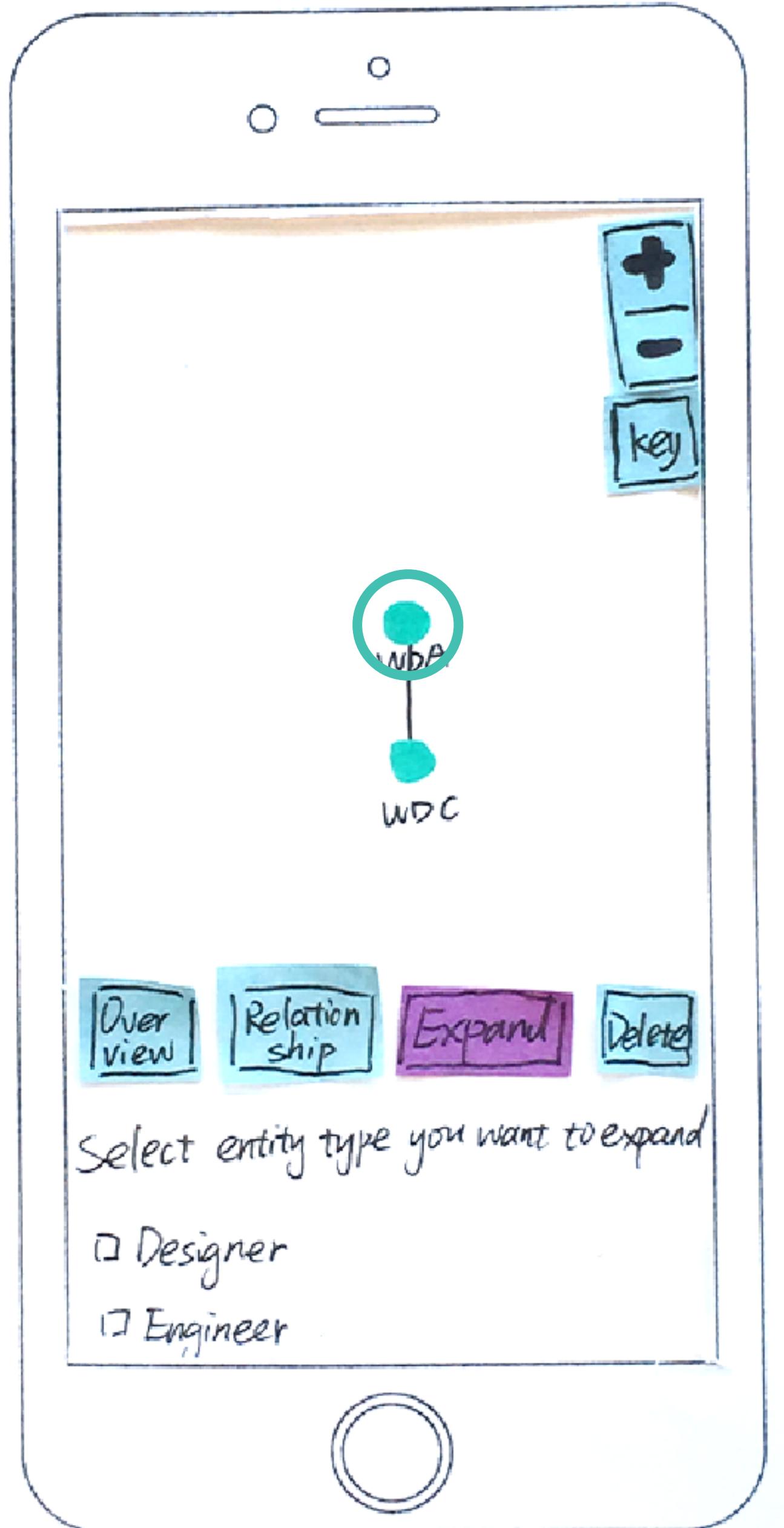
- First Design Iteration
- User Testing for First Design Iteration - 7 participants
- Second Design Iteration
- User Testing for Second Design Iteration - 5 participants

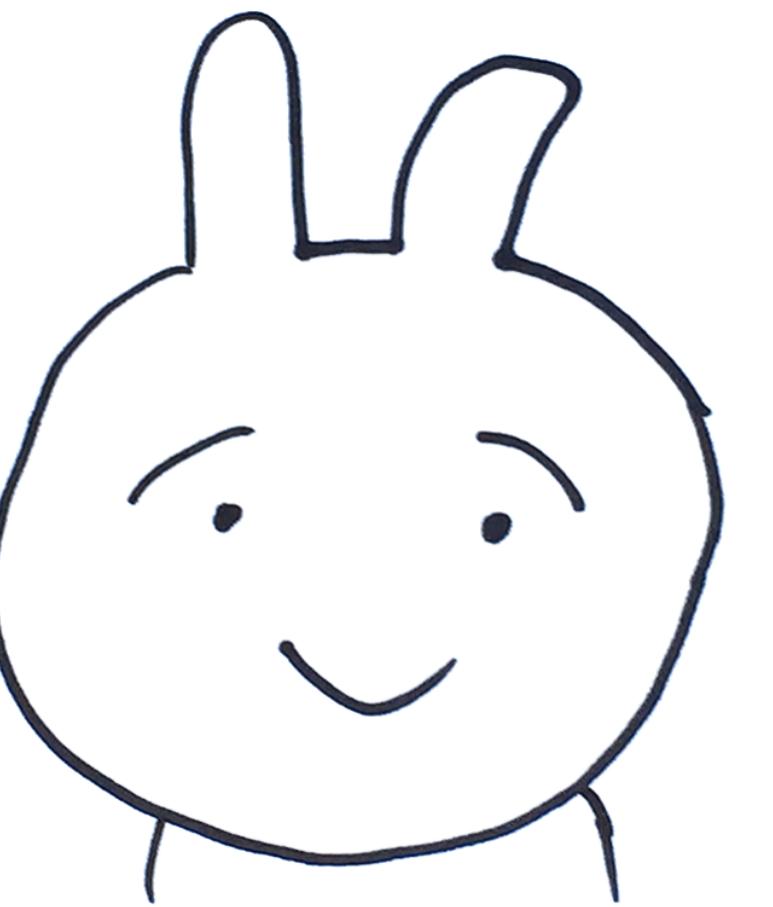
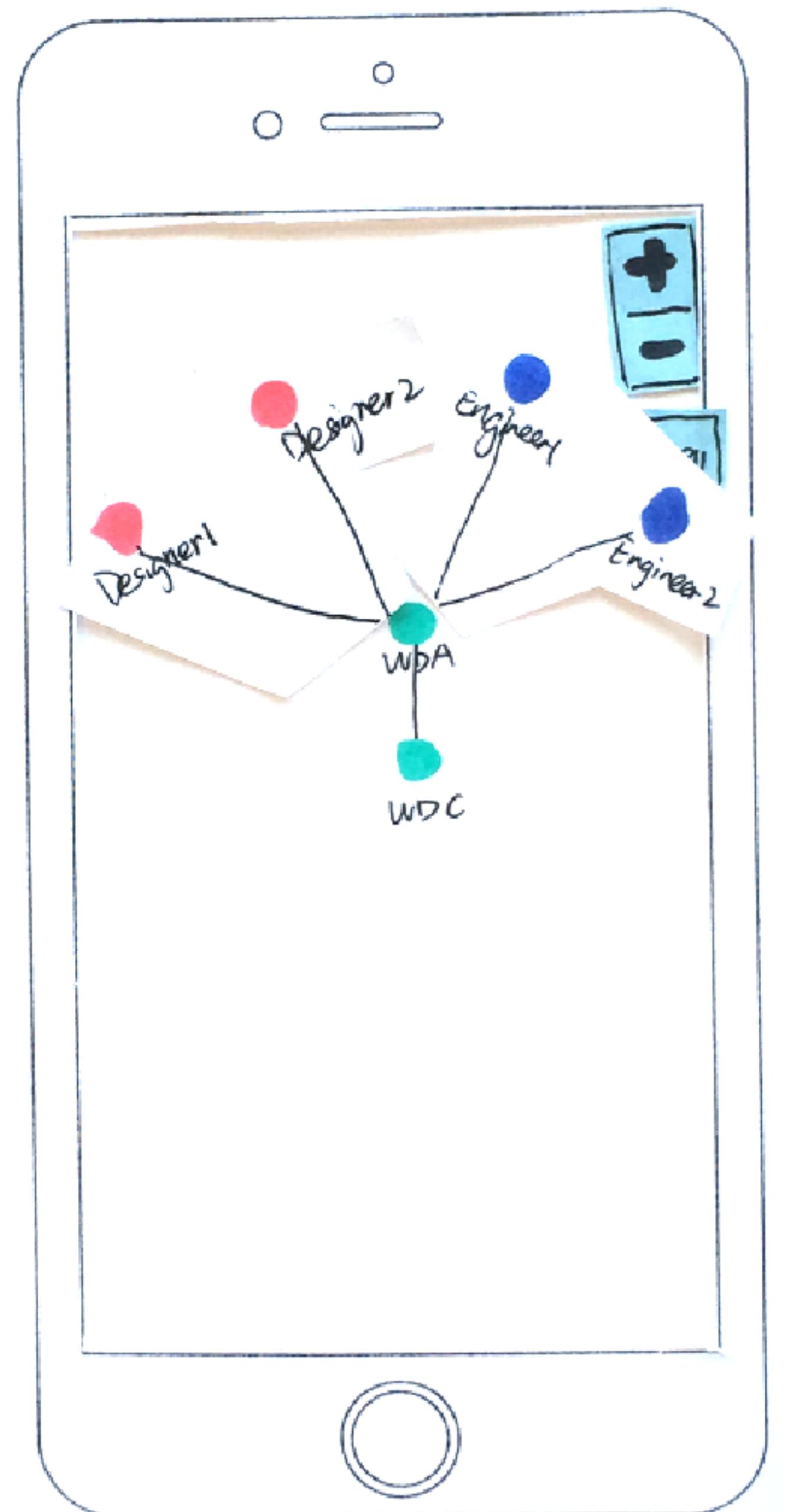


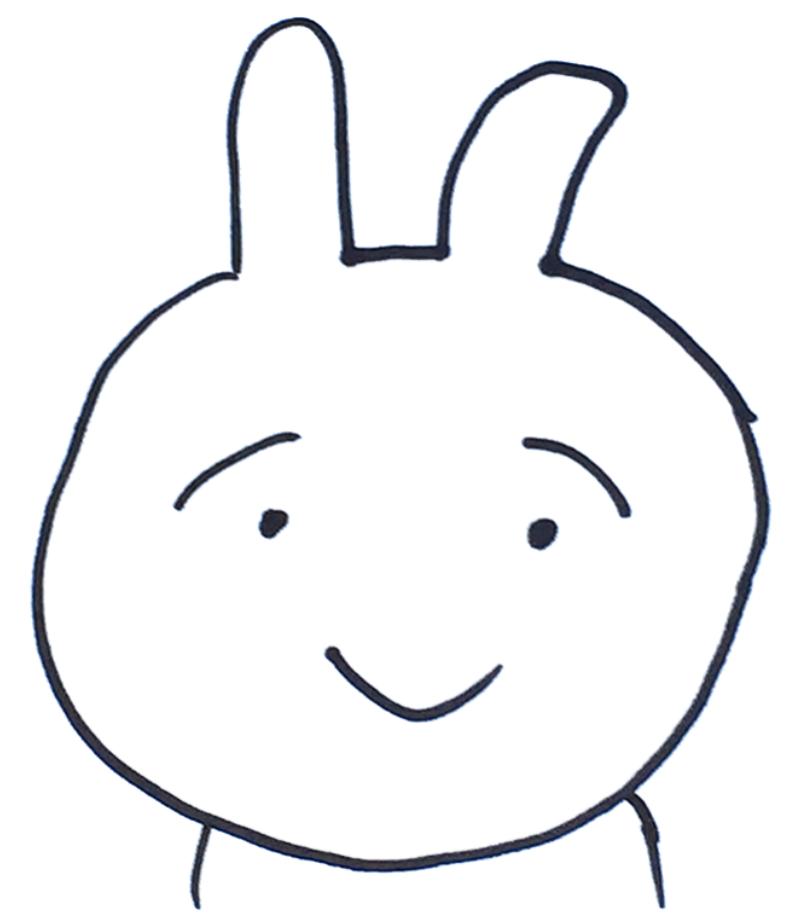
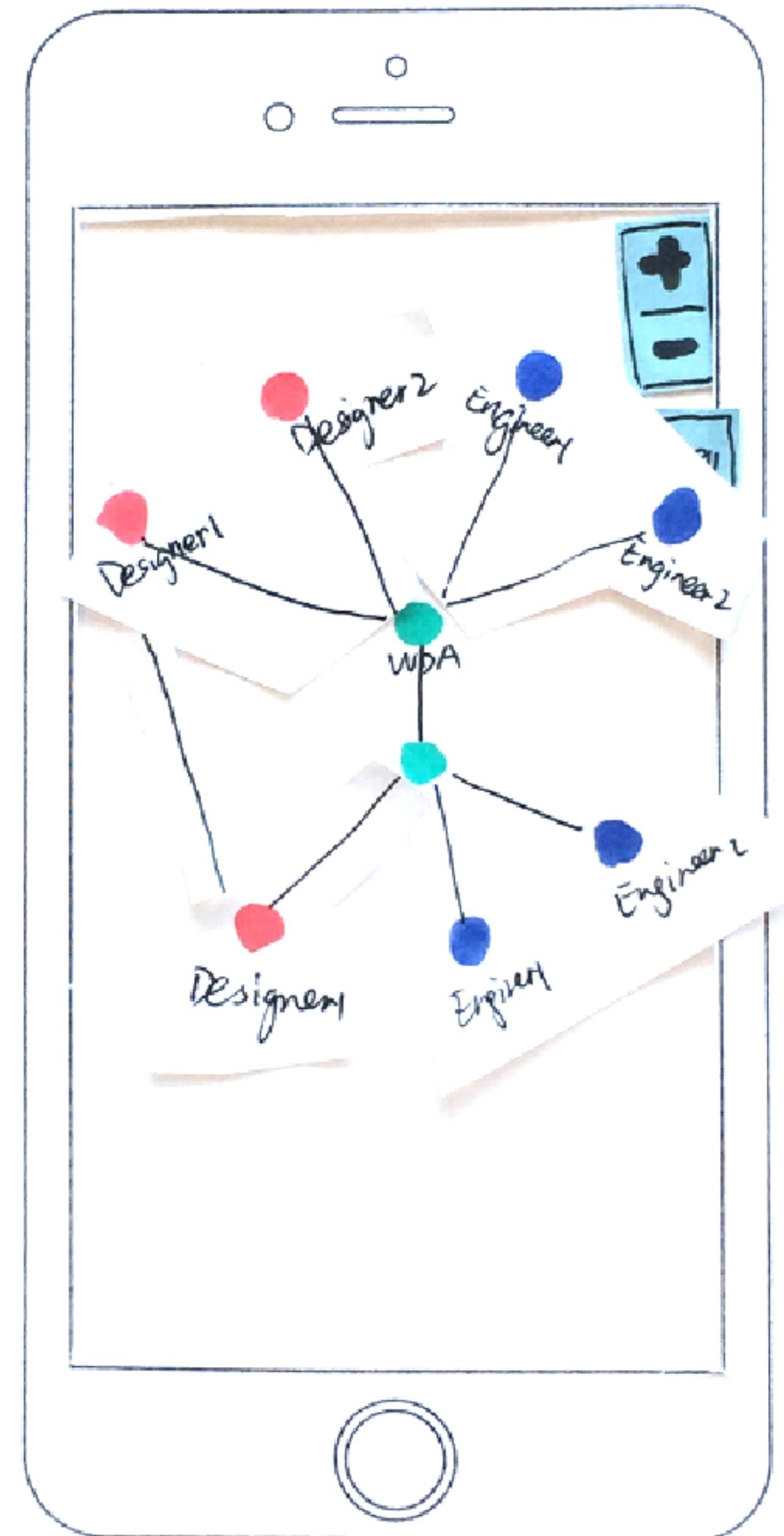
“I think the plus and minus sign will help me zoom in and zoom out.”

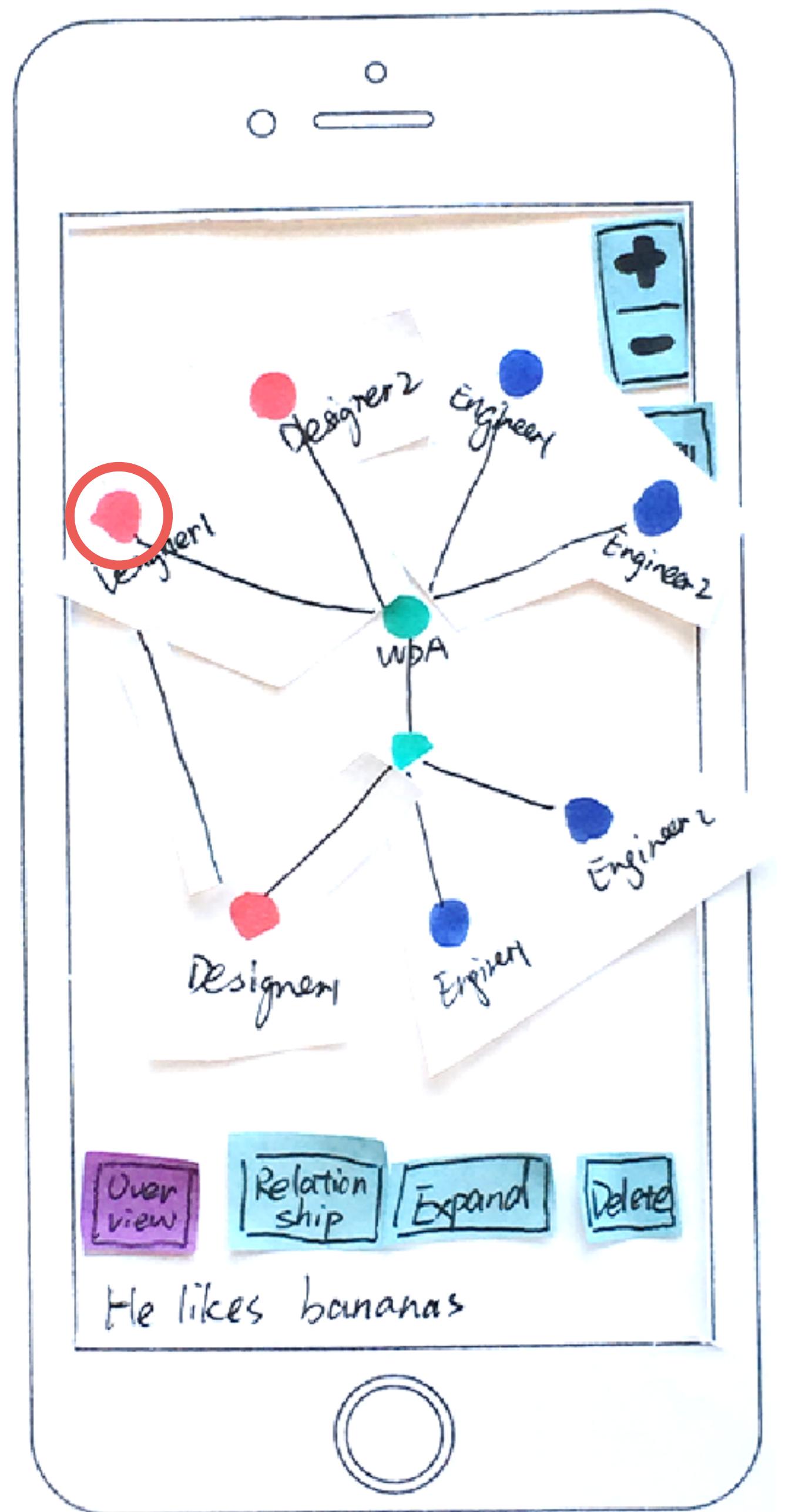
“Key will help me understand the color of these nodes.”

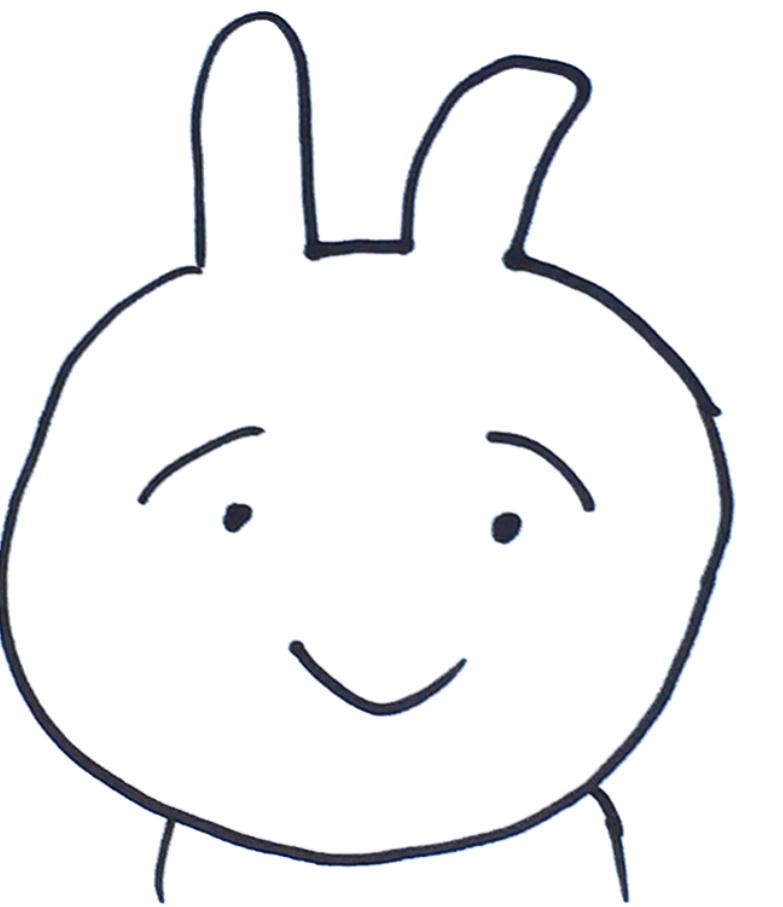
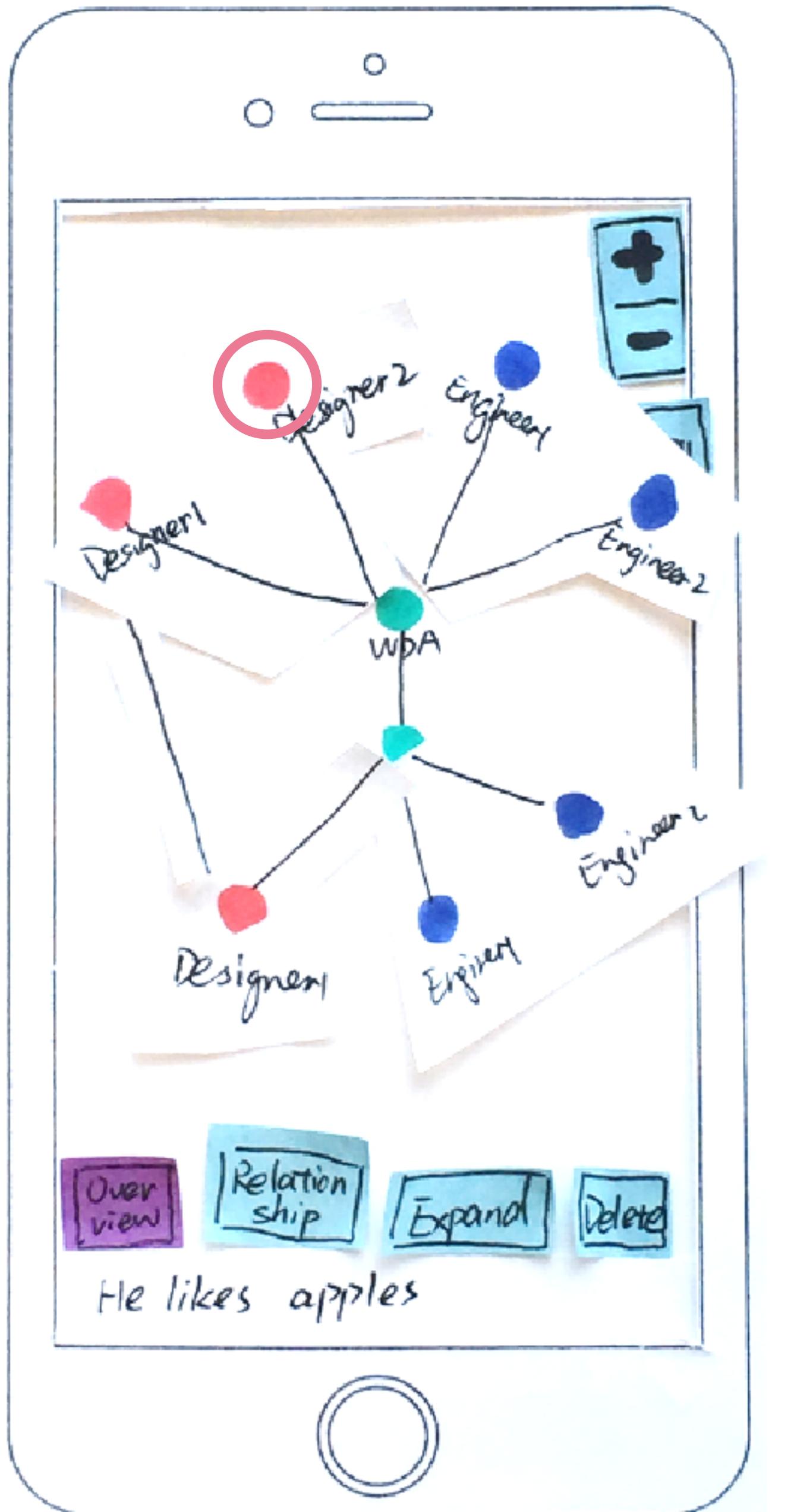


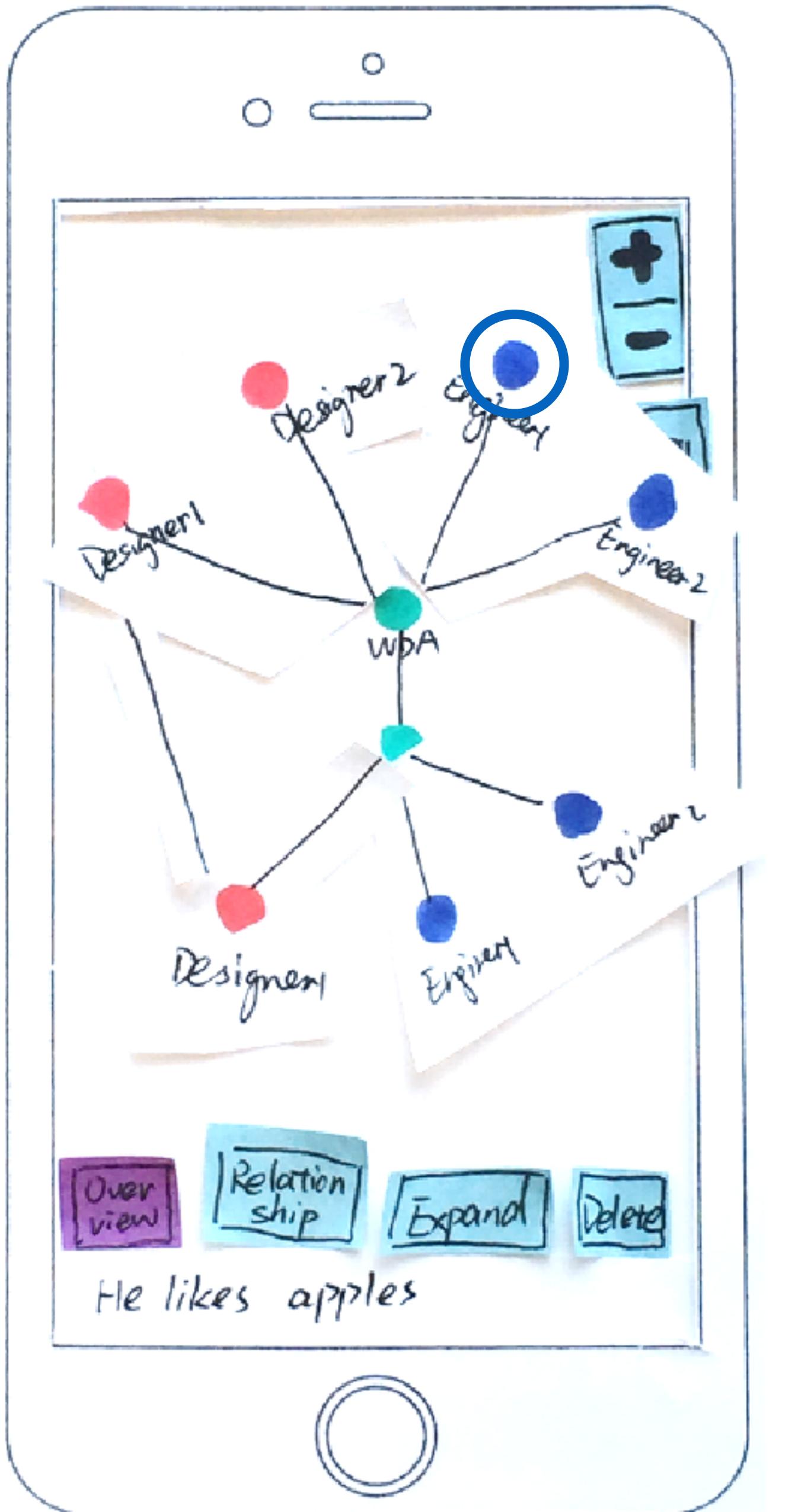


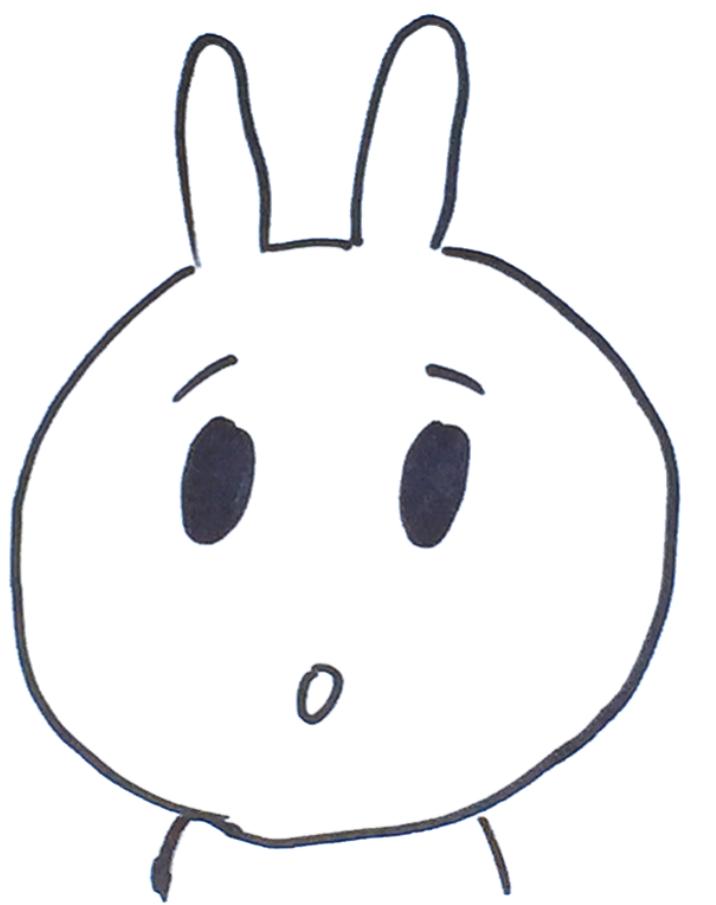
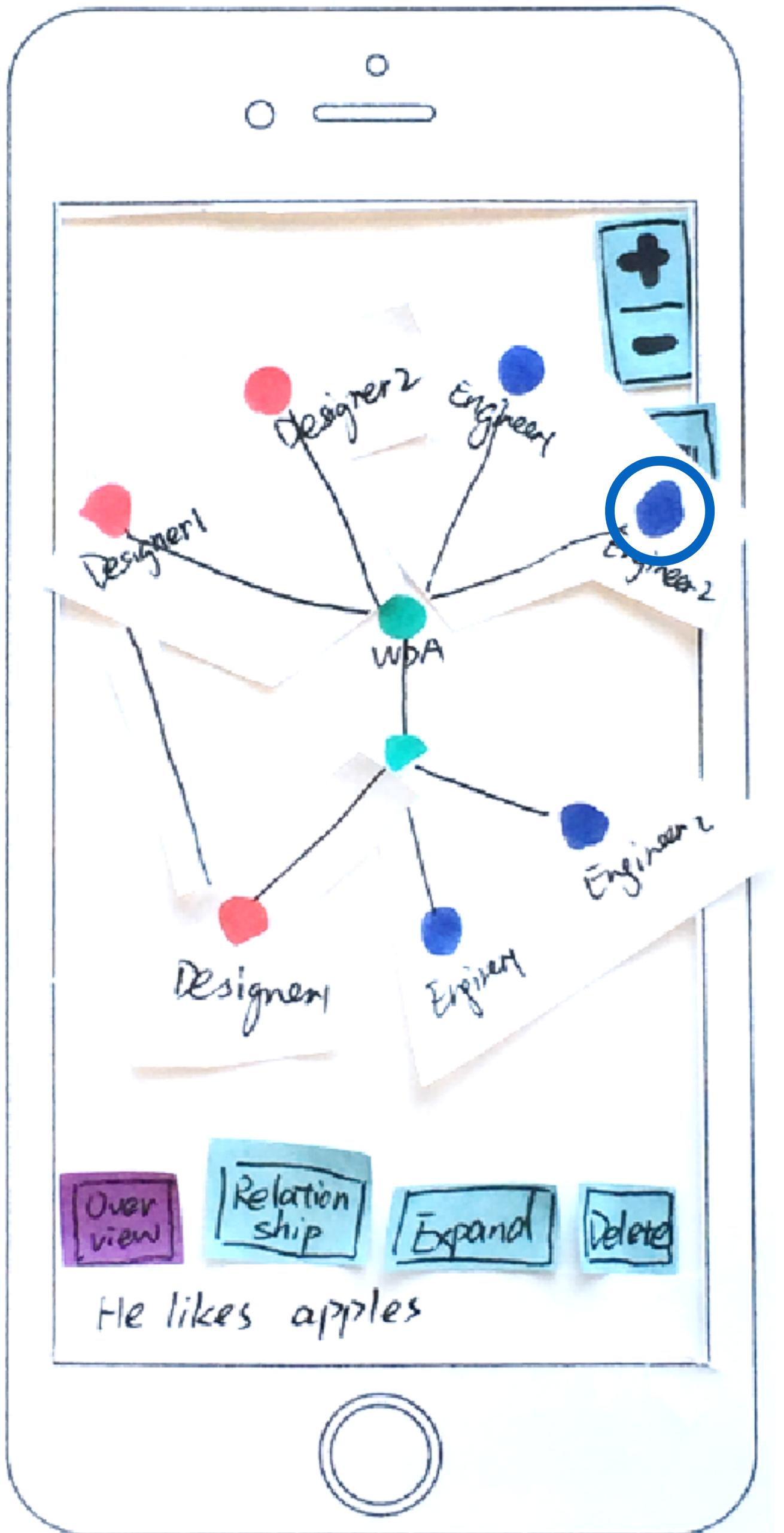


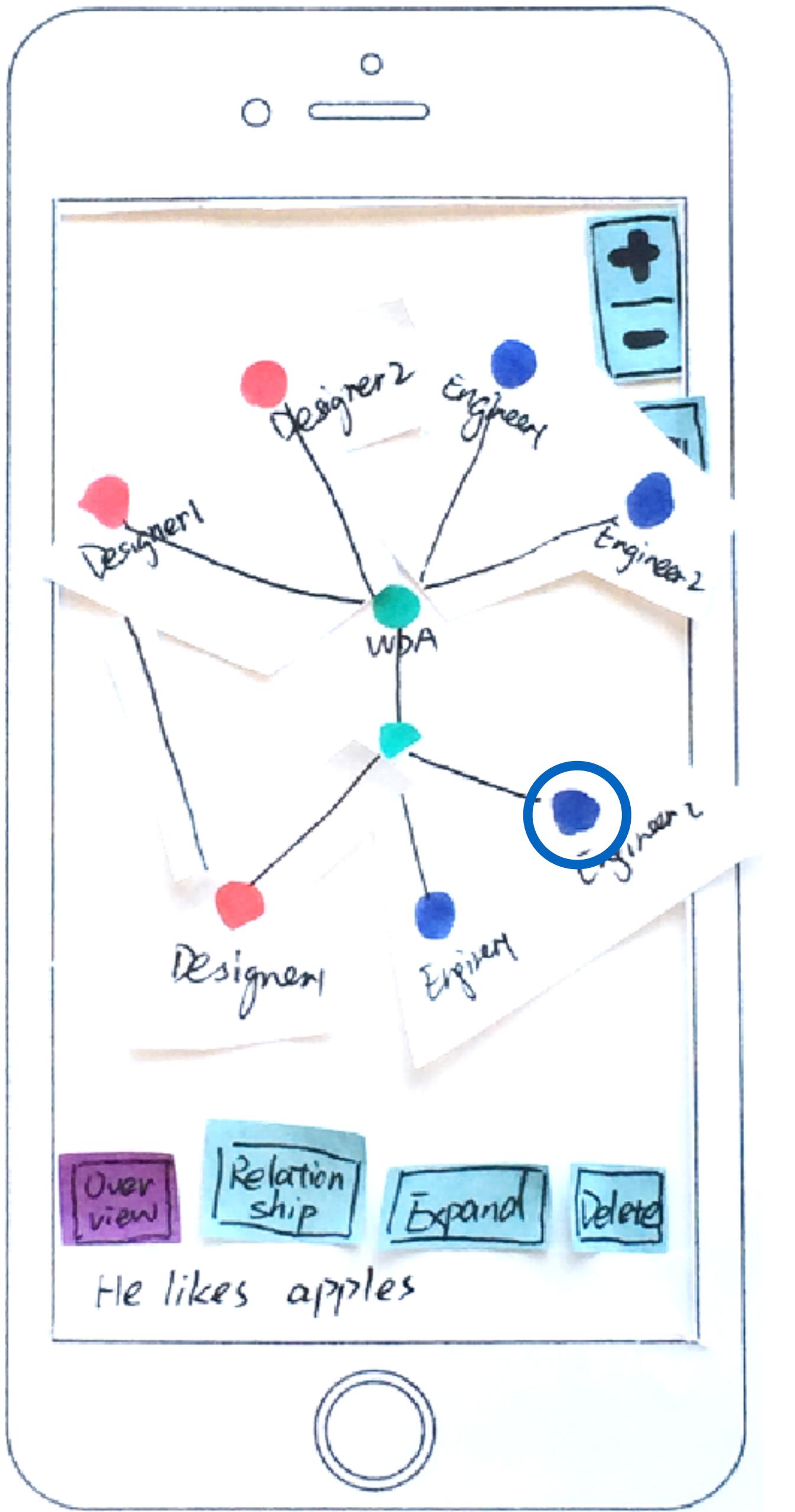


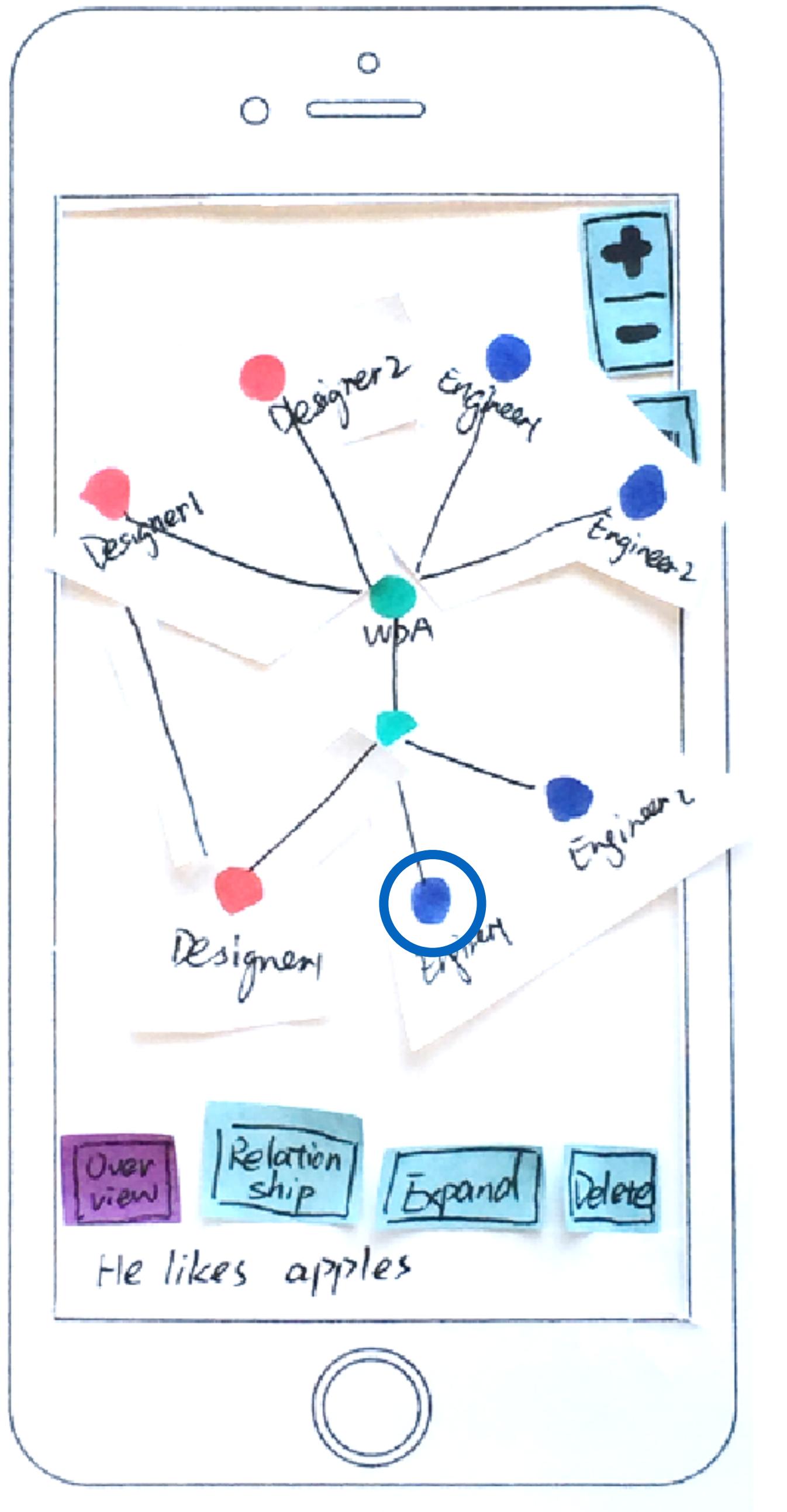


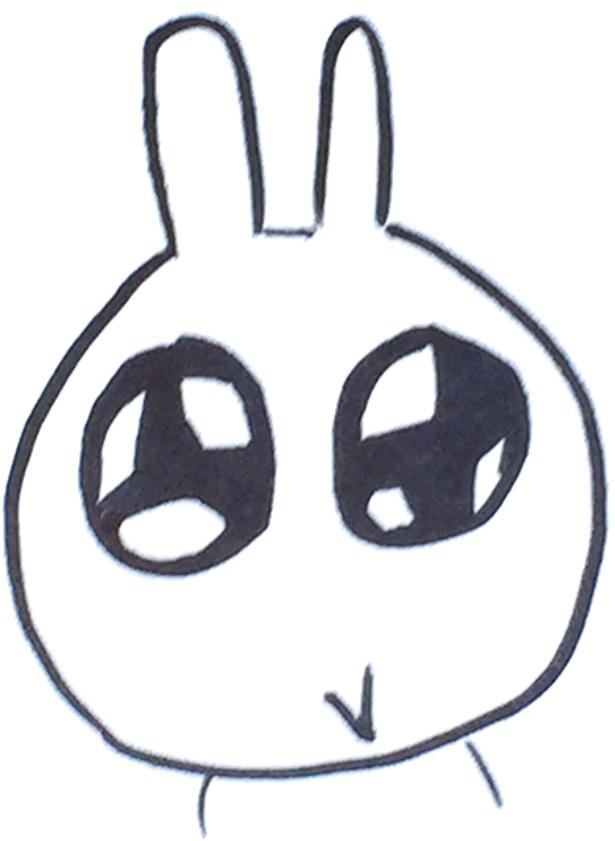
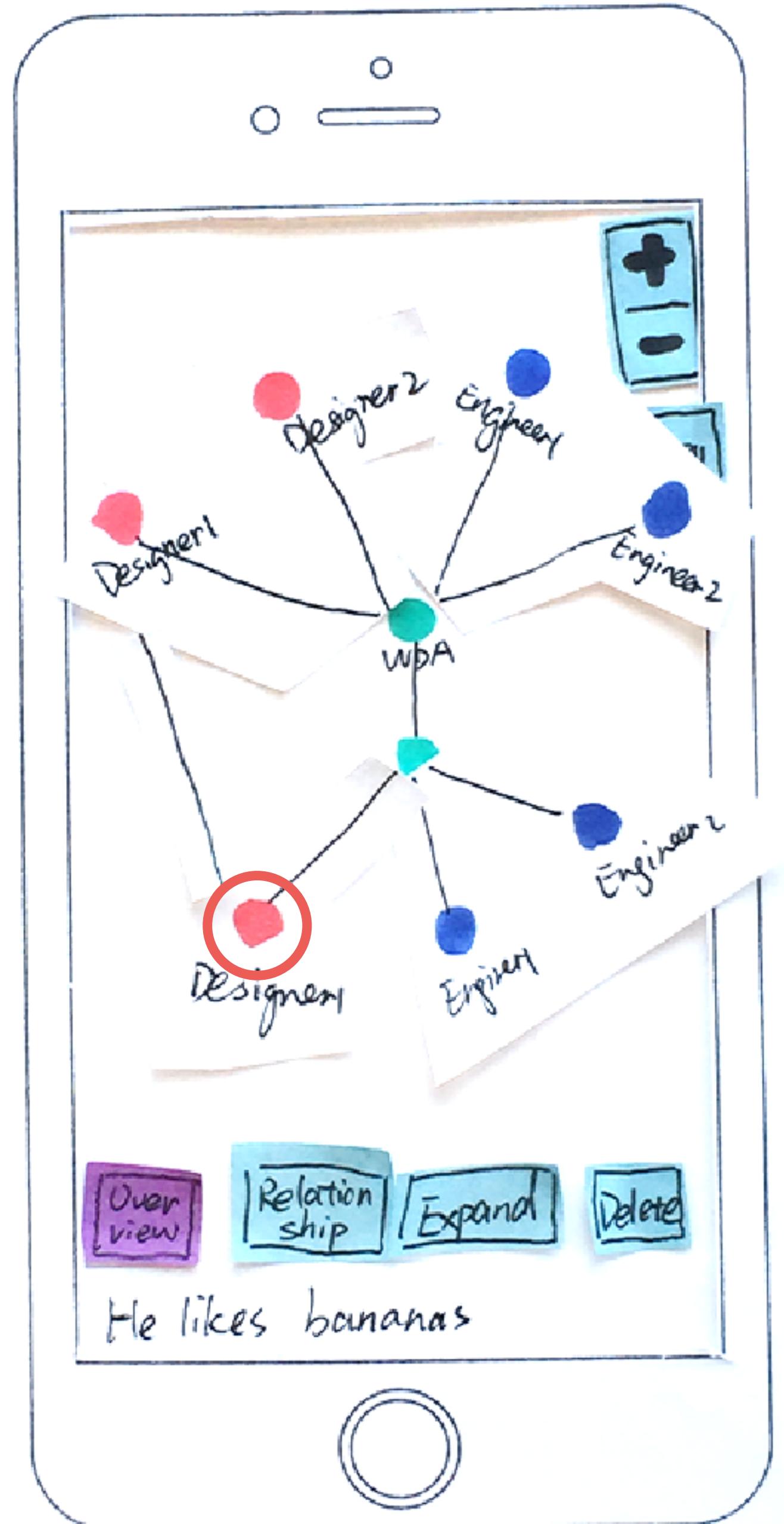






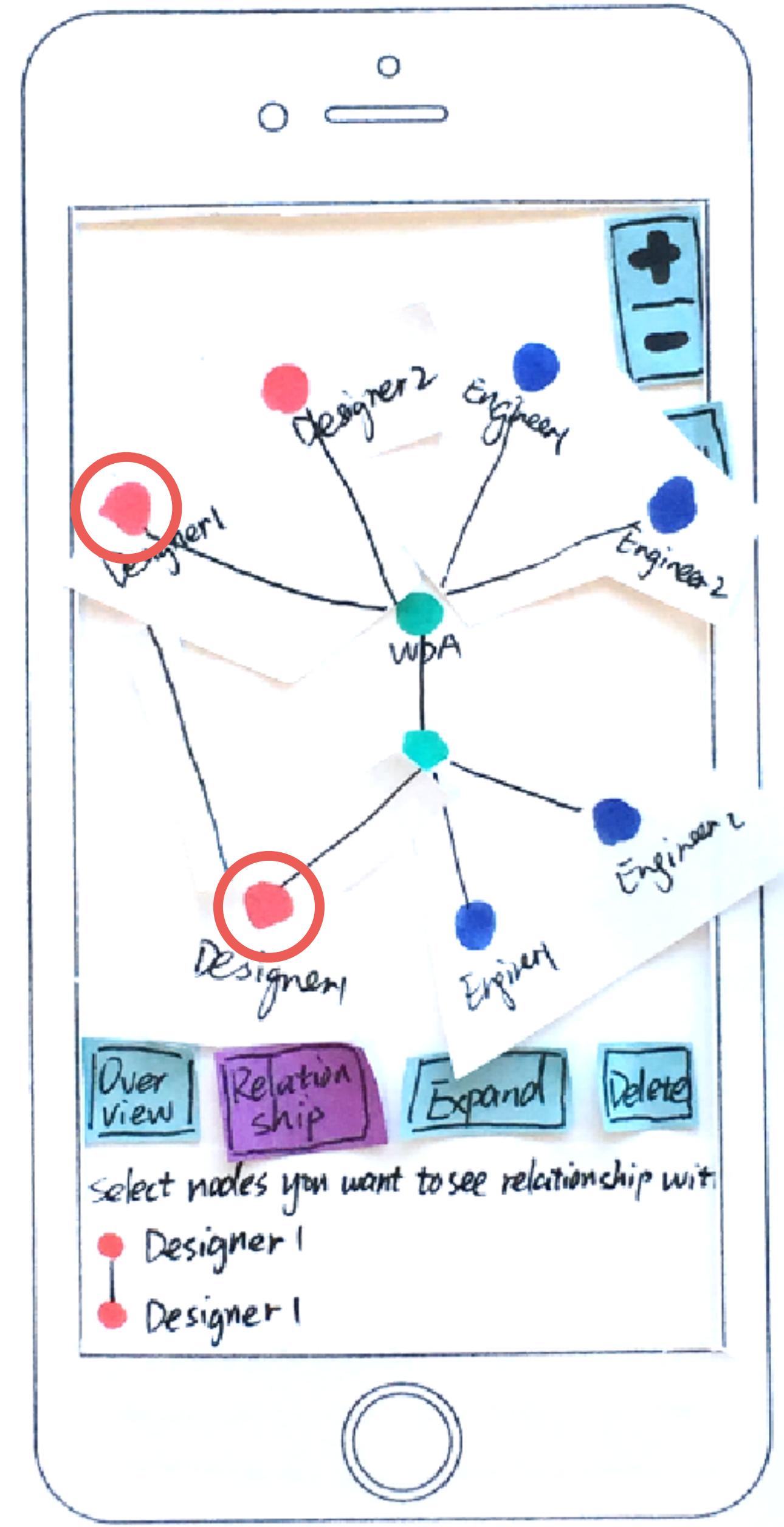




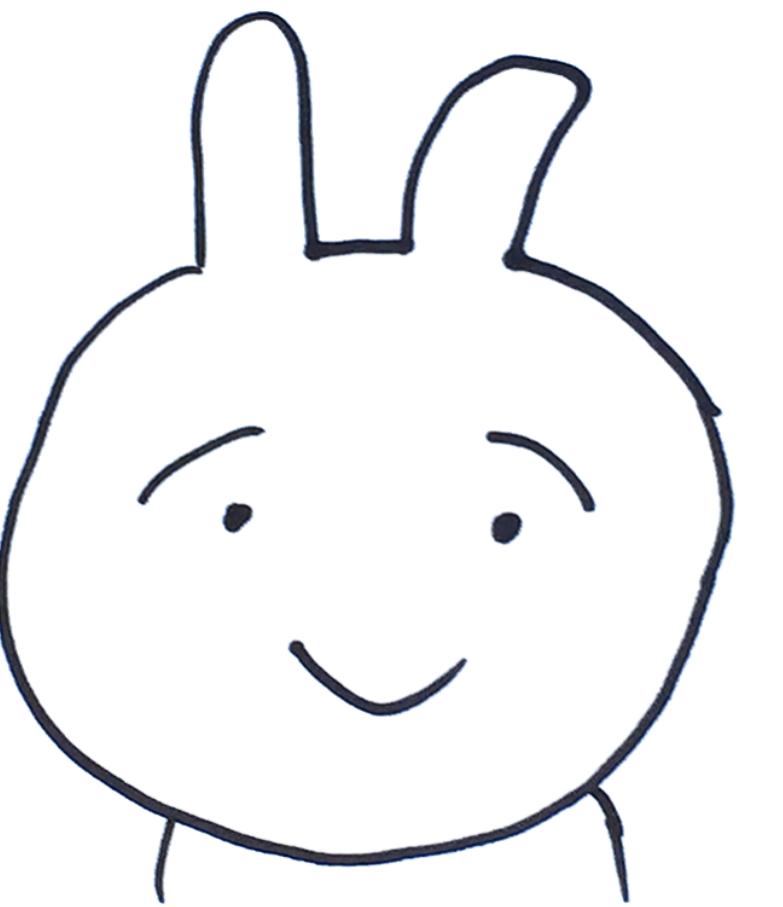
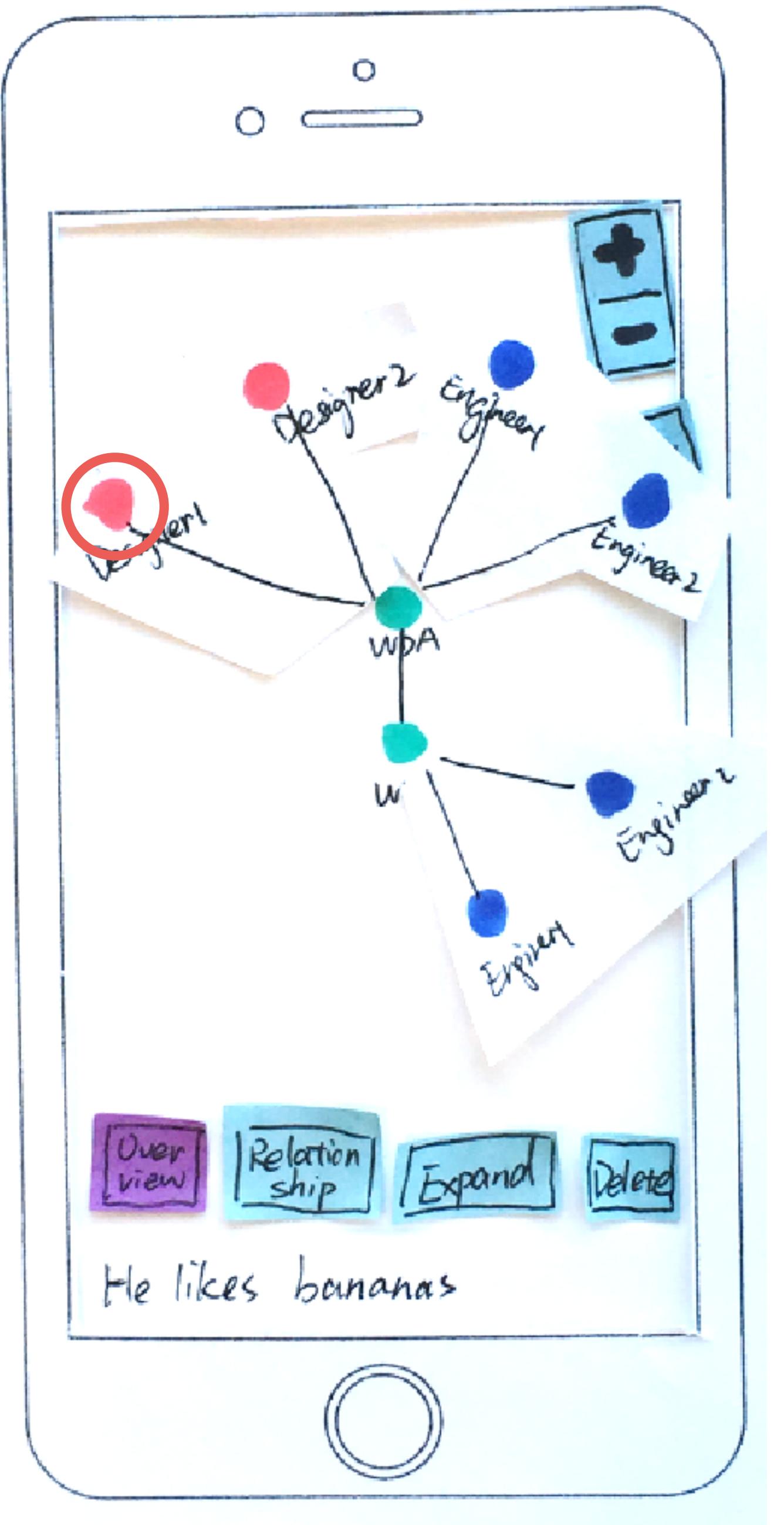


“Too many clicks to get information”

“It requires too much human memory
to remember each node’s information.
Hope it would support bookmarking”



"This information is redundant with the gesture I've just performed. I want to see the content."



Main Findings

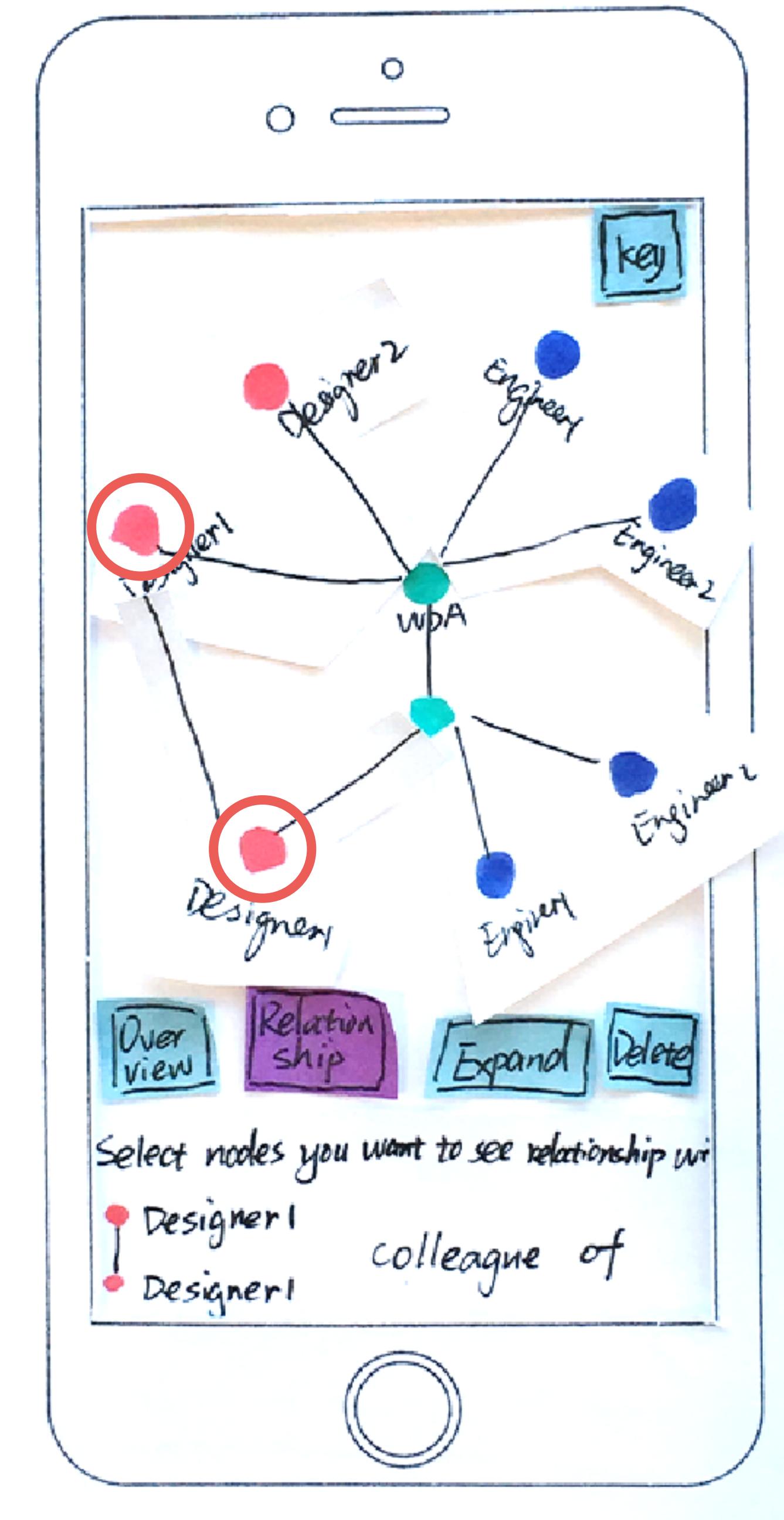
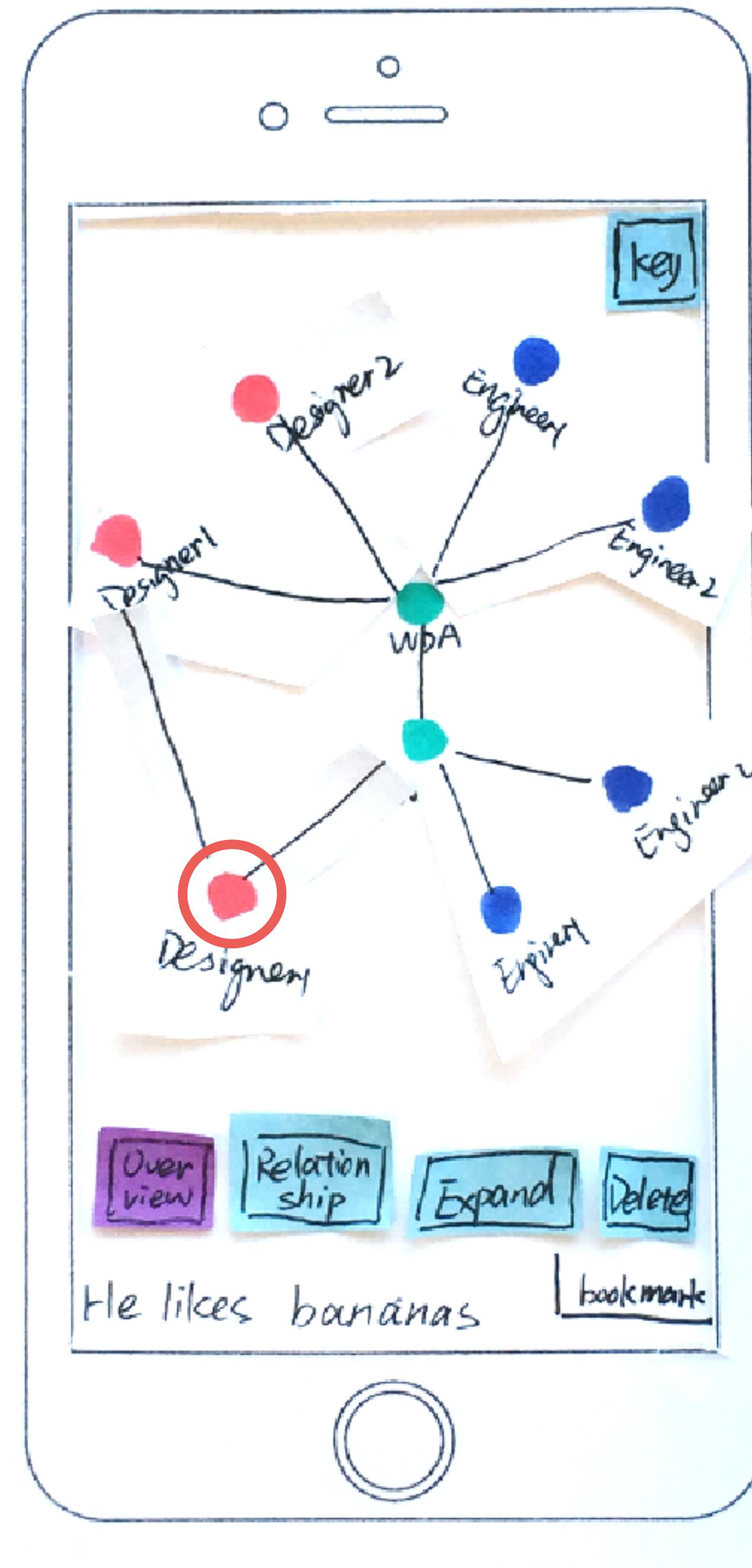
success: 5 / 5



Users like to have both visual affordance (buttons) as well as shortcuts (double click to expand and hold to remove). Visual Affords are step by step guidance for first time users and short-cuts allow experienced users to do tasks more quickly.

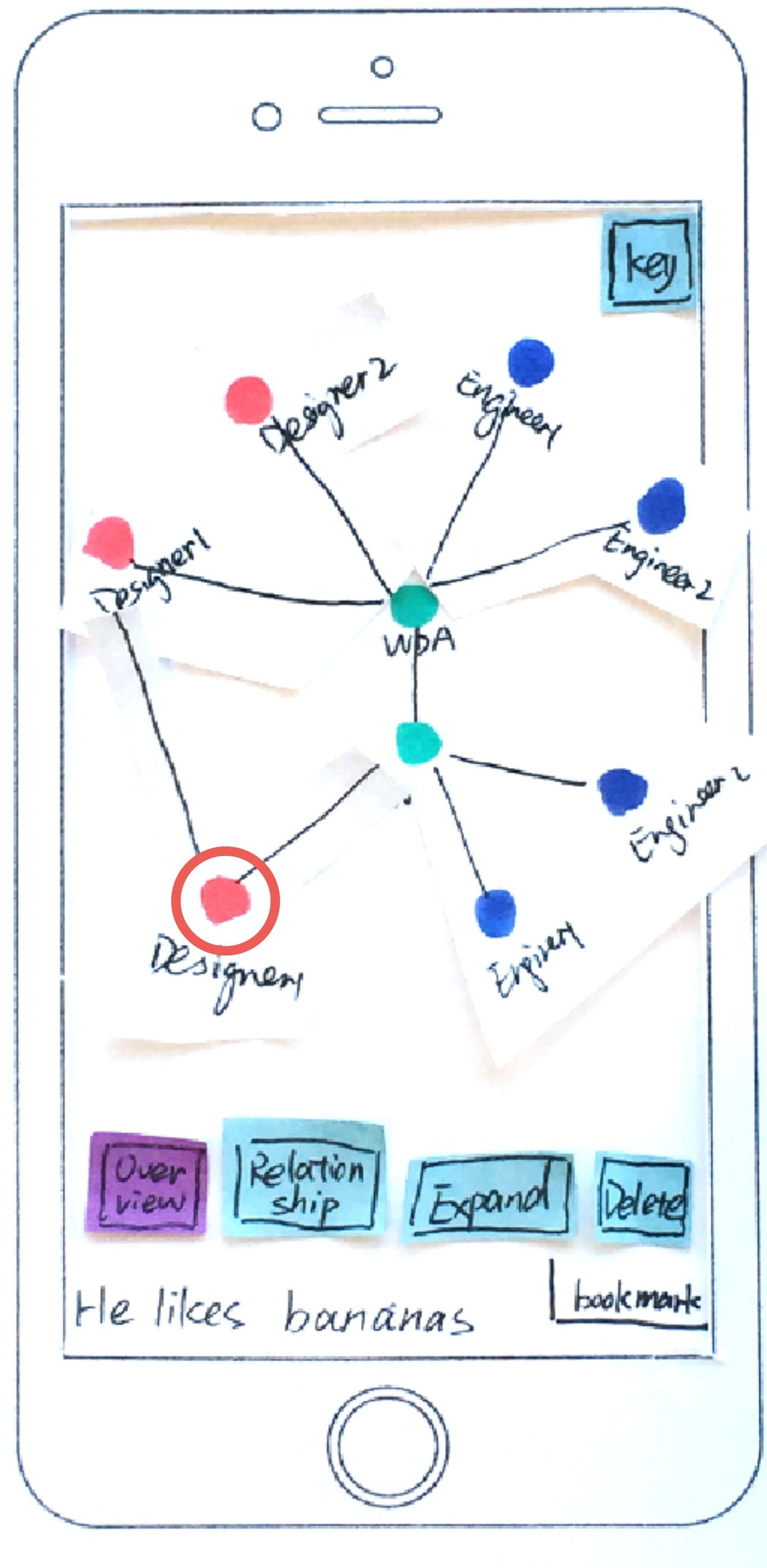
It's tedious for users to click around to find information.

- First Design Iteration
- User Testing for First Design Iteration - 7 participants
- Second Design Iteration
- User Testing for Second Design Iteration - 5 participants
- Third Design Iteration + User Testing - 7 participants



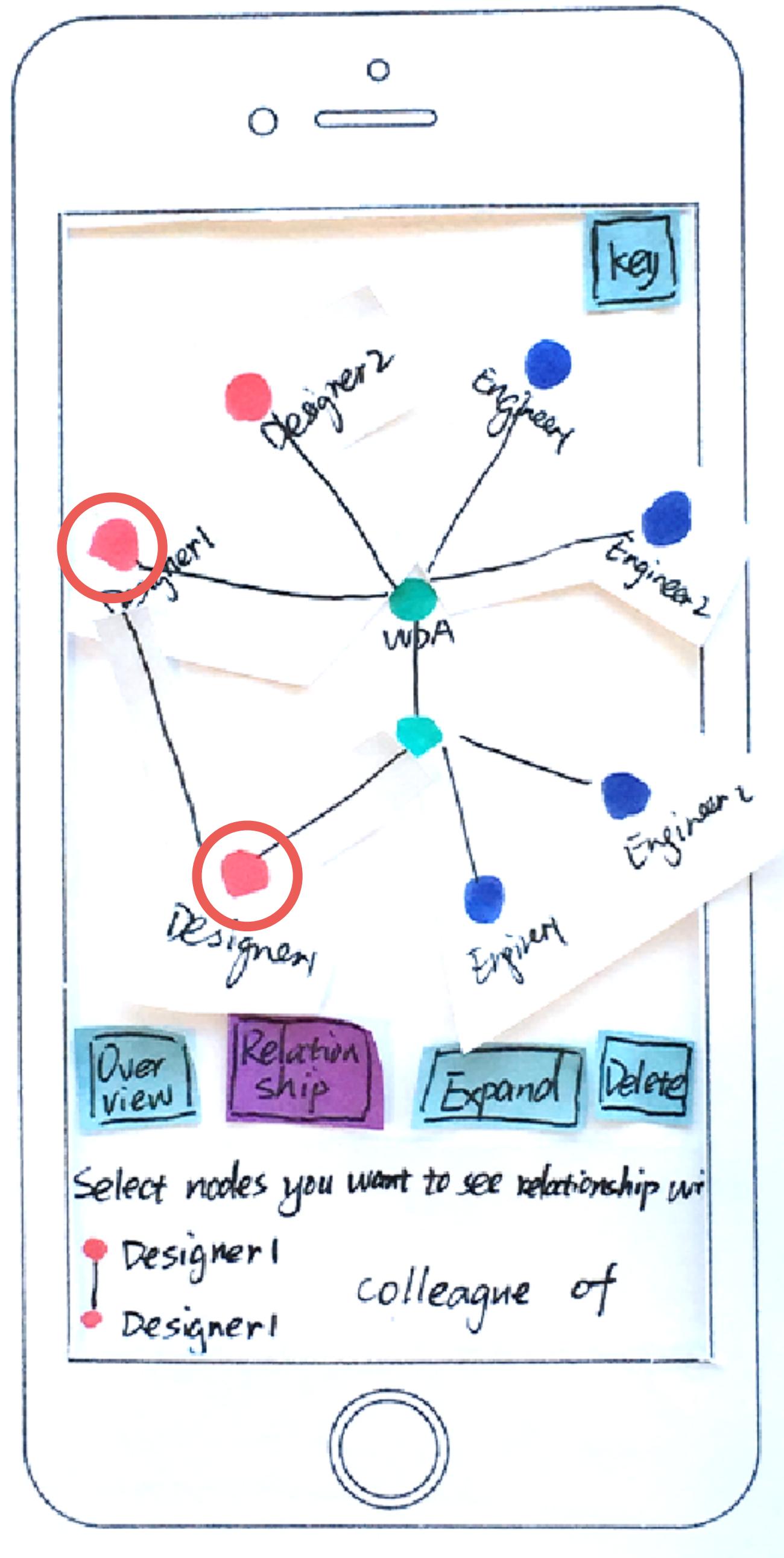
success: 6 / 7





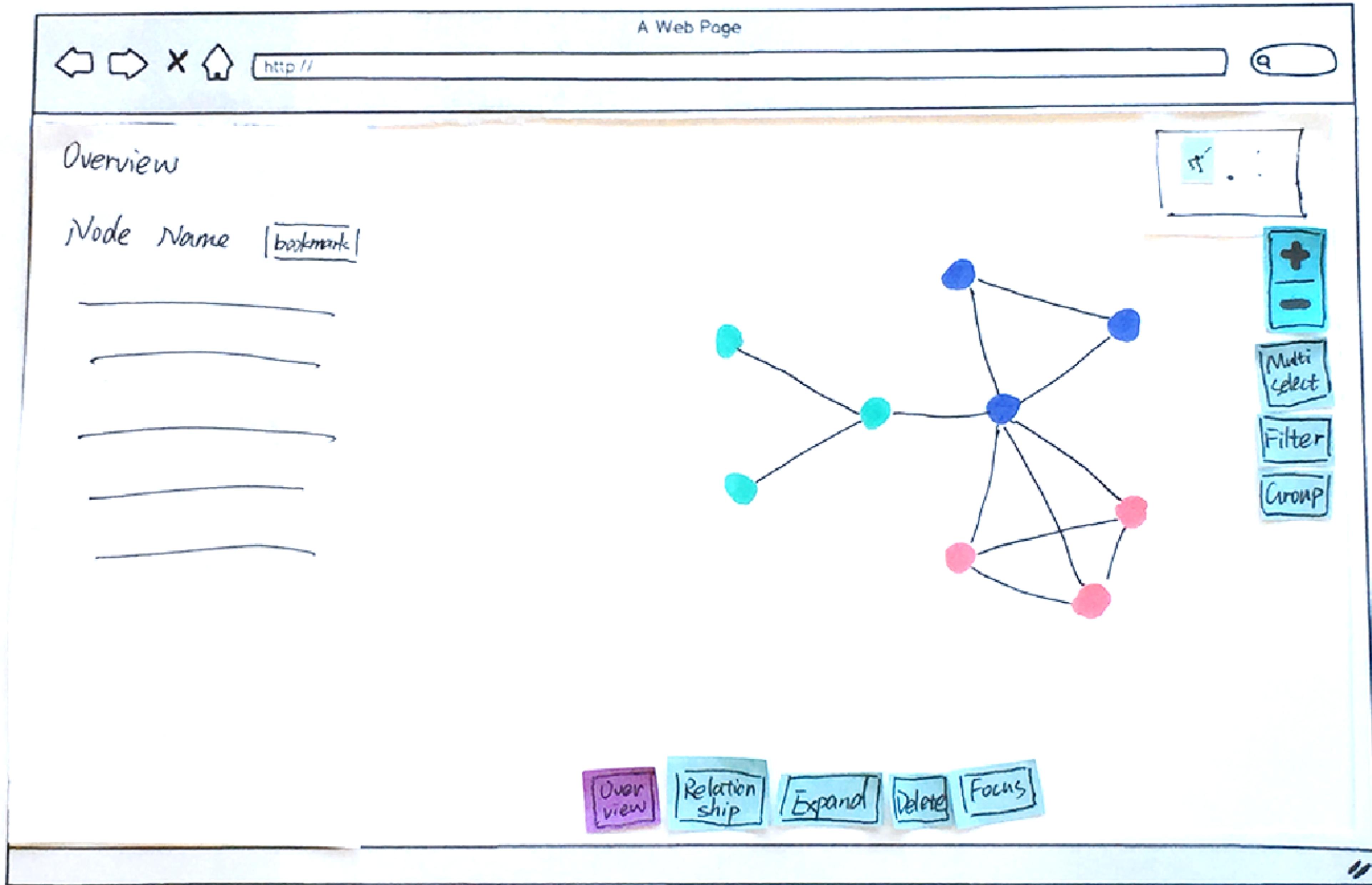
“The ‘Delete’ is very intimidating.
I’m not sure why I want to delete it.
Hiding might be better because I
know it can come back.”

“Will it give me double confirmation?
What if I accidentally delete it?”

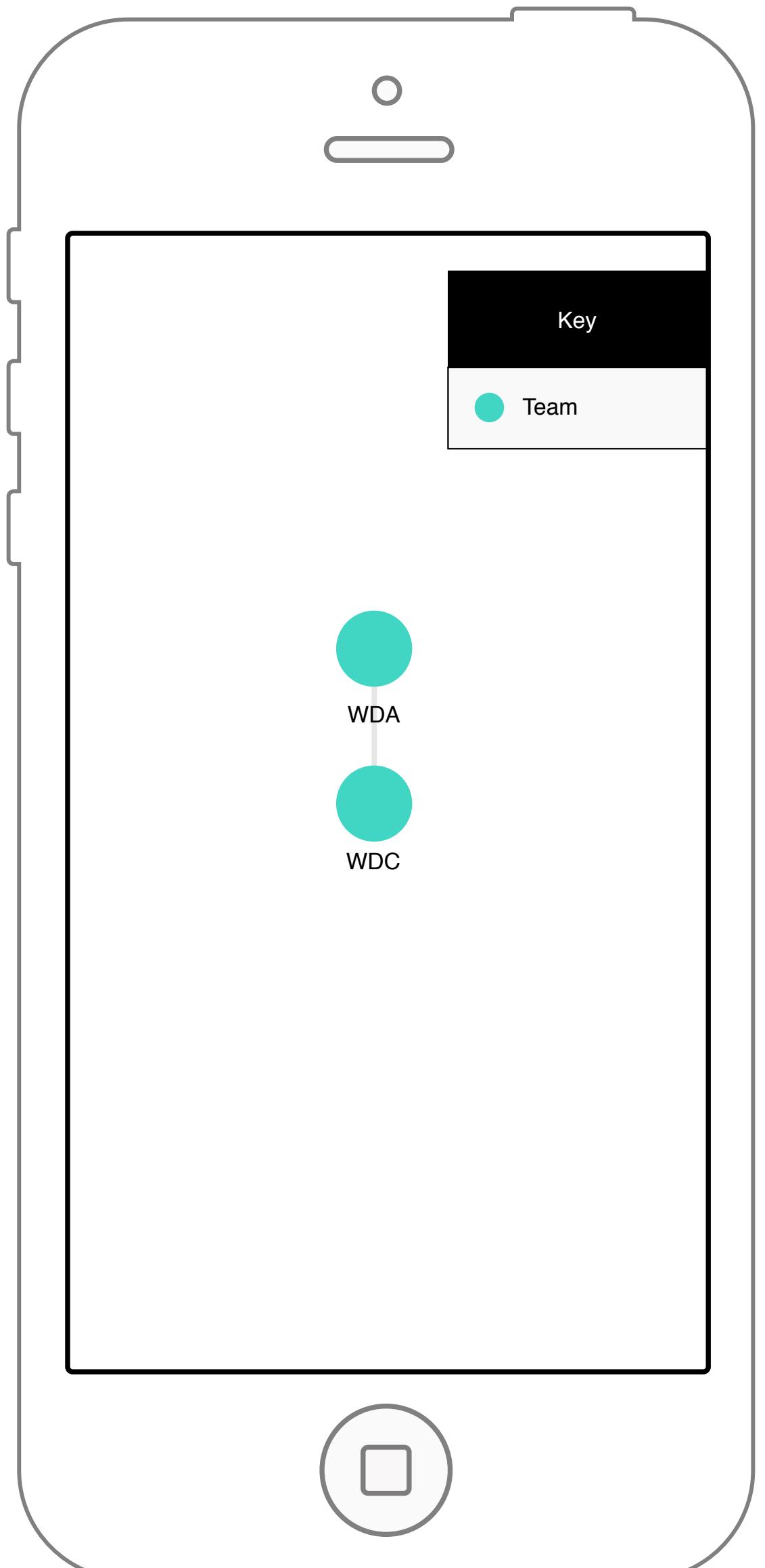
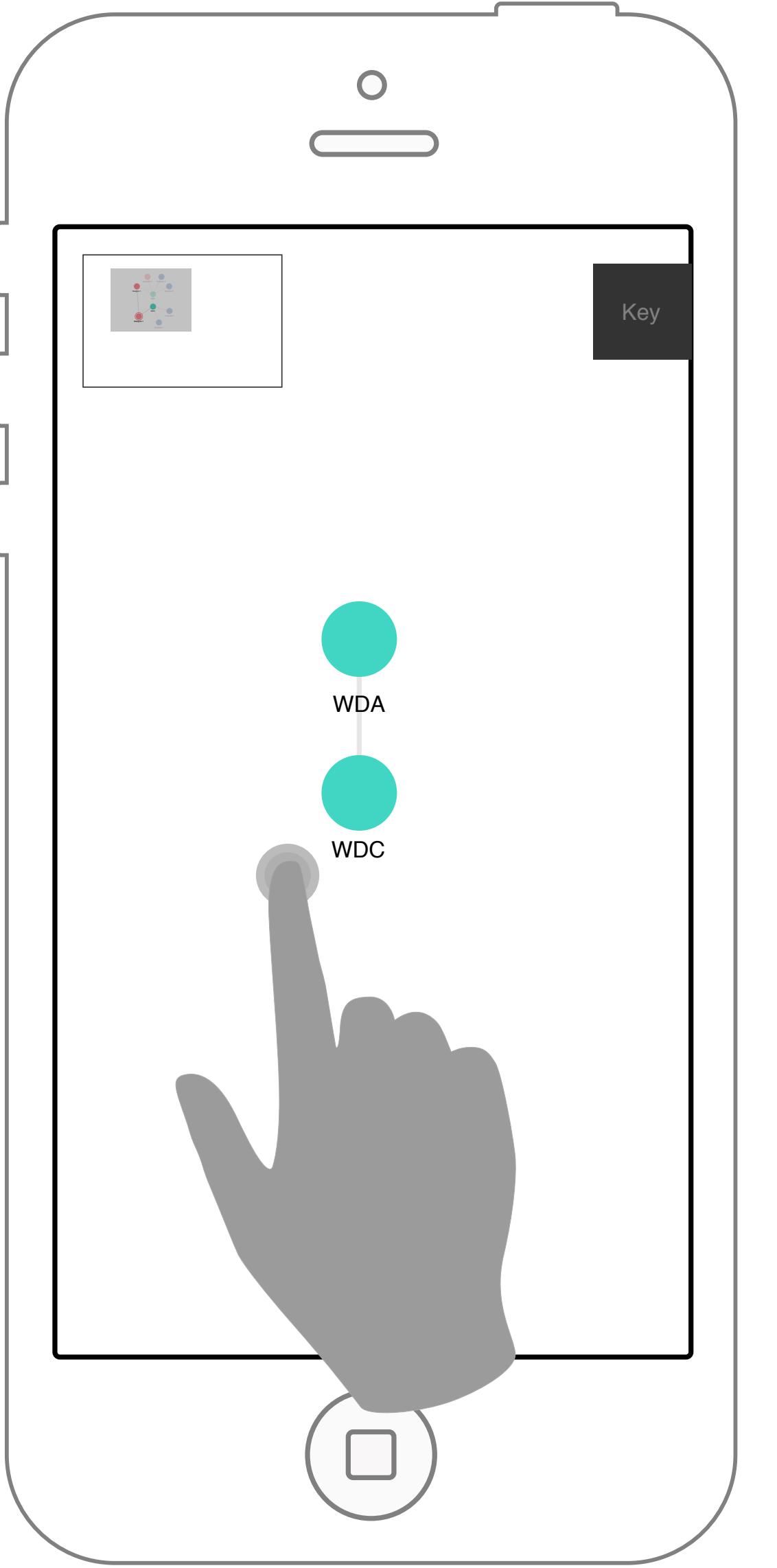
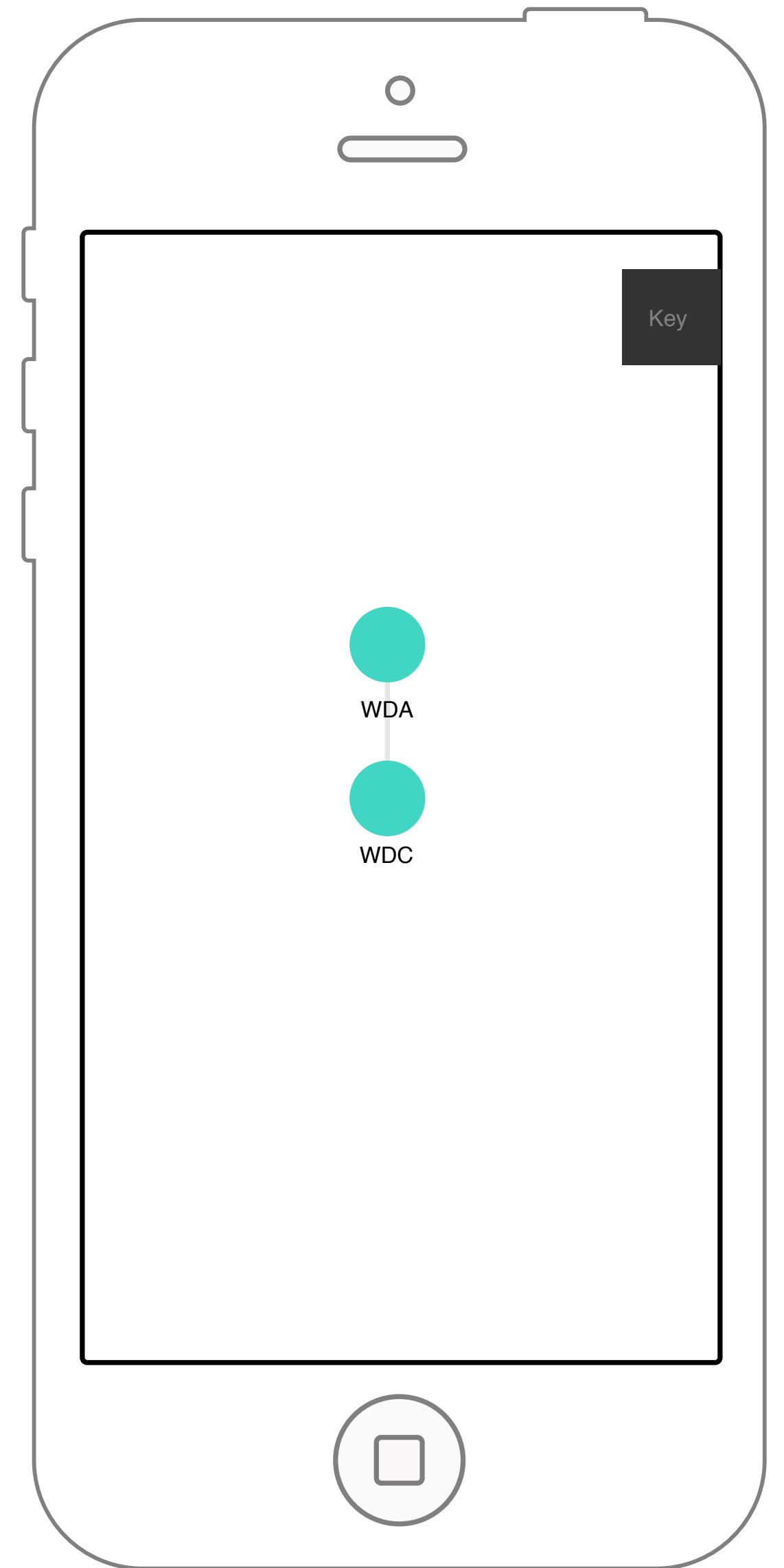


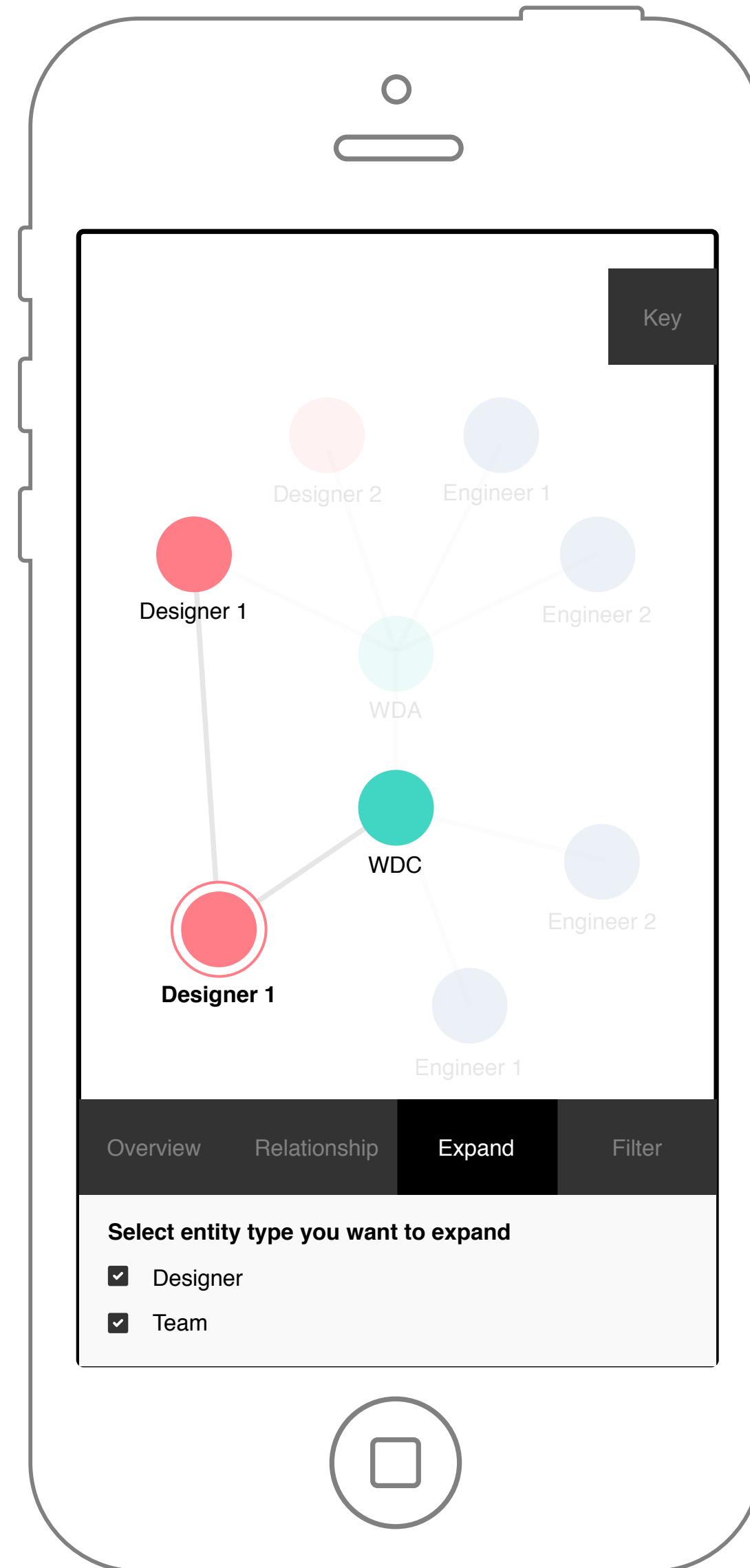
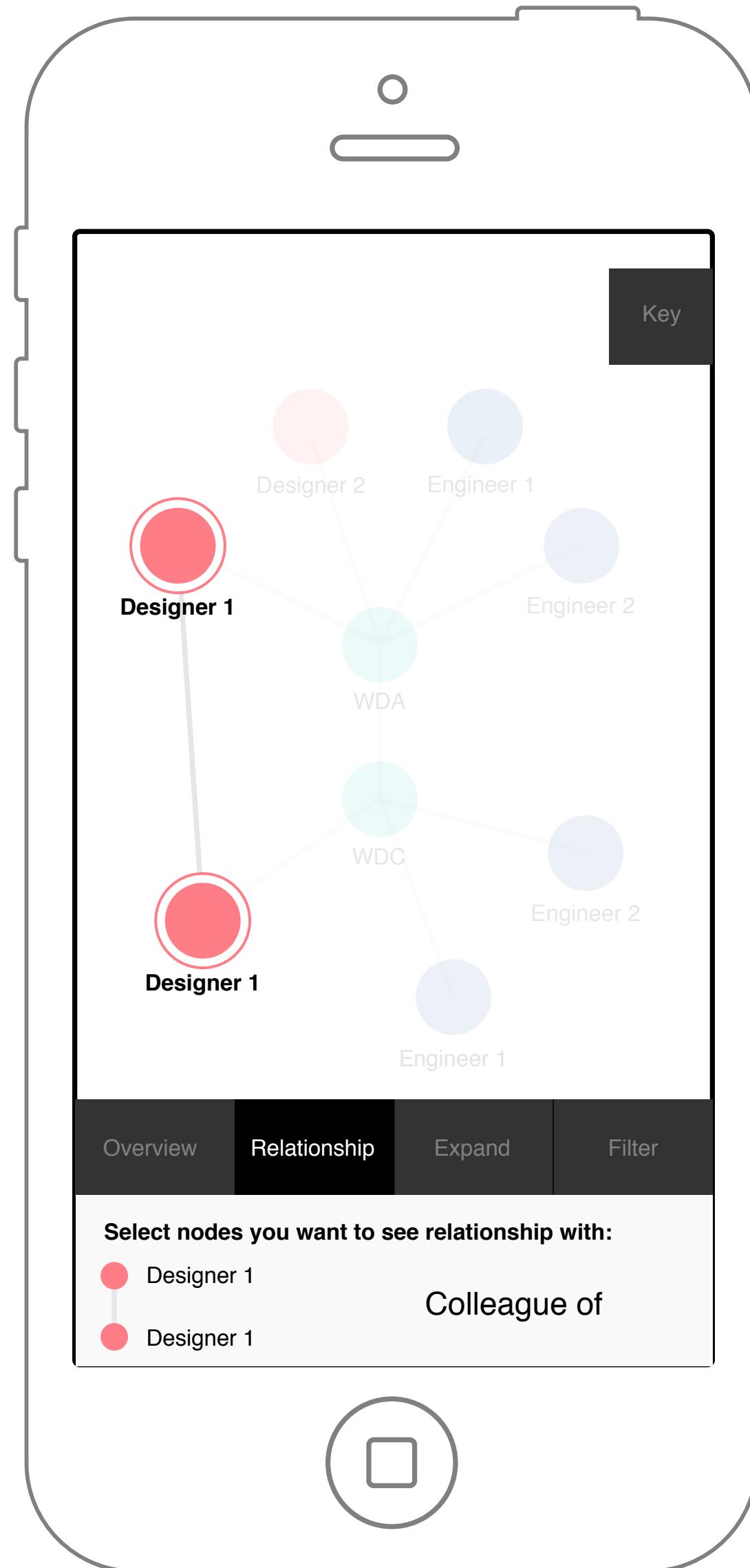
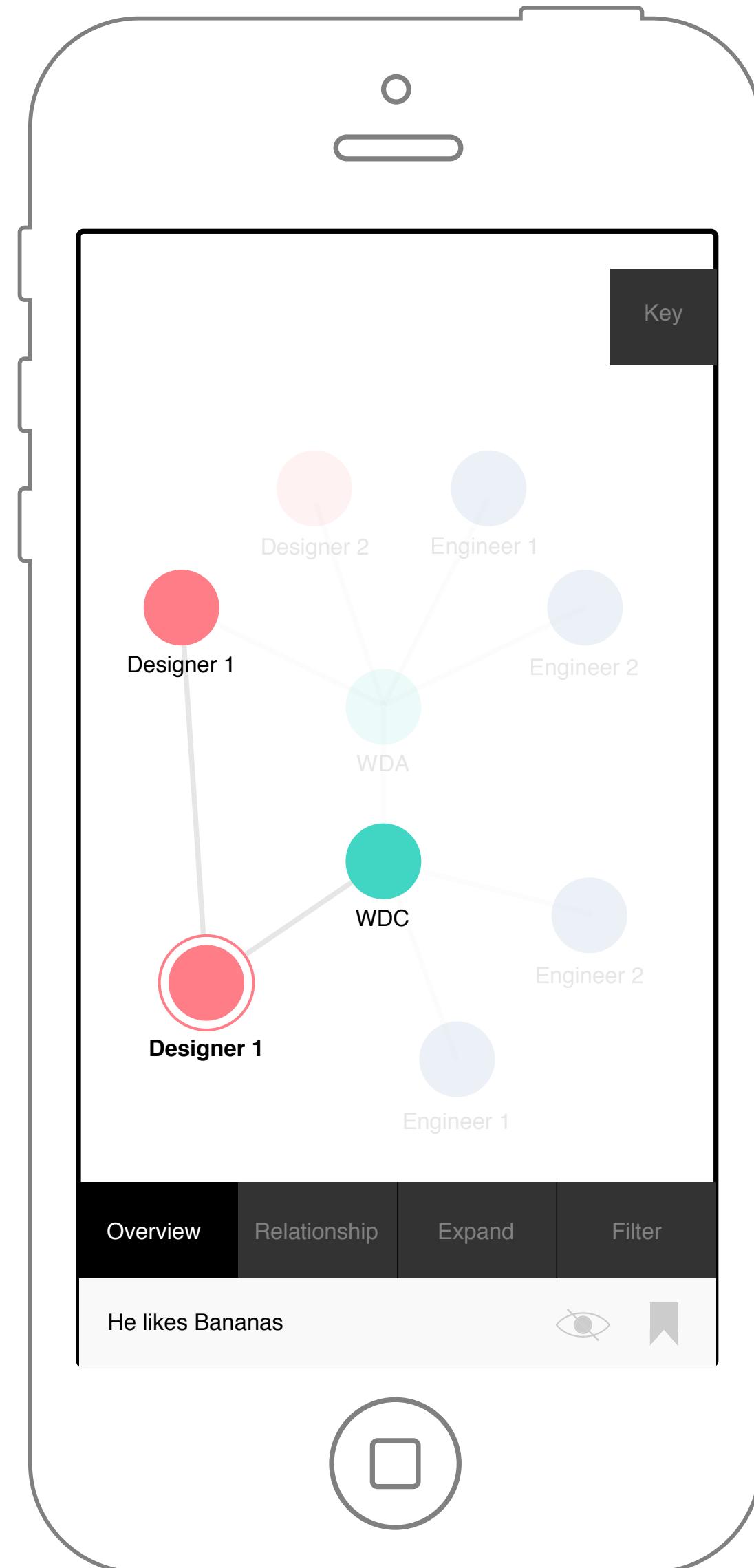
“What if I select Engineer1?”

“I want to select Engineer2.”

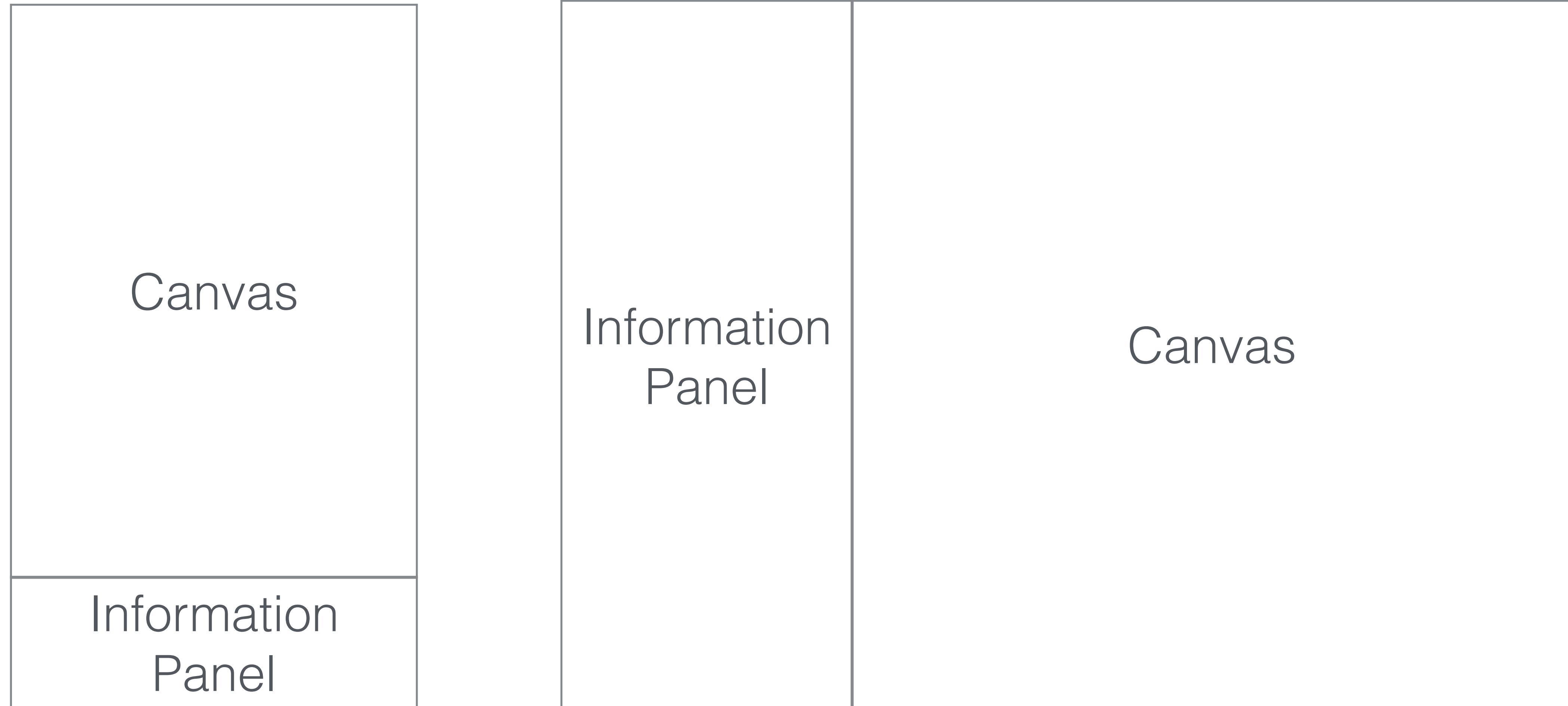


Final Design Wireframe



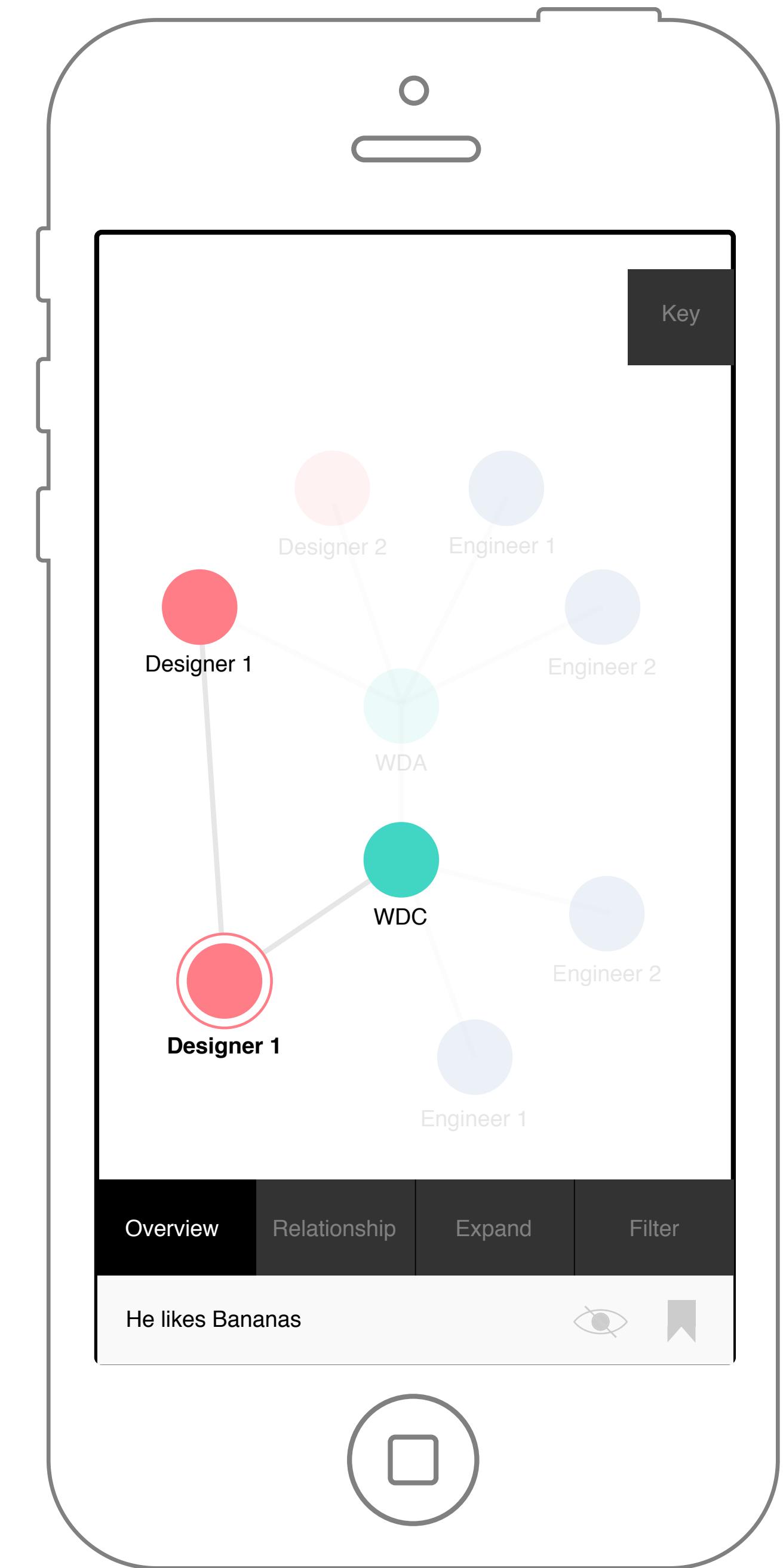
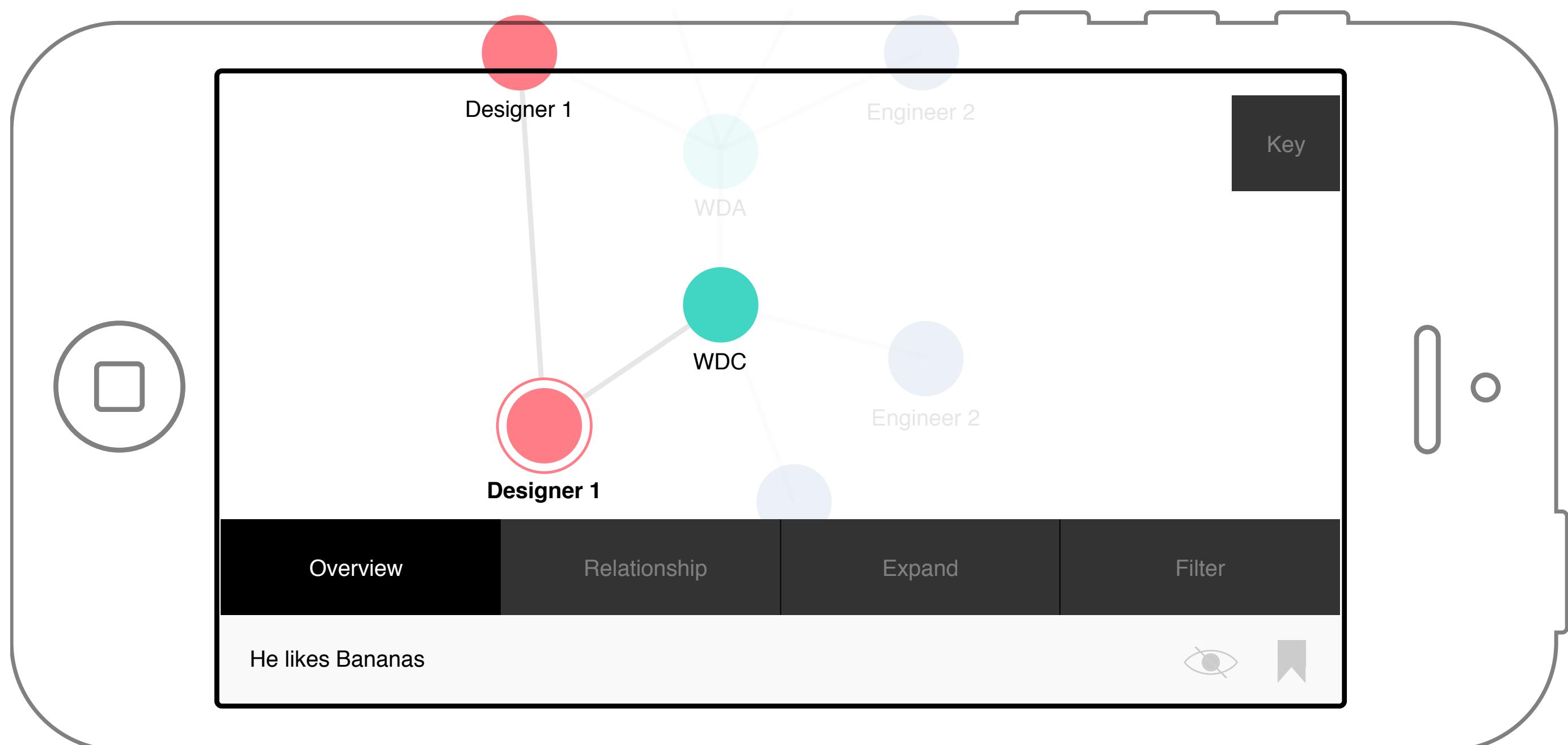


Responsive Design Layout

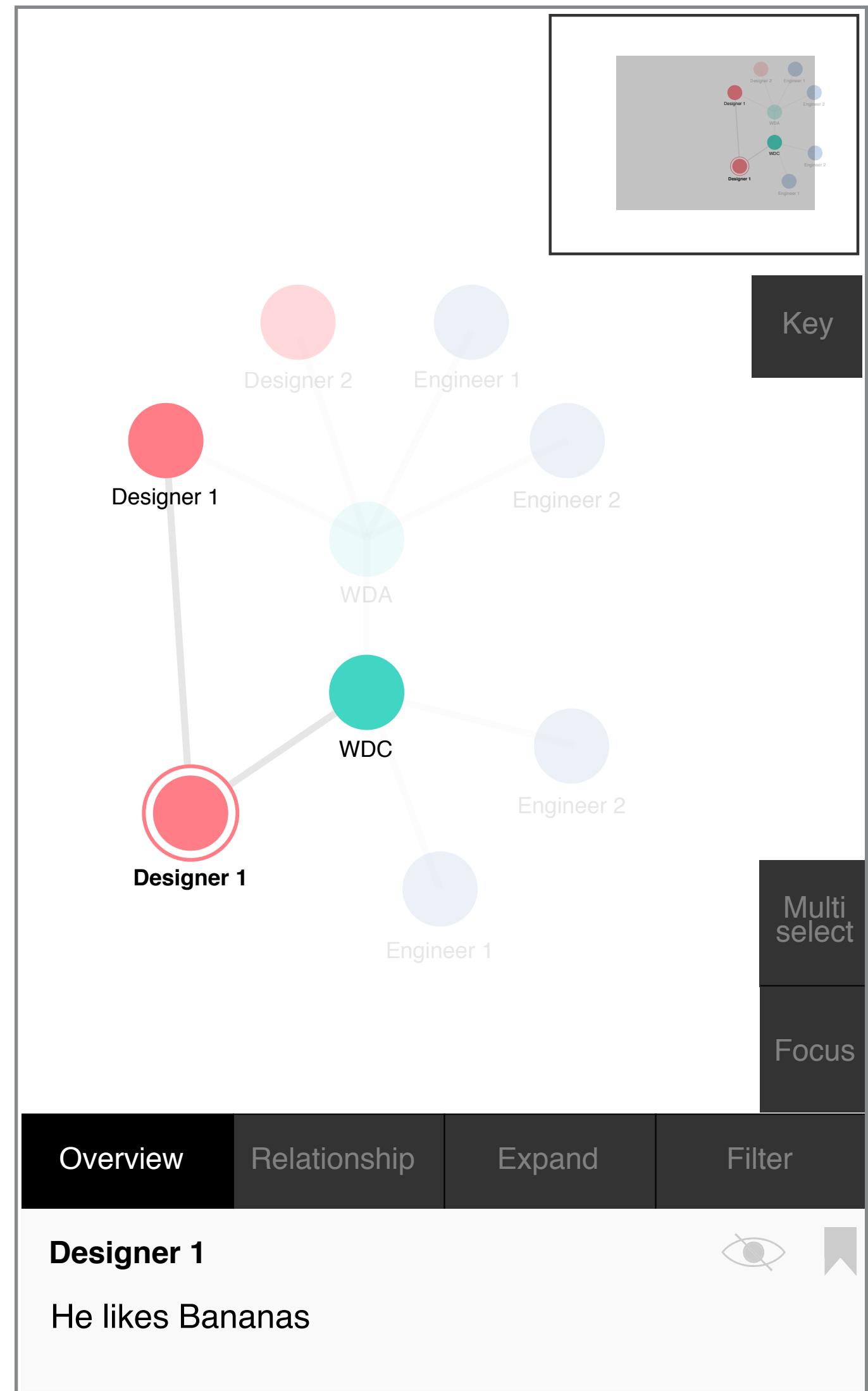
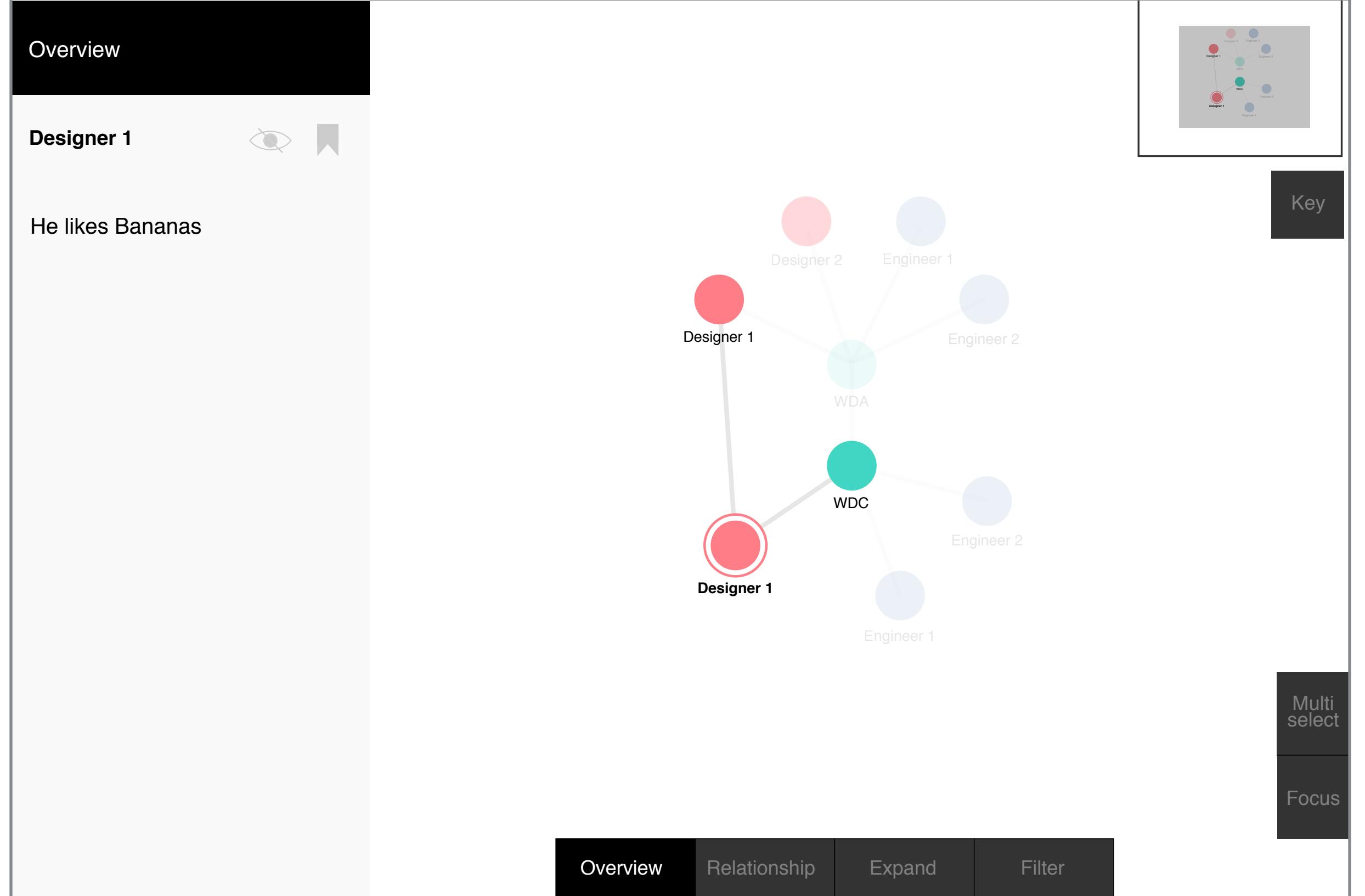


Some Examples of Responsive Design

Small Touch Device



Medium Touch Device



Large Non-touch Device

Overview

Designer 1

He likes Bananas

—

+

Key

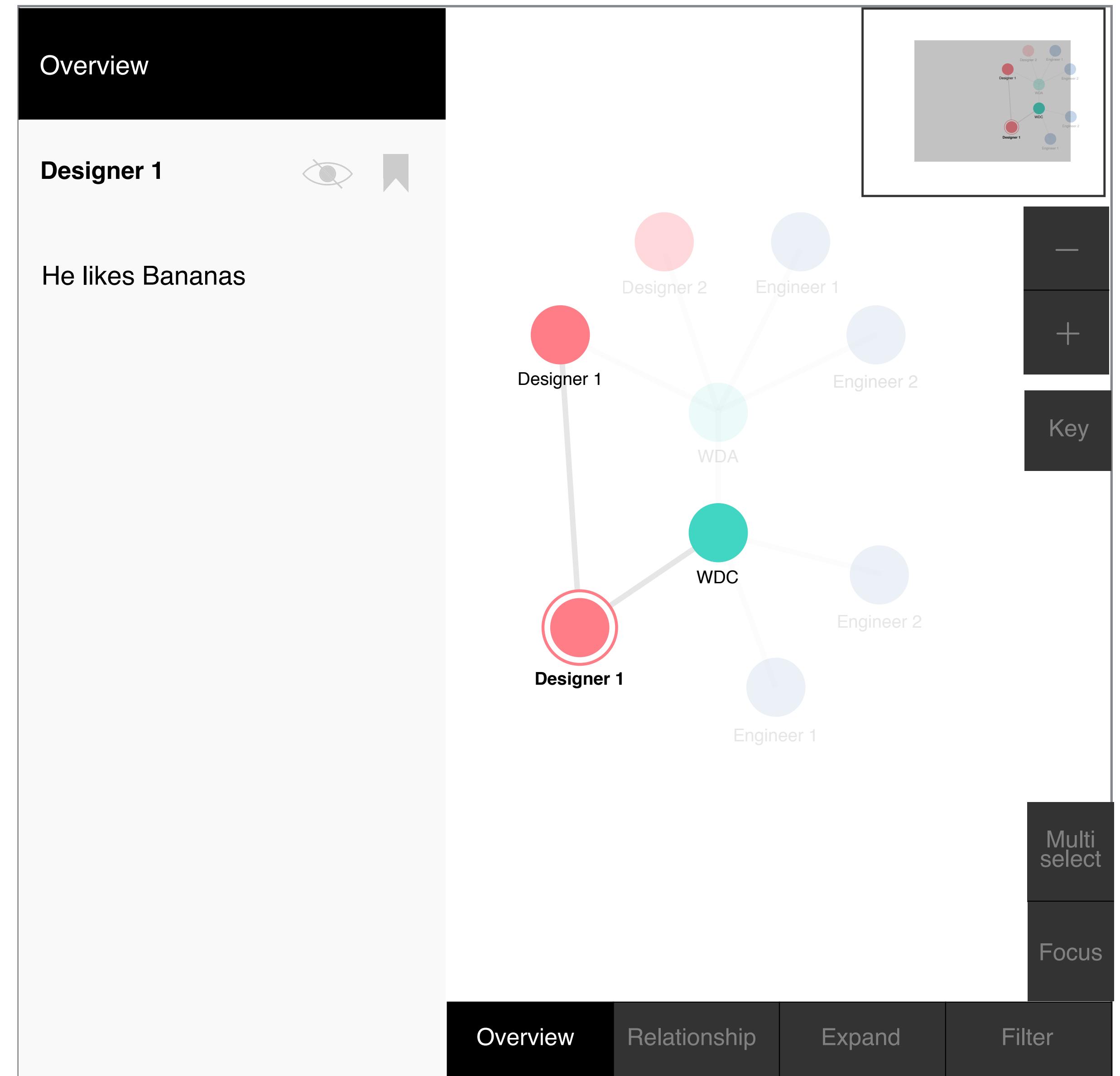
Multi select

Focus

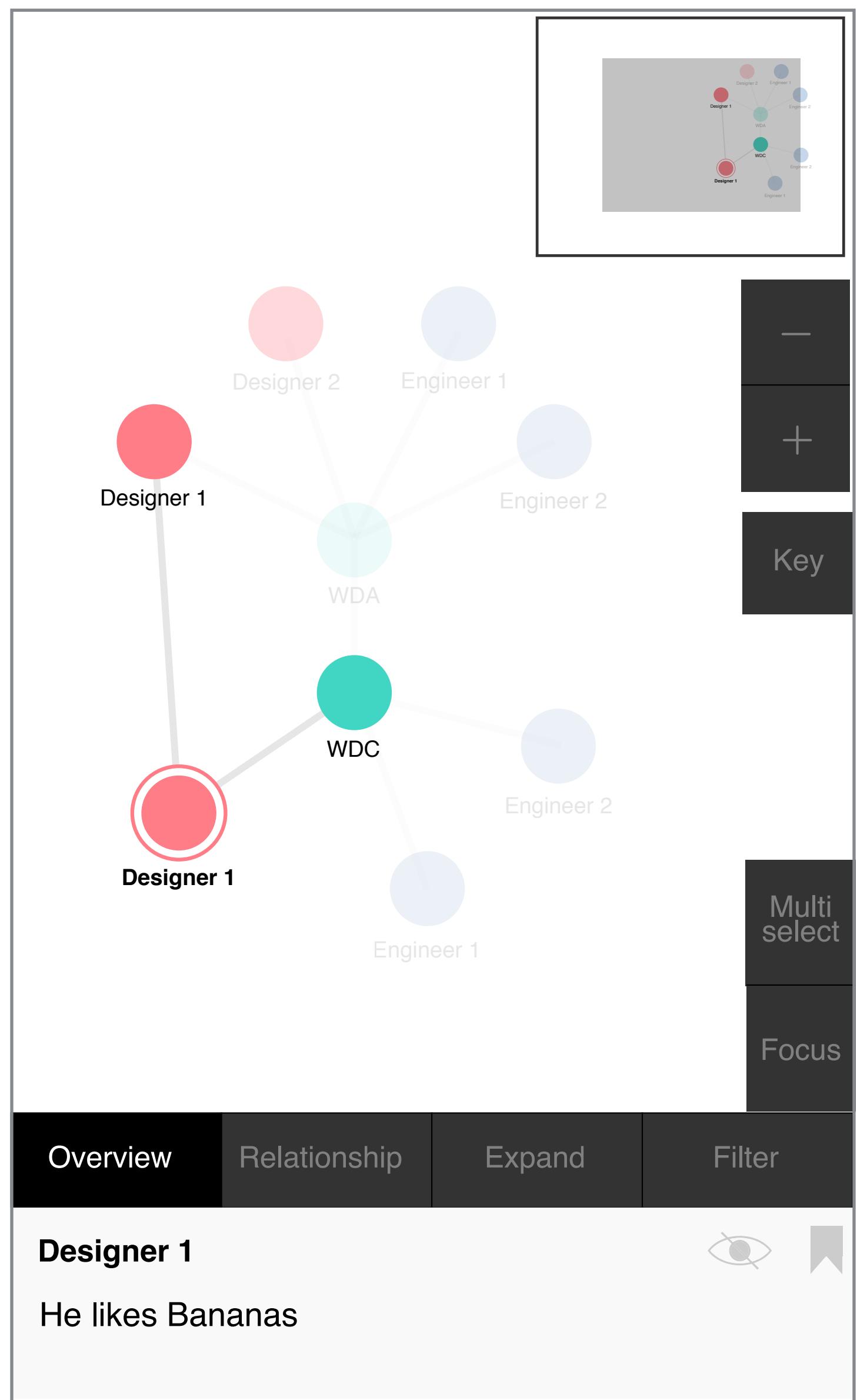
Overview Relationship Expand Filter

The diagram illustrates a network of users and data entities. Nodes include 'Designer 1' (red), 'Designer 2' (pink), 'WDA' (teal), 'WDC' (cyan), and multiple 'Engineer' nodes (light blue). Edges connect 'Designer 1' to 'WDC', 'WDC' to 'WDA', and 'WDA' to 'Designer 2'. 'Designer 1' also has a direct connection to 'Designer 2'. The 'WDC' node is highlighted with a red border.

Large Non-touch Device



Large Non-touch Device



Prototype Status

<http://pages.design.ibm.com/xluo/networkvis/master/>

Next Steps

- Emerging Products Design Team will provide documentation by April 7, 2015
- Design Acceleration Team will take over for next steps of design and development

Thank You!