

## Introduction

When I registered for DIS classes this semester, Innovation through Design Thinking was one of the top choice that I was in favor of. Matter of fact, I am quite familiar with this process thanks to past experience working in teams and reading online articles. Last summer, I participated in a professional boot camp called Koru in Seattle, in



which I was introduced to the concept of Design Thinking and later practiced it in a team of 4 to solve a mock business challenge for Zillow, the biggest real estate data company in the US. In addition to that, I have been reading a lot of business books (such as Peter Thiel's "Zero To One" and Eric Ries' "The Lean Startup"), going through many online articles on Entrepreneurship, Inc Innovate, FastCompany, TechCrunch etc., and watching videos from IDEO that mention the term "Design Thinking." Thus, I enrolled in the class fully confident with my prior knowledge about the topic.

## Reflection

Overall, I have to say that this is definitely my favorite class out of the 4 that I signed up for this semester. There are many reasons to back my opinion, but here are the top 3 qualities that make the class very attractive:

- 1> **The level of talents in class:** The class has an extremely diverse set of majors and work background – finance, design, entrepreneurship, engineering, psychology,

anthropology... Each person has his/her own unique thoughts to contribute in every conversation in class. For my team specifically, we have an Arts major (Cordelia), a Real Estate Management (Lucas), a Strategic Finance & Consulting (Vicky), and a Computer Science (myself). We were each able to put on our knowledge and appreciate others' opinions while working together on the Practice project.

- 2> **The collaborative and engaging environment in class:** This is many thanks to our instructor, Mike Fuhr. He did a fantastic job at setting up the classroom vibe with engaging visual PowerPoint and enchanting background music. But more importantly, every student want to participate in class conversations – whether in a textbook chapter review, a field study visit reflection, or a case study discussion. Additionally, the fact that Mike occasionally mix people up in teams help us get to know each other better, rather



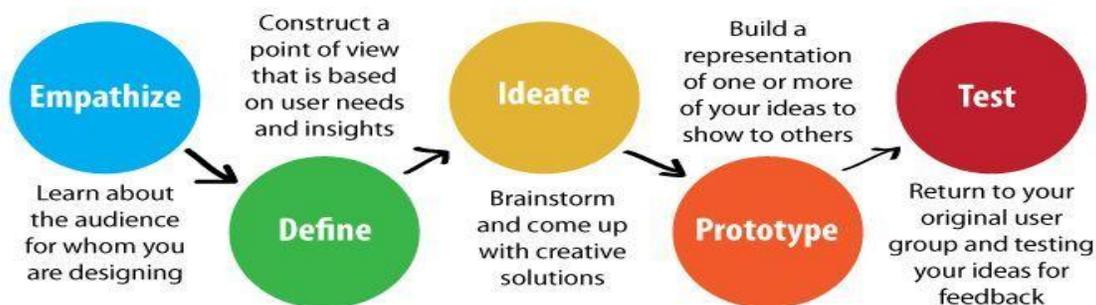
than just the teammates in the main practice project.

- 3> **The case studies, both in textbook and during company visit:** Tim Brown's "Change by Design" is a perfect textbook for this class, as it is filled with case studies and detailed examples from the original coiner of the term "Design Thinking" – the firm IDEO. The 3 company visits – CIID, Hatch & Bloom, and ReD Associates – were eye-opening and inspiring at the same time, as the level of innovation these firms are bringing up is top-notch. Overall, listening and exchanging ideas with professional design thinkers really help paint a vivid picture of how the whole design thinking process looks like in real-world application.

## **Practice Project**



I would say the best decision we made right at the beginning is narrow down the scale of the problem we intended to work on. From the prompt of 6 problems posed in the early classes, we quickly chose one topic that is distinctive of Copenhagen: the biking culture. As Americans studying abroad in Denmark, it is clear that many DIS students are either afraid of biking due to lack of experience and intimidating expertise levels of local cyclists or unmotivated due to misinformation and inconvenience. We noticed this problem only after about 2-3 weeks living here: Many Americans either live very close to school so they can just walk, or use public transportation (bus and metro train) to navigate at all times. This is not surprising as Copenhagen is a relatively small city with highly efficient public transportation system. Assuming that problem in mind, we came up with a dream scenario: “DIS students naturally turn to biking as a mode of transportation and during that process, they can get to know Copenhagen, its people, and its culture more intimately.”

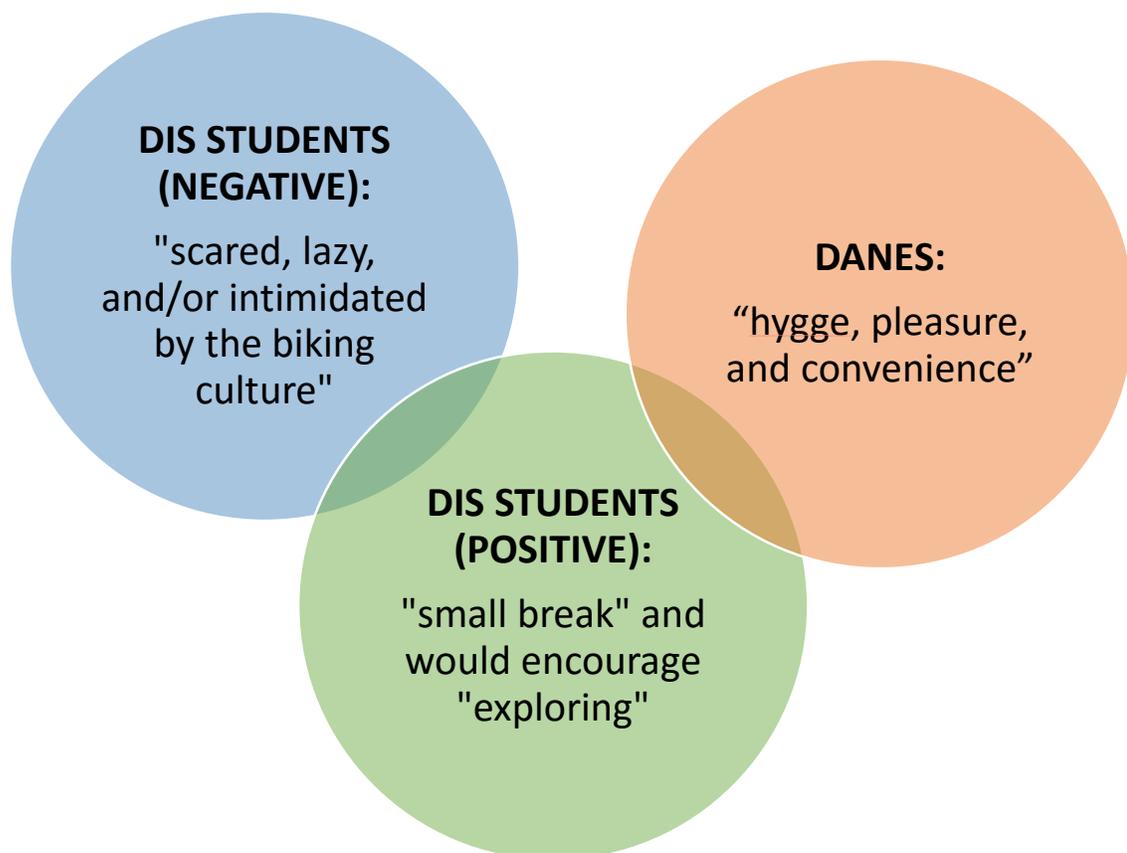


## I/ Empathy:

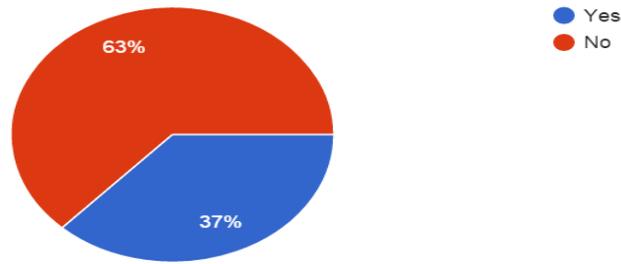
During our Empathy phase, we use interviews, extreme user interview, survey, and observation:

- Interviews: The 4 of us interviewed other DIS students who live in various housing options (Kollegium, DRC, LLC, homestay) and Danes who bike.
- Extreme user interview: Corderlia interviewed the owner of the bike rental company and got a lot of useful information about the infrastructure of the city that encourages biking.
- Survey: We posted an online survey to the DIS Facebook group and received 63 responses. The survey measures the frequency of bike usage and reasons that keep people from getting a bike.
- Observation: We each observed outside our housing, in major transit stations (Amager and Norreport), and outside DIS buildings to see the frequency of people using bikes.

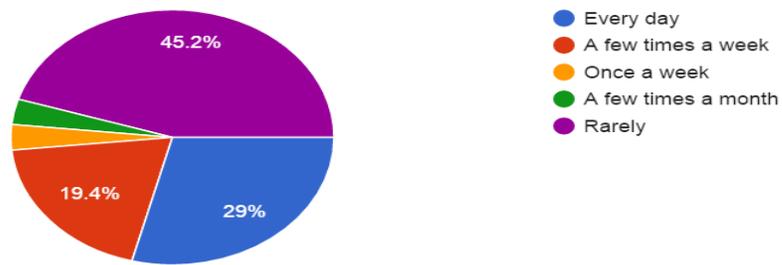
Here are some of the results that we gather from our Empathy phase:



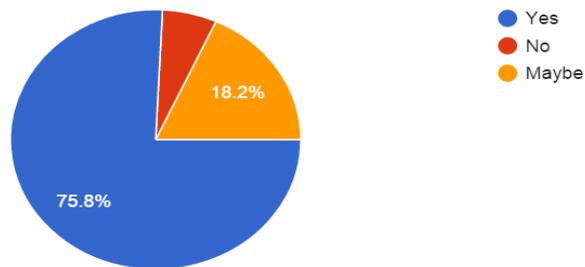
Do you have a bike? (46 responses)



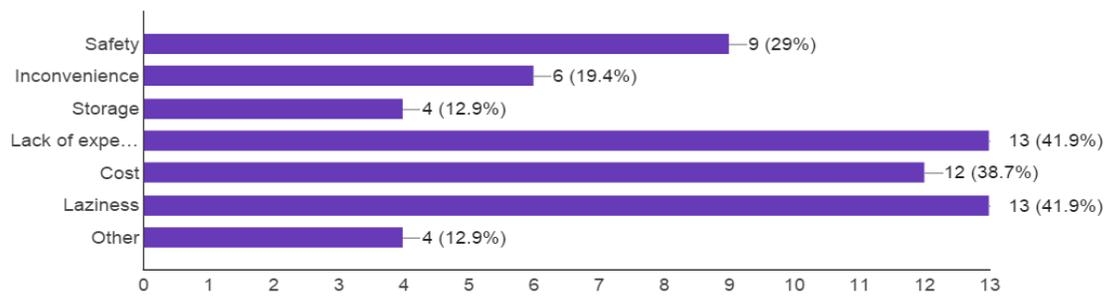
How often do you use it? (31 responses)



If you do not currently use a bike, would you consider it? (33 responses)



What keeps you from getting a bike? (31 responses)



II/ Define:



Using both quantitative and qualitative data, we mapped out our users' thoughts and feelings. Then using the prompt given in class, we derived into our final problem statement:

**“How might we inspire and engage DIS students to take greater ownership of their study abroad experience through biking?”**

III/ Ideate: Personally, I think this is the most challenging phase throughout the process. With the guidance that there are no bad ideas, we came up with a lot of them, both practical and some over the top. This image captures some of our major ideas:



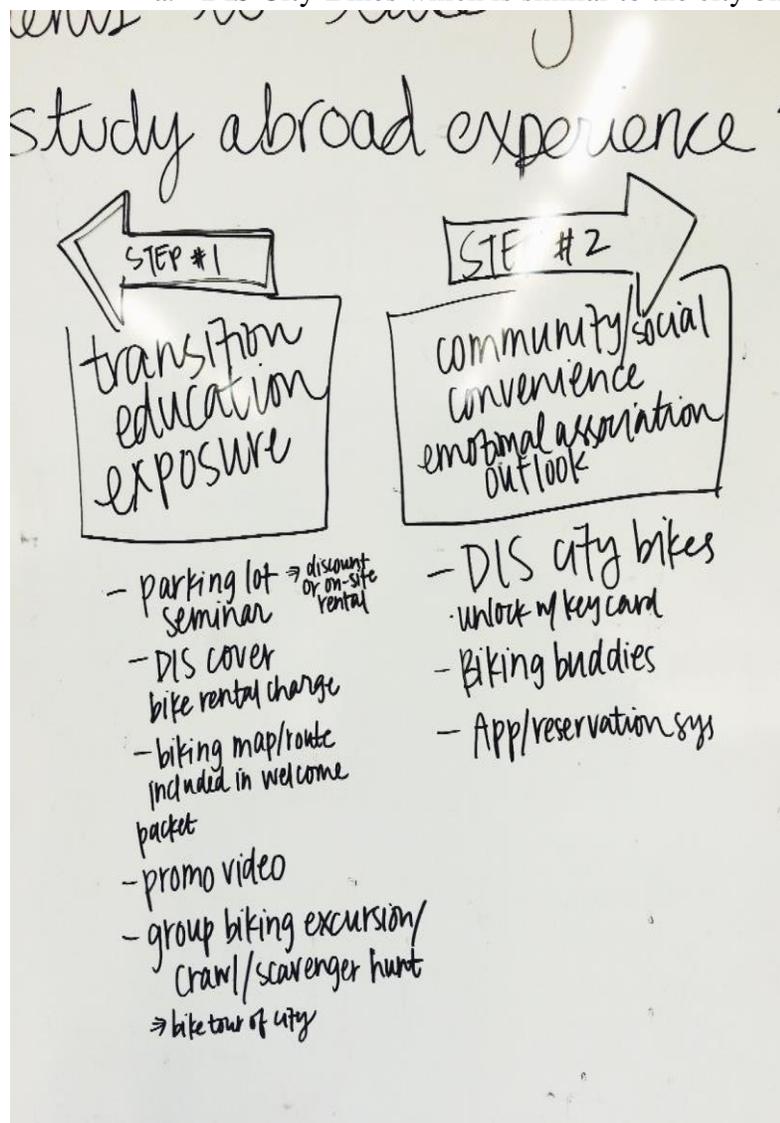
However, we managed to use post-it notes to categorize all the ideas into 2 major approaches:

**1> Transition, Education, Exposure:**

- a. A workshop to educate students on how to ride a bike
- b. DIS can possibly cover the bike rental charges
- c. Biking map/route being included in the arrival packet
- d. A promo video about Copenhagen biking culture
- e. Some sort of biking excursion / scavenger hunt throughout the city

**2> Community, Social Aspect, Convenience, Emotional Association:**

- a. DIS City-Bikes which is similar to the city bike system of Copenhagen

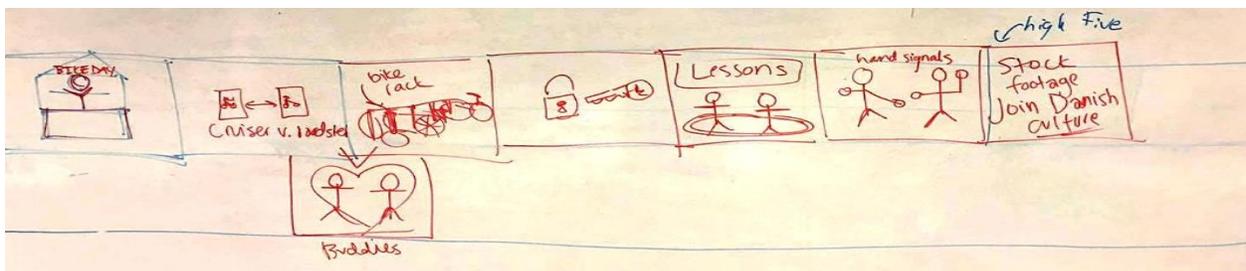
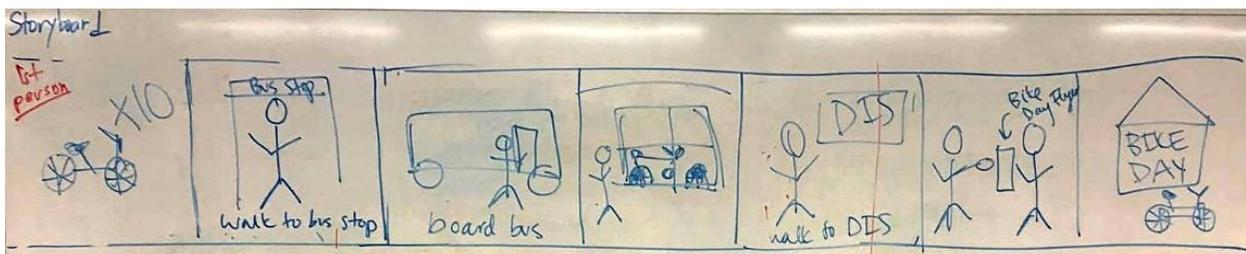


- b. Biking buddy (with Danes or other DIS students)
- c. A web experience so students can customize their own bikes
- d. A contest to see who can bike the most

One of the things that really helped us with the ideation phase is the brainstorming session with the incoming guests. We received many specific ideas based off the 2 approaches mentioned above, such as having bikes associated with students' housings or replacing the transportation pass with money to purchase bike.

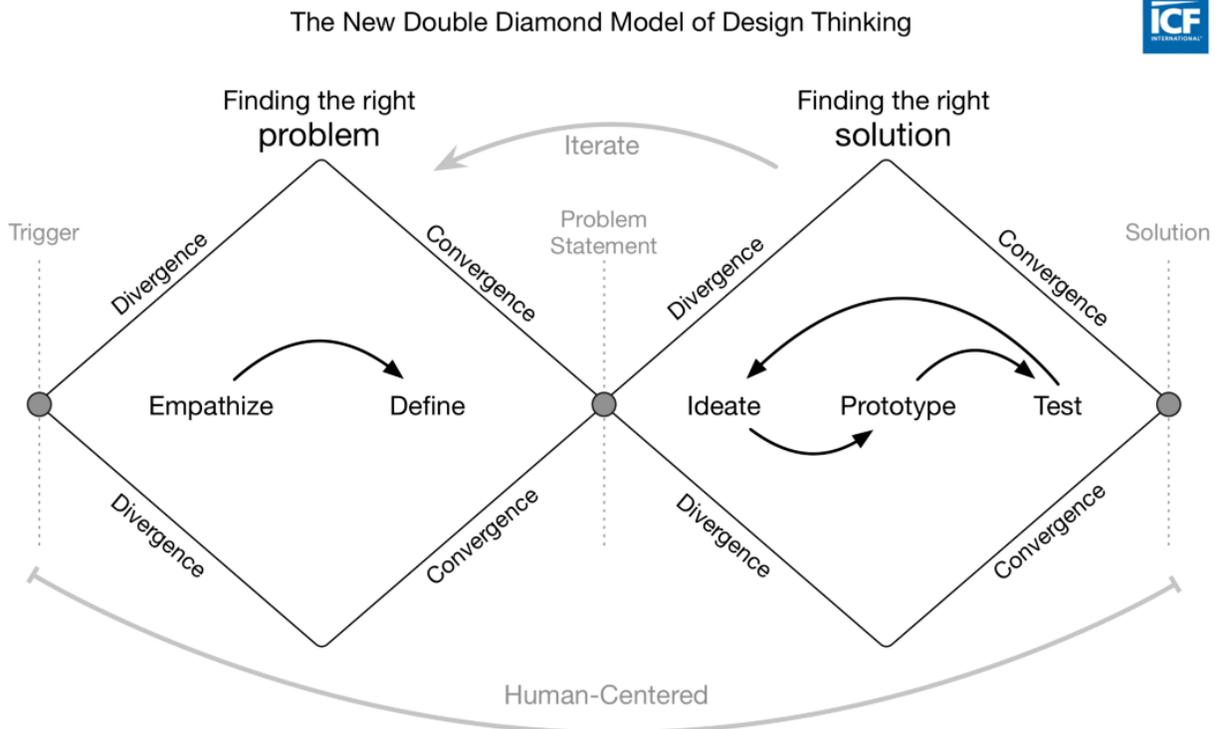


**IV/ Prototype:** For the final video prototype of this class, given the tight deadline and limited resources, we decided to do a Bike Day workshop, which covers both approaches we have come up with in the Ideation phase. Specifically, the workshop helps educate students on how to ride a bike as well as introduce a biking buddy incentive so that students can bike with their friends.



## Future of Design Thinking

I found a new design thinking model from an online article that contains multiple visual illustrations of Design Thinking:

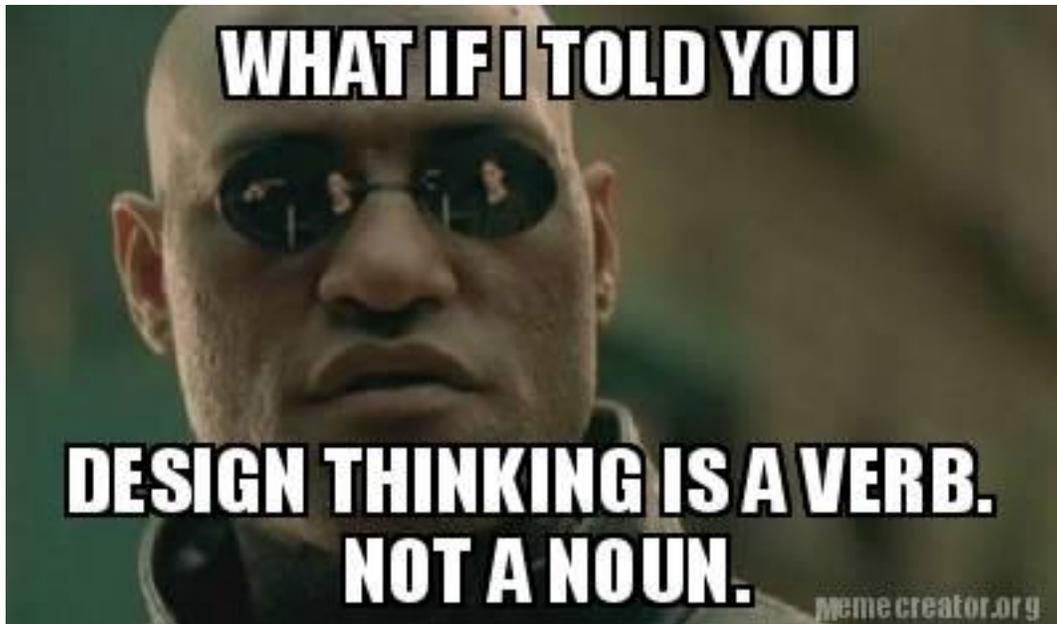


This improved model combines all the old ones together, including the Stanford D-School 5-step model, the Design Council’s double diamond model, Don Norman’s “Divergence-Convergence” model from his book “Design of Everyday Things”, and even IBM’S “Loop” model. It would be interesting to see how the design thinking process will keep evolving considering the incorporation of advanced technology and new business approaches.

### Personal Take-Away

As a Computer Science major, I mainly code and work on projects that require logical reasoning. After college, I want to get a job in a tech company that builds awesome software products that have significant impact to the world. More importantly, I want to go into product management, a professional role that is the intersection of business, design, and development. One of the reasons I want to learn about design thinking is to fulfill my needs of understanding the business and

design context in building a product. I would have to say that this class satisfied my expectation and even encouraged me to raise my curiosity about design thinking higher. Hopefully, I can apply this knowledge into a real-world context in the future!



### **Citation**

Lean Startup. "The Lean Startup Methodology." <http://theleanstartup.com/principles>

Going Awesome Places. "Copenhagen's Bicycle Culture." Last modified Feb 20, 2015  
<http://goingawesomeplaces.com/copenhagen-denmark-bicycle-culture/>

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<https://medium.com/@JasperLiu/visualizing-the-4-essentials-of-design-thinking-17fe5c191c22#.k280uv8gq>