CSI 5137 Ethics in AI Design Assignment 1

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1 Final Value Map

Our final value map with stakeholders, values and value tensions is in the google slides. The clickable link is `https://docs.google.com/presentation/d/1nQmXIbWmeZUNLPVEX4FJi_B35GRE-oLK9sPH9UOmlDO/edit?usp=sharing`. You can zoom in and out freely.

The illustrations of values and value tensions are all in slides.

2 Stakeholders and values

- owner of the house

  - privacy
  - safety
  - convenience
  - entertainment
  - money saving
  - freedom of choice

- Amazon company

  - responsibility
  - trustworthiness
  - creativity
  - scalability
  - leadership
  - money
  - restraint
  - fidelity
  - change

- Amazon Echo Smart Speaker

  - usefulness
  - self-control

- family members: parents

  - protecting their kids(protection)
  - control children's usage
  - security of the home
  - responsibility
  - personal privacy
  - convenience
  - trustworthiness
  - security

- family members: children

  - freedom of using Alexa
  - personal privacy
  - companion
  - safety
  - entertainment

- friends of the family

  - enjoyment
  - sense of belonging

- guests of the home

  - privacy
  - convenience

- advertisement companies

  - money
  - accessibility
  - data collection
  - influence

- smart devices(IoT)

  - usefulness
  - self-control

- software developer of Amazon echo smart speaker

  - skills
  - data collection
  - robustness
  - data security

- AI developer of Amazon echo smart speaker

  - accuracy
  - precision
  - generalization
  - robustness

- governments

  - duty
  - regulation
  - control

- other traditional business companies, traditional companies who want to combine with AI

  - competition
  - leadership
  - growth
  - money
  - stability
  - success

- other traditional business companies,traditional companies who do not want to combine with AI

- AWS

- housekeeper

- software developers of other companies who have developed Alexa

  - skills
  - control
  - freedom
  - cooperation
  - money

- profit

- manufactories of other devices

  - focus
  - flexibility
  - cooperation
  - variety
  - independence
  - innovation
  - individuality

- offline retailing stores

  - profits
  - stability
  - connection
  - warm-heartness
  - dominance

3   Evidence of Design Iteration

There are many iterations we have done.

Initially, we analysis the Amazon Echo ethics case, and wrote down stakeholders, values, value tensions. Draft graphs are shown below.
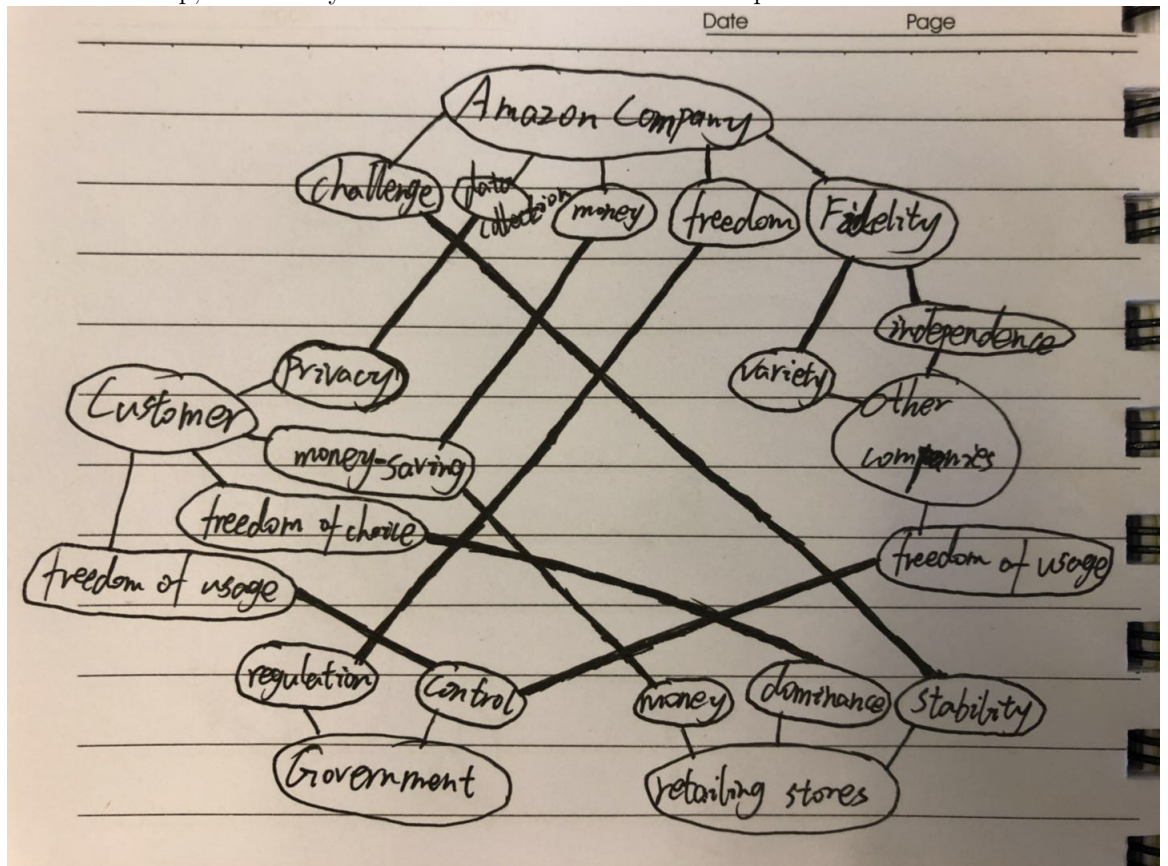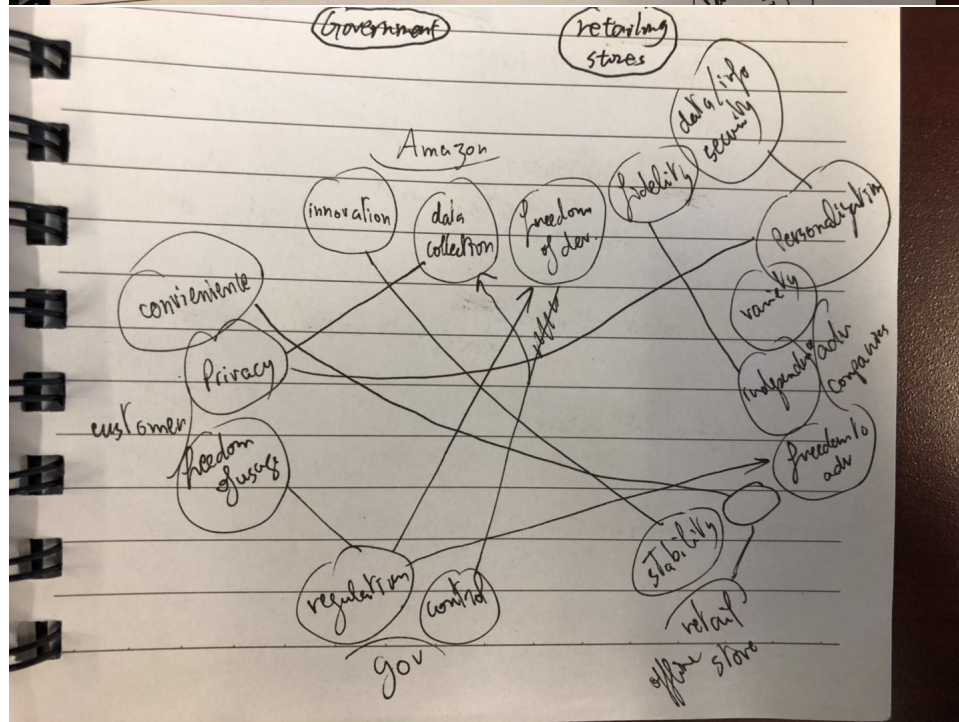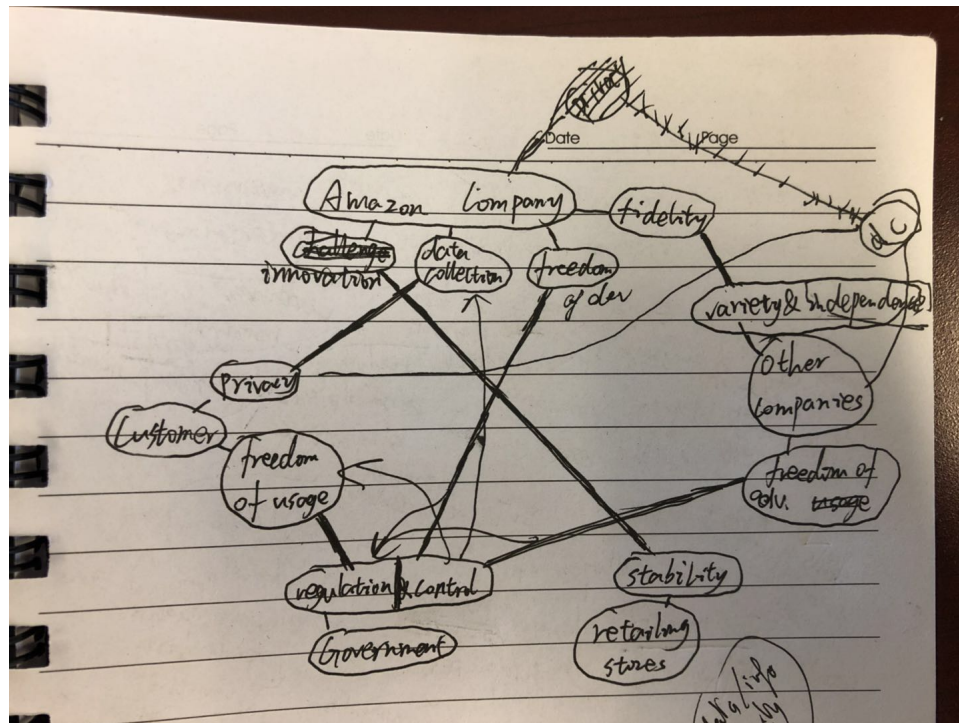
Stakeholders:
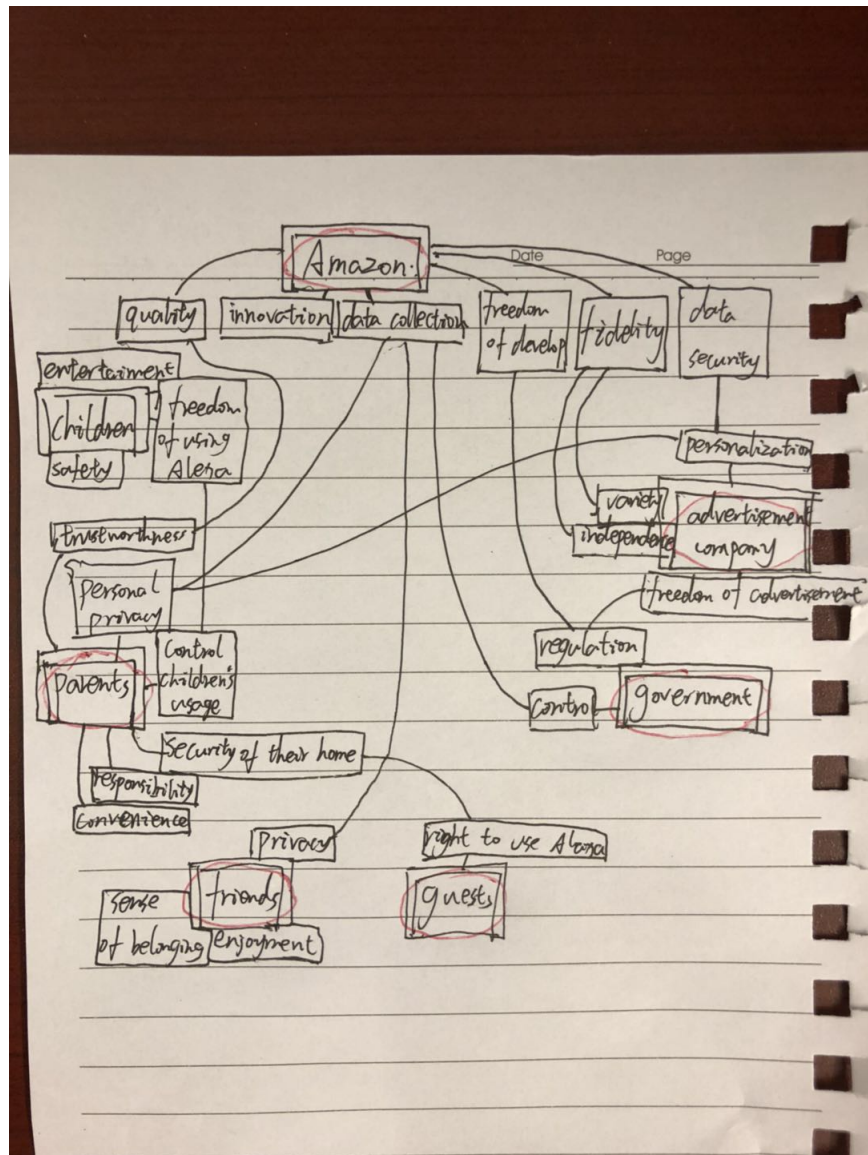
owner of the home (privacy, safety, convenience)

△ Amazon company (responsibility, entertainment

△ Amazon Echo Smart Speaker   trust   wariness scalability
                          parents: creativity
money family members ⟨ children freedom.   leadership money
accessibility
data collection
advertisement company   personal privacy
influence   guests of the home   companion

△ Smart devices   IoT mindfulness |Alexa|
                        self-control

skills collection
data   software developer of Echo, AI developer of Echo
robustness governments: duty, regulation   accuracy, precision
data security   generalization
other business companies.   robustness.
                          competition growth.   storylines
          AWS   leadership. money niches

        housekeeper
        software developer of other companies who have
                                        develop skill
                                              Alexa
        manufactor of other devices → control
                                              skills

        retailing stores

Restrain Amazon

owner of the house privacy, safty, convinience, entertainment, money saving, freedom to choose

Amazon. { AMS Department money, responsibility, trustworthiness, scalibility, creativity, leadership, restraint, fidelity
          Echo Dep

speaker   protection for kids, control,
parents
children   freedom, privacy, entertainment, accompany,
advertisement company: money, accessibility, data collection, influence.
guest: privacy, convinience
Smart devices company

developer   skill, data collection, security of the data, | AI dev : Accuracy, generalization.
government   duty, control, regulation.
other busness company   competition; leadership, money, stability, growth, sucess
house keeper:

Application developer on Echo   control, freedom, cooperation, money, profit
manufactuer.   focus, flexibility, cooperation, variety, independence, innovation, individuality.
retail store
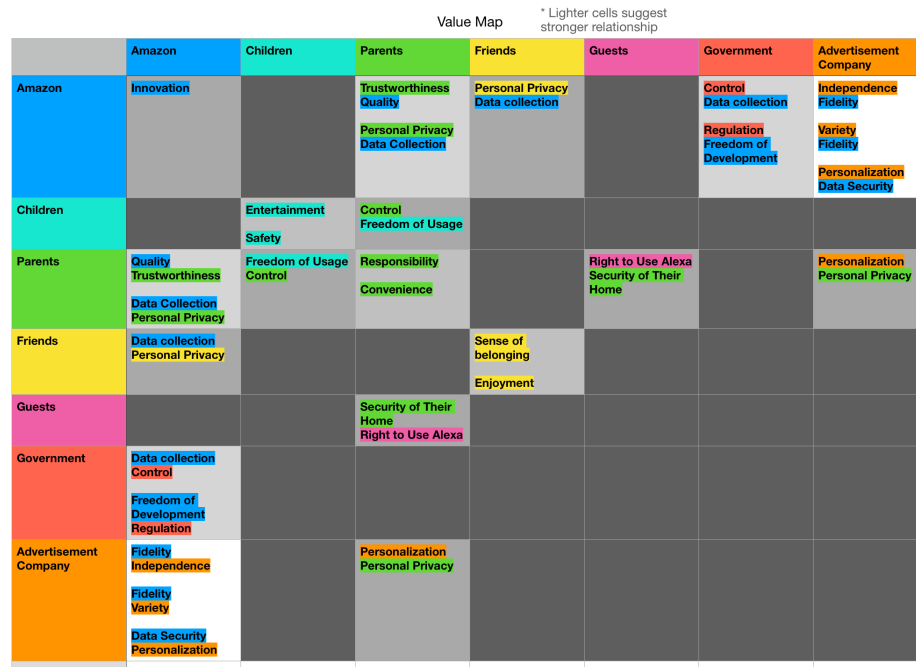   profits, stability, connection, warm heartless, dominance

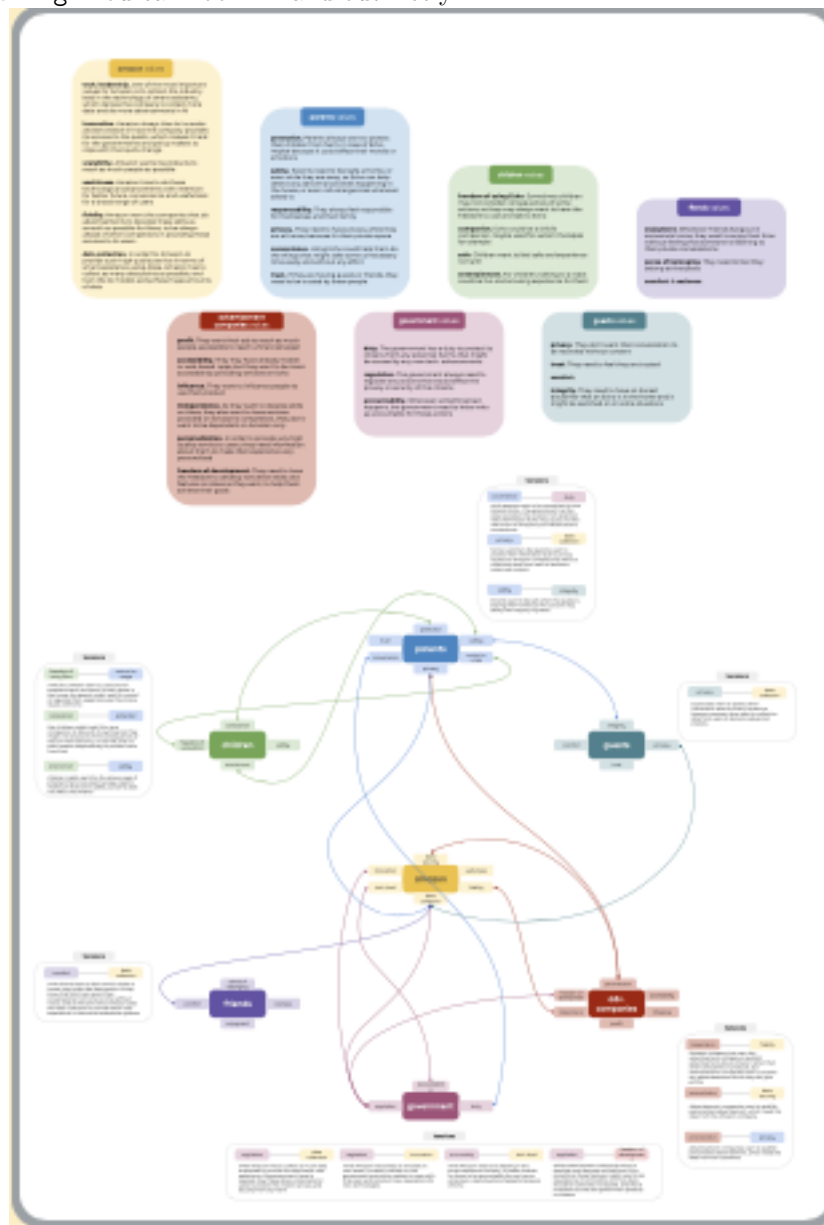In the next step, we re-analysized values and draw the value map.

We also consider the heatmap visulization method, each word represents the value, and value tensions are represented as combination of values. In addition, each color can show each stakeholder.

Value Map

* Lighter cells suggest stronger relationship

	Amazon	Children	Parents	Friends	Guests	Government	Advertisement Company
Amazon	Innovation		Trustworthiness / Quality; Personal Privacy / Data Collection	Personal Privacy / Data collection		Control / Data collection; Regulation / Freedom of Development	Independence / Fidelity; Variety / Fidelity; Personalization / Data Security
Children		Entertainment; Safety	Control / Freedom of Usage				
Parents	Quality / Trustworthiness; Data Collection / Personal Privacy	Freedom of Usage; Control	Responsibility; Convenience		Right to Use Alexa; Security of Their Home		Personalization; Personal Privacy
Friends	Data collection; Personal Privacy			Sense of belonging; Enjoyment			
Guests			Security of Their Home; Right to Use Alexa				
Government	Data collection; Control; Freedom of Development; Regulation						
Advertisement Company	Fidelity; Independence; Fidelity; Variety; Data Security; Personalization		Personalization; Personal Privacy				

Finally, we use google slides to build up our final value map, the below graph is a brief overview. More details please check link: `https://docs.google.com/presentation/d/1nQmXIbWmeZUNLPVEX4FJi_B35GRE-oLK9sPH9UOmlD0/edit?usp=`

sharing. You can zoom in and out freely.

More details of draft graphs can be seen in .png and .jpeg source pictures.