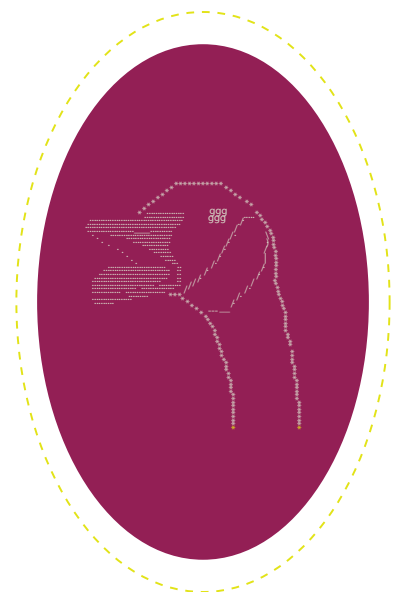
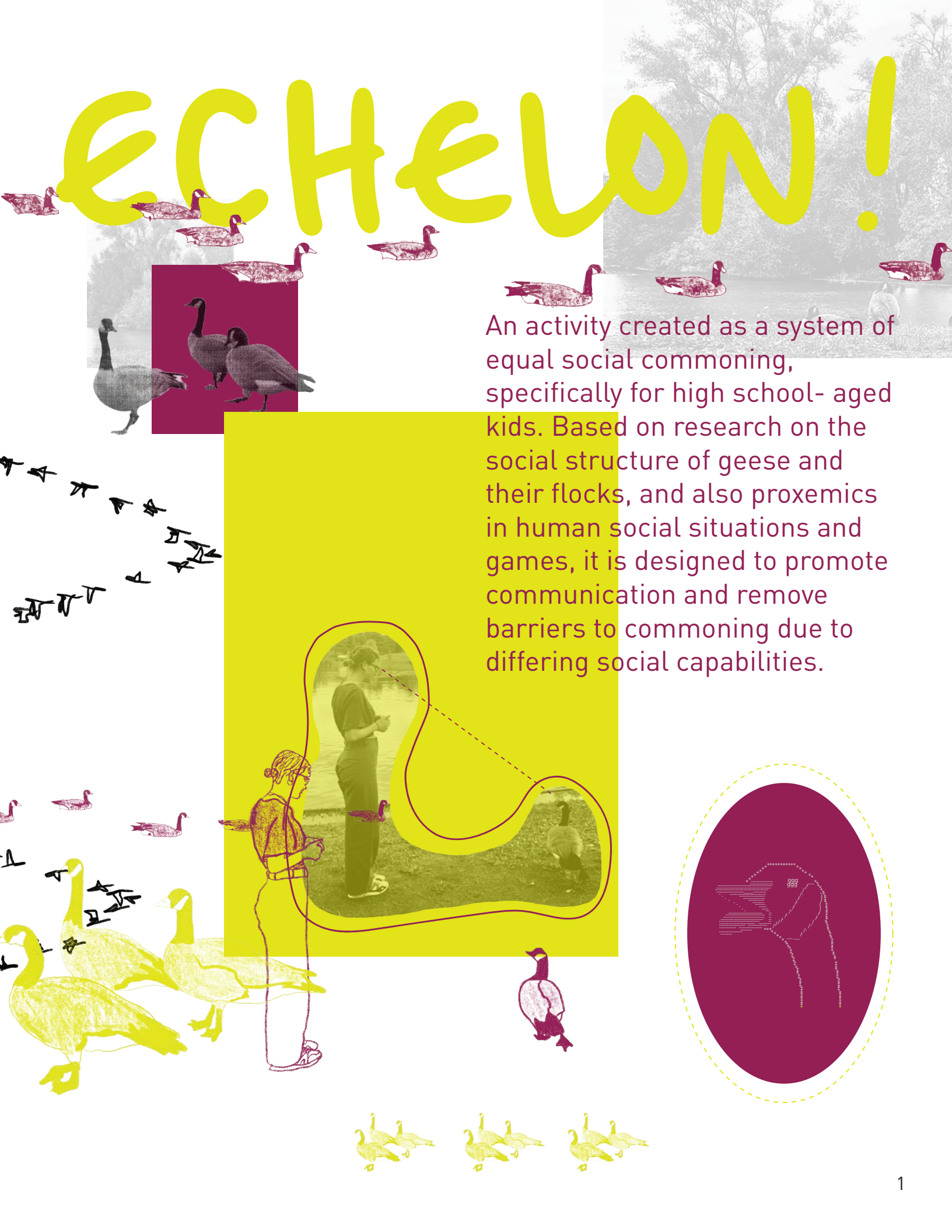


# ECHELON!

An activity created as a system of equal social commoning, specifically for high school- aged kids. Based on research on the social structure of geese and their flocks, and also proxemics in human social situations and games, it is designed to promote communication and remove barriers to commoning due to differing social capabilities.

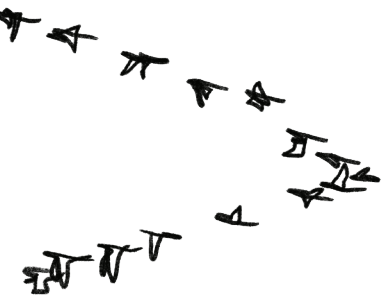


# Echelon!

Leah Blulette Schutz

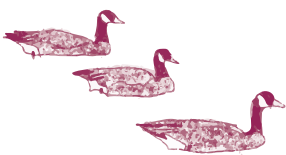
Division of Multi- Disciplinary Design,  
University of Utah

DES3520-001  
Design Product Studio 2  
Elpitha Tsoutsounakis

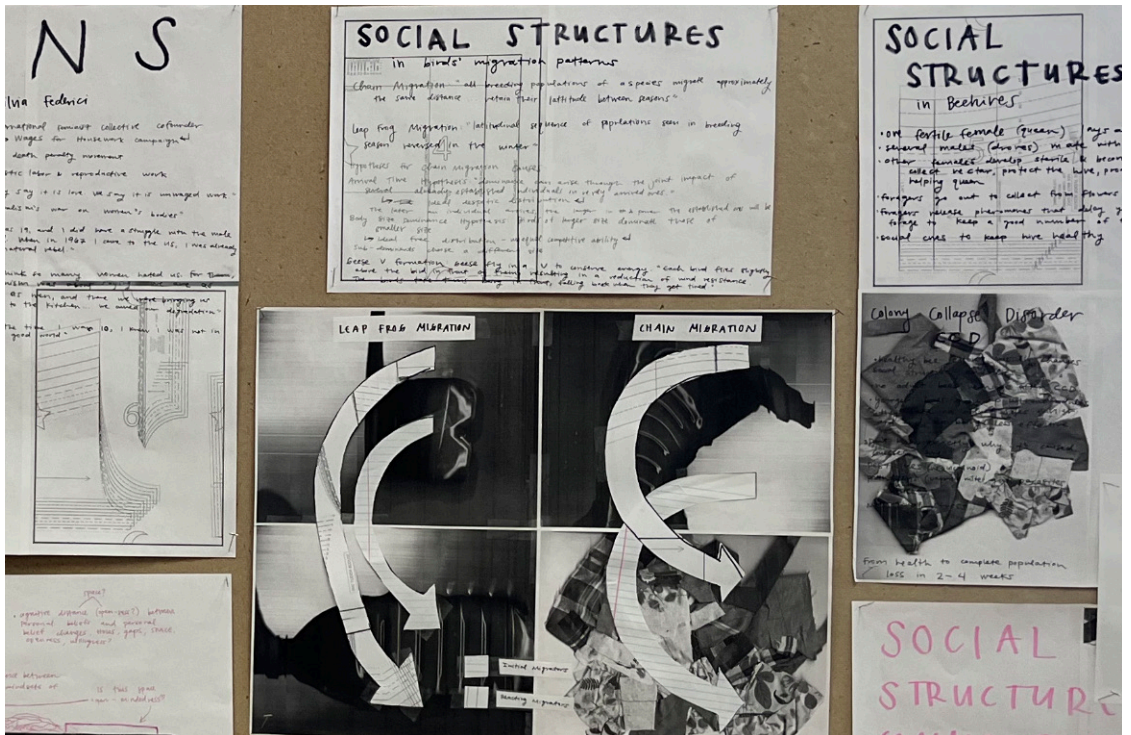
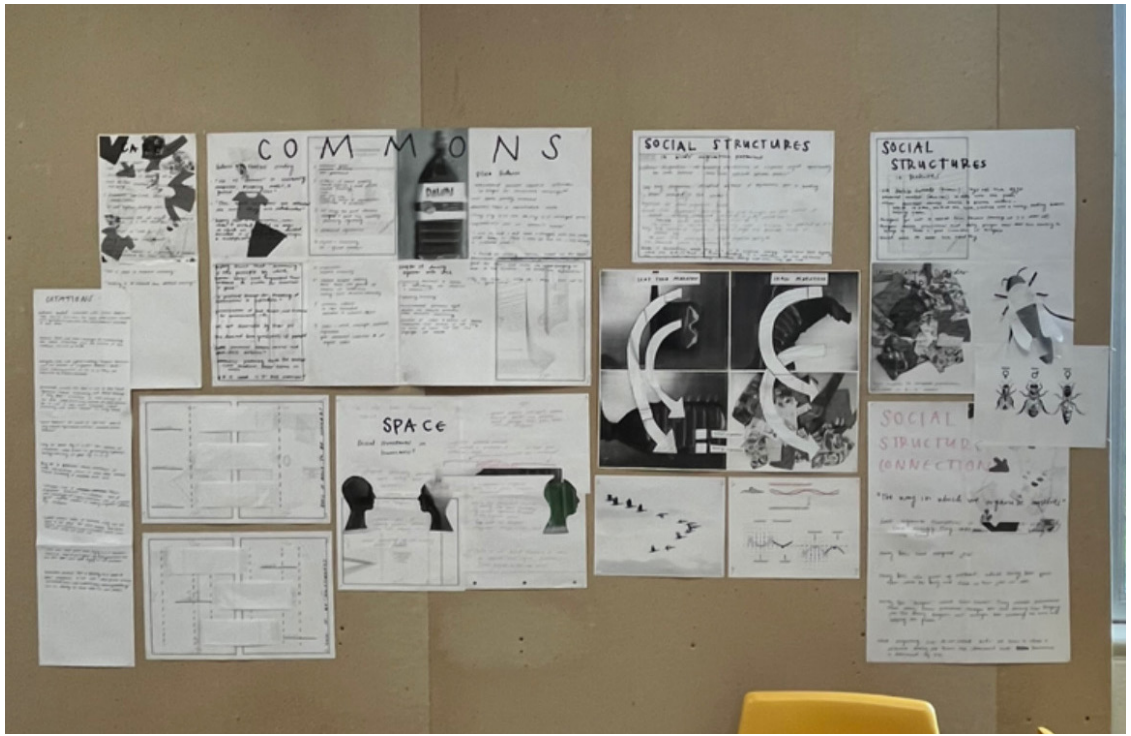


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# Research and Observations



My initial research was primarily focused on different social structures that could potentially exhibit characteristics of Commons. I was interested in human social situations, bees within their hives, migration patterns of birds in relation to other flocks of birds, and also geese, specifically, within their flocks. After my initial research, I decided to stick with geese and their behavior with their flocks.



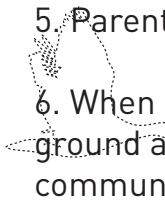
## Initial Curiosities

How do the social systems of other biological models work? Do their systems naturally exemplify “commons” better than our own? How can we implement findings from other social systems into a social system of humans?

Social situations are often naturally “unequal” for humans, due to our individual social capabilities. How can we guide these social situations toward equal comfort in connection?

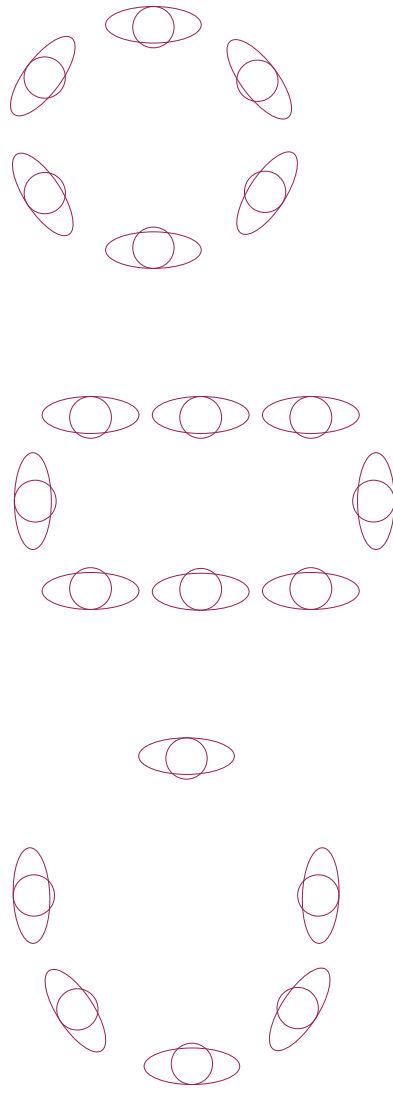
# goose group behavior

1. When migrating, geese honk to encourage others to keep their speed.
2. When a goose gets sick or injured while flying, two other geese will leave the formation with it until it is either well enough to fly, or dies. Only then do the other two geese rejoin the formation.
3. Geese have been found to have lower heart rates when flying in a group than when flying alone.
4. They fly in the V or J echelon so that the leading goose can do most of the work, while the geese behind can coast on the up wash of the leading goose's flaps. They rotate positions and take turns being the leader.
5. Parent geese fly with their children during their first migration.
6. When geese can tell the food is getting scarce and the water and ground are freezing, they honk and point their beaks to the sky to communicate with the other geese they think it is time to start their migration.



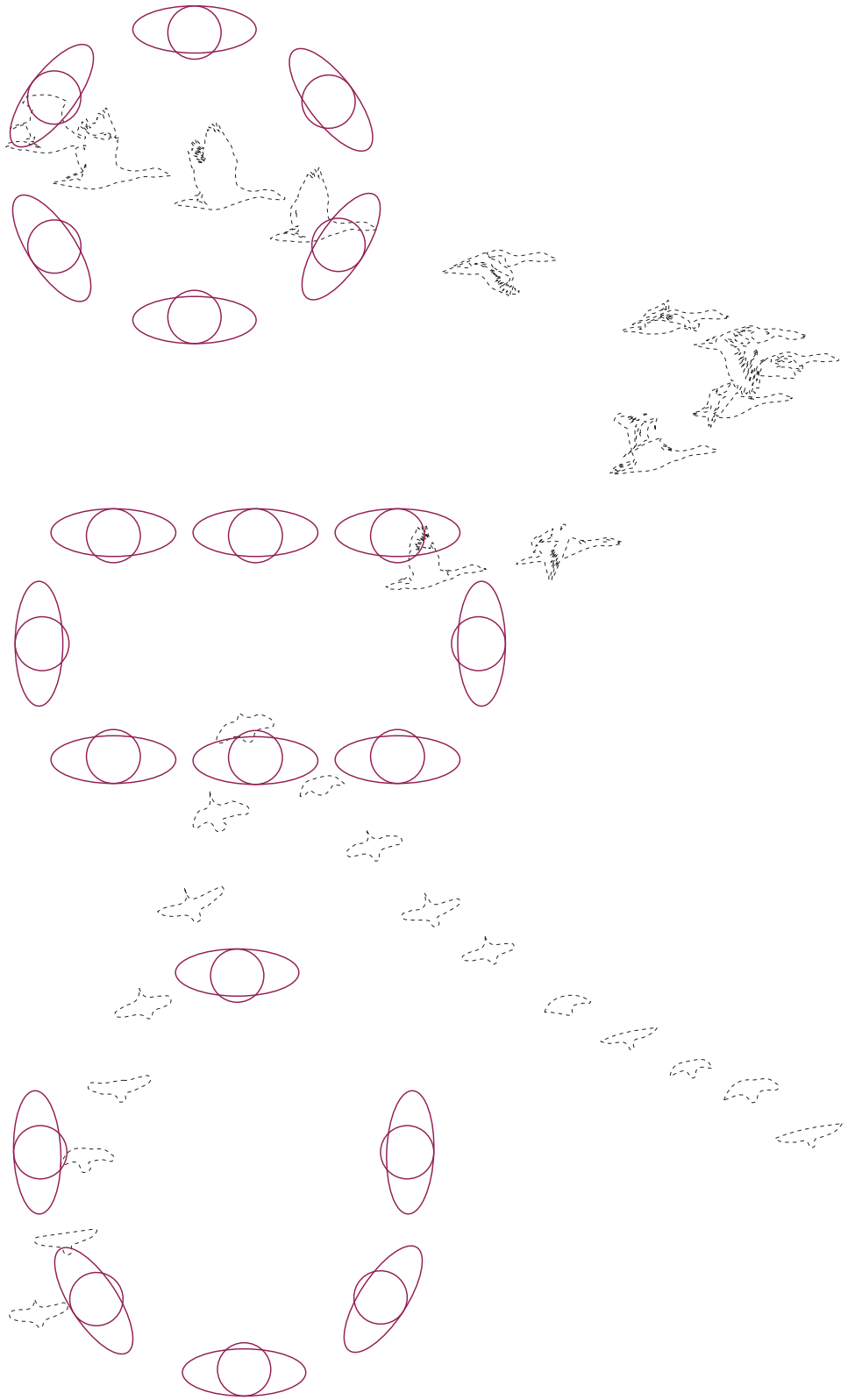
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Science Reference Section. "Why Do Geese Fly in a V?" The Library of Congress, 19 Nov. 2019, <https://www.loc.gov/everyday-mysteries/zoology/item/why-do-geese-fly-in-a-v/>.  
Spencer, Chris. "5 Things Geese Can Teach You about Teamwork." Bill Gosling Outsourcing: Contact Center Solutions For Your Business, <https://www.billgosling.com/blog/5-things-geese-can-teach-you-about-teamwork>.

# Research and Observations



Studies of the spacial organization of geese and the spatial organization of humans.

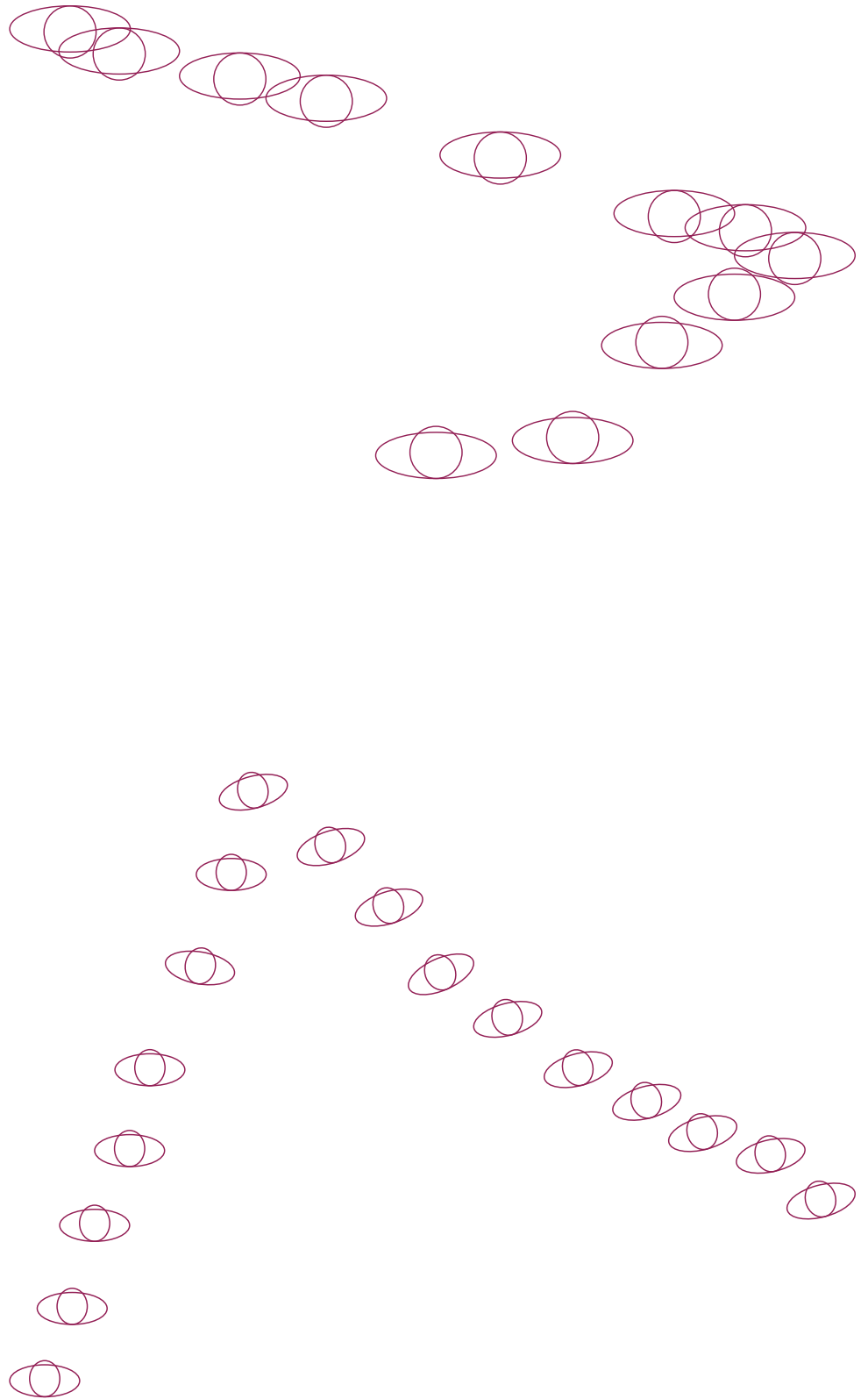
# Research and Observations



Studies of the spacial organization of geese and the spatial organization of humans.

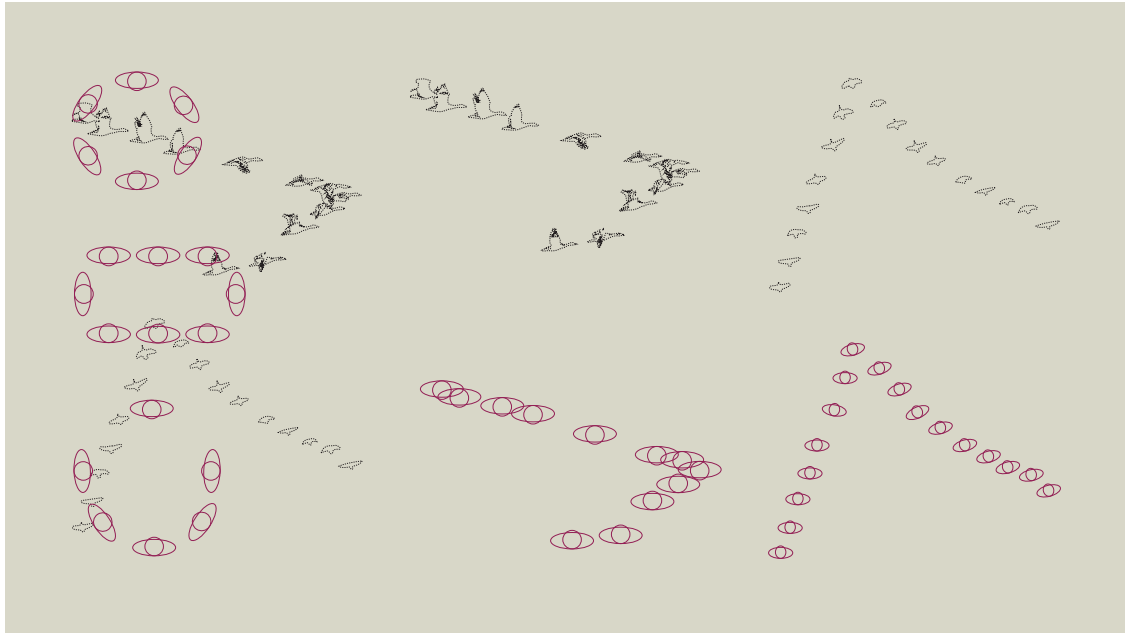


# Research and Observations



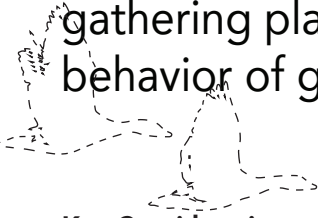
Studies of the spatial organization of geese and the spatial organization of humans.

## Research and Observations



Studies of the spatial organization of geese and the spatial organization of humans.

Design a product to encourage human connection in a physical gathering place, modeled after the behavior of geese and their flocks.



**Key Considerations**

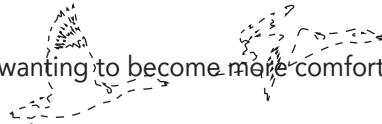
1. Encouragement
2. Loyalty
3. Comfort
4. Teamwork
5. Care
6. Communication



**Who:** People who are wanting to become more comfortable together

**What:** Increased connection

**Where:** A physical gathering place



Leah Bluetie  
Schutz

## Key Characteristics Taken from Goose Group Behavior

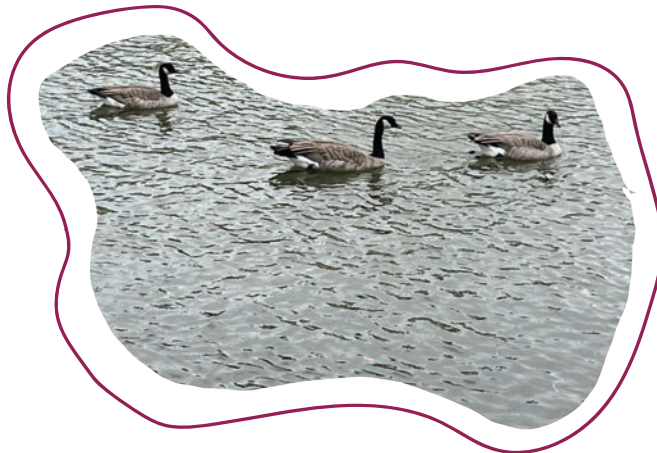
encouragement

loyalty

teamwork

care

communication



Rather than finding a design flaw in my research from geese and their flocks, I wanted to use their behavior as a model of commoning to apply to human social situations.

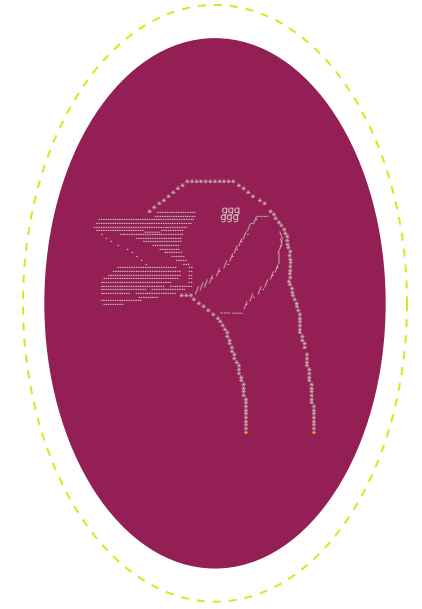
Initially, I wanted to use the goose characteristics to inform the social model for an adult creative studio. This studio was planned to be based around communal sharing of resources and ideas. I designed a draft of a schedule, along with guidelines to a studio commons space. I find a lot of inspiration from friends in my studio space at school, and wanted this to be achieved outside of colleges, with adults of differing artistic focuses, ages, and paths of life.

While this design opportunity was intriguing to me, it didn't feel like the best design application from my research. It felt like applying new philosophies to something that already exists, rather than creating something to solve a problem, and I felt it lacked a strong tie back to my original fascination with social systems.

After presenting the idea of the Goose Group Studio at my mid-review, I was drawn away from the Studio, and toward spaces in which social systems do not feel equal. Fostering equality is an important part of Commons and commoning. I quickly realized in reality, social commoning is fairly tricky to achieve, because everyone has differing social capabilities. With that in mind, I chose to focus on the demographic of High School- aged kids. This is a time at which kids are learning who they are, learning how to best connect with their peers, and dealing with social expectations daily, all while in the public eye. There is little that is done by High Schools to foster equal social situations.

I wanted to create an activity for this demographic that could connect them on a more personal level. I focused on this game being fun- to keep them engaged, simple- as to not create a barrier for anyone, and communication based- so they can get to know about each other. I wanted the activity to create social connection in a guided and comfortable way, while allowing room for spontaneous conversations to arise. This was the birth of "Echelon!"- an activity using a board and a deck of question cards, inspired by the migration of geese and the qualities of Commons they exhibit naturally.

# GOOSE GROUP STUDIO



## *encouragement*

Encouragement will be achieved through daily pin-up sessions. GGS members will have a chance to present ideas and be met with feedback and critique.

## *loyalty*

Loyalty will be achieved through time spent together, not one specific daily model. To incentivize loyalty, sticking to consistent groups will be encouraged.

## *teamwork*

Teamwork will be achieved through V echelon shaped desks, that promote group discussion. For pin ups, There will also be group pinup boards, where work can be left up and other members can add to it, creating a collage of communal work.

## *care*

Care will be achieved by everyone being responsible for the work of others. Everyone will help pin up and pin down together.

## *Communication*

Communication will be emphasized in group discussions. The group will participate in morning discussions which are informal, serving the purpose of catching up. There will also be formal discussions about pinned up work, where one member will present their ideas and work, and then discuss with the other members.



# Schedule

Beginning Catch Up

Individual Work Time at Desks

Group Pin Up

Group Discussion

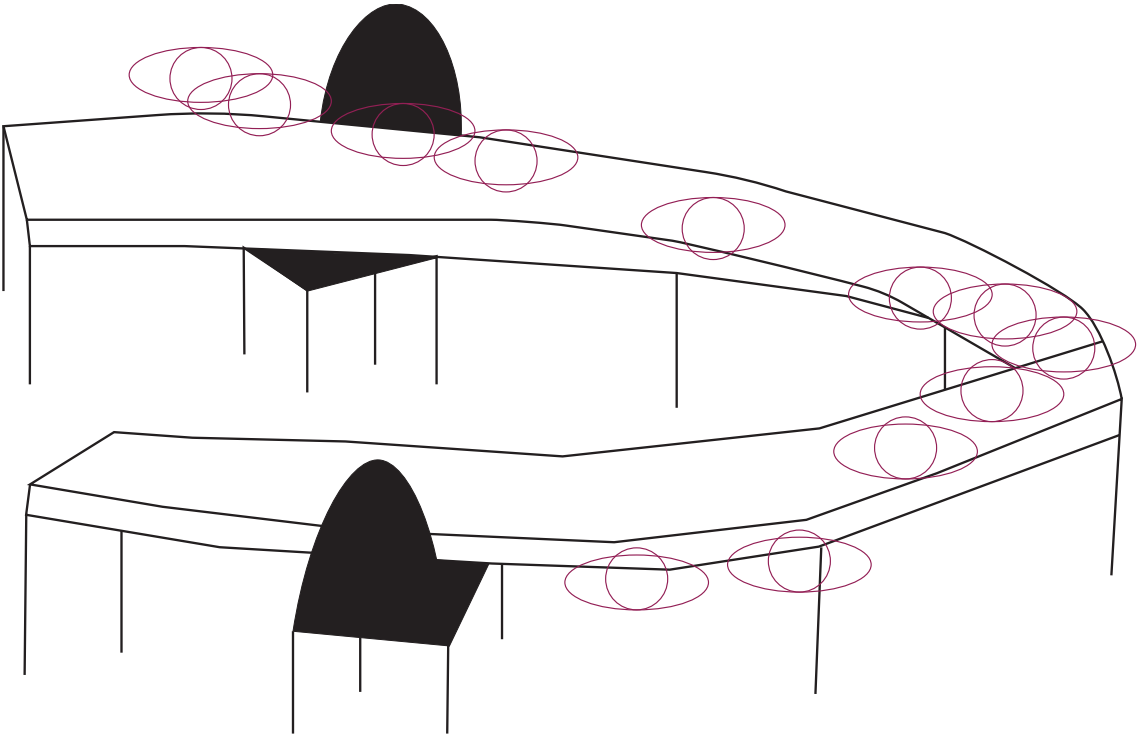
Group Work Time At Desks

...

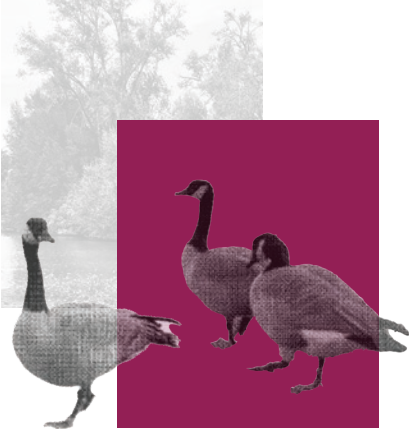
Three sessions: Morning, Afternoon,  
and Evening

Groups will decide how many times  
weekly they want to meet.

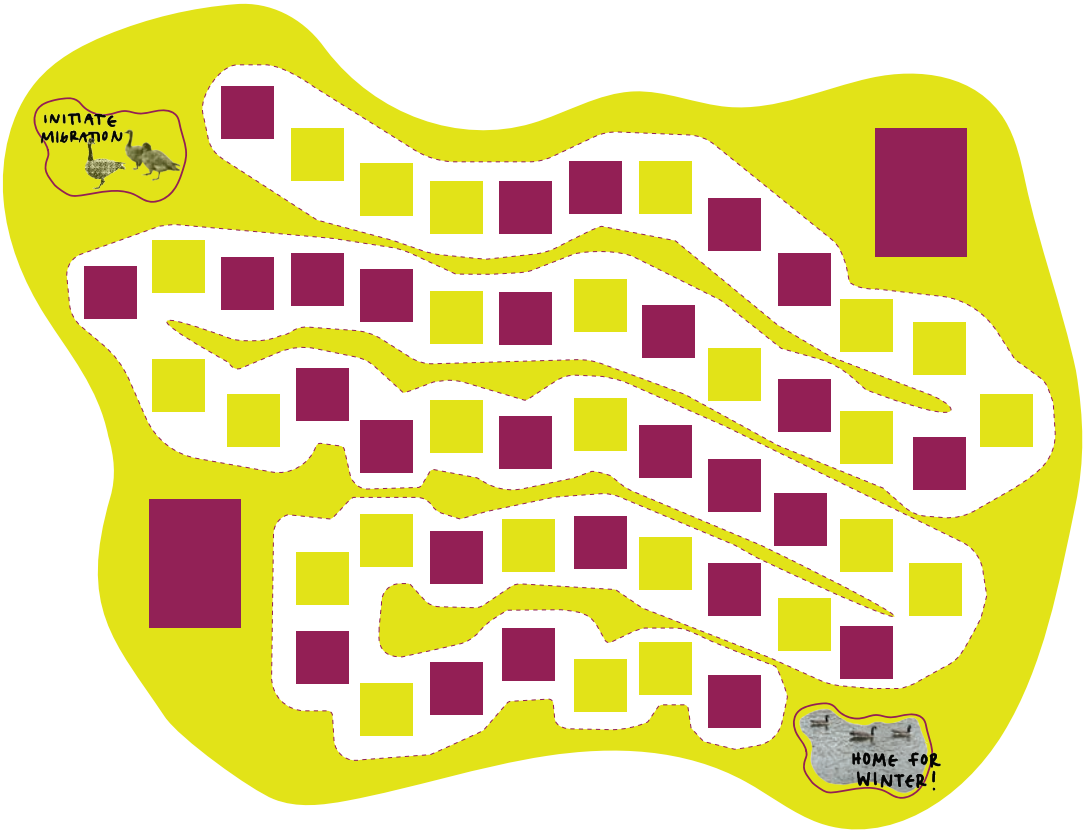
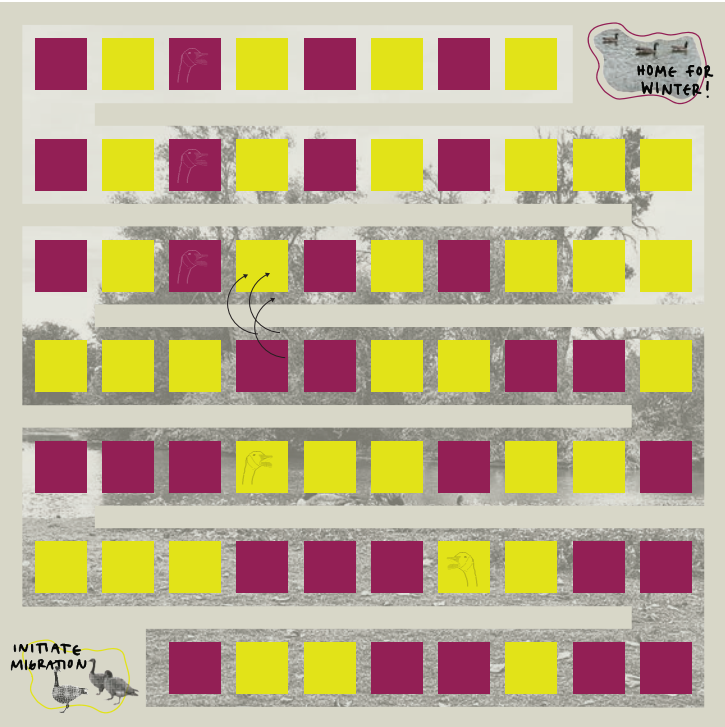




Echelon- shaped table for collaboration in the Studio.



Design Process- Echelon!



The biggest challenge with this design intervention has been designing an experience in which people can open up enough to get to know each other, while not feeling too pressured into vulnerability in a way that may make them feel anxious. Some dualities I was faced with were:

Close enough physically to form connection  
- Enough distance to feel socially comfortable

Enough talking to get to know each other-  
Not too much vulnerability to feel anxious

Enough personal attention to get to know you personally-  
Not too much personal attention to feel put on the spot or called out

I did some research into proxemics, which is defined as: the branch of knowledge that deals with the amount of space that people feel it necessary to set between themselves and others.

Intimate Zone: Contact to 18 in  
Personal Zone: 18 in- 4 feet

It is important to be “articulating design spaces that promote opportunities for social engagements with collocated others through play”

“Animals that obediently tolerate an invasion of their intimate space may become overwhelmed or stressed.”

“The critical characteristic of human behavior in relation to the physical environment is control—the ability to maximize freedom of choice.”

“Often humans do not recognize the signaling of an animal or misinterpret the signals as disinterest or disobedience; yet each signal is part of a message an animal might be trying to convey about personal territory.”

“It’s used during interrogations: Invading this space strategically can provoke anxiety and an adrenaline rush, providing enough pressure to get closer to a confession.”

“The results gave strong indications that the spatial organization of players can influence team spirit.”

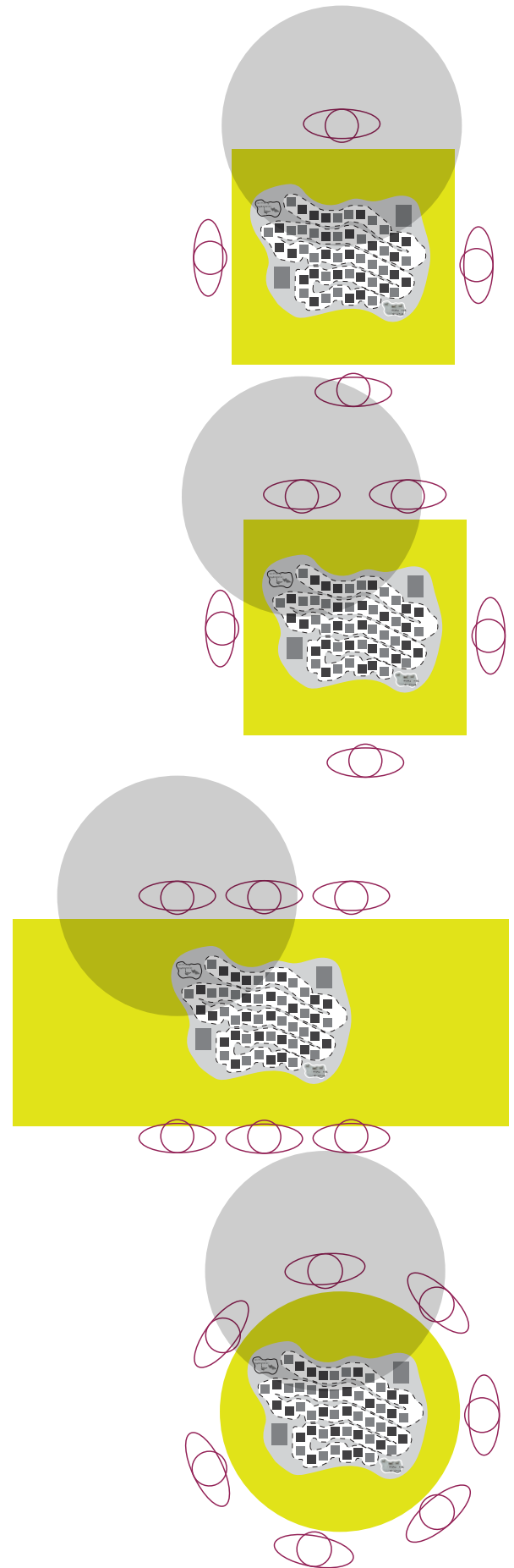
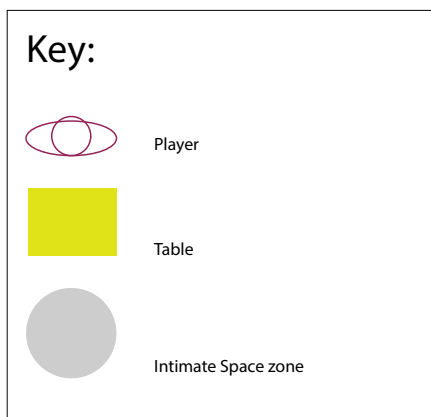
“Avoiding eye contact with others at all times,  
maintaining a poker face with no emotion,  
keeping an eye on the floor numbers as they change”

Butler, K. [2010]. Handbook on animal-assisted therapy theoretical foundations and guidelines for Practice. [A. H. Fine, Ed.] (Vol. 3). Academic Press.  
Costa, L., Veloso, A., & Meatha, O. (2017, July 17). A review proxemics in Smart Game playing. Academia.edu. Retrieved November 2, 2022, from [https://www.academia.edu/33908016/A\\_Review\\_Proxemics\\_in\\_Smart\\_Game\\_Playing](https://www.academia.edu/33908016/A_Review_Proxemics_in_Smart_Game_Playing)  
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Grønbaek, J. E., Linding, C., Kromann, A., Jensen, T. F., & Petersen, M. G. (2019). Proxemics play. Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion. <https://doi.org/10.1145/3301019.3323886>  
Proxemics. Proxemics - an overview | ScienceDirect Topics. [n.d.]. Retrieved November 2, 2022, from <https://www.sciencedirect.com/topics/medicine-and-dentistry/proxemics>  
Smelser, N. J., & Baltes, P. B. (Eds.). (2001). International Encyclopedia of the Social & Behavioral Sciences.

# Design Process- Echelon!

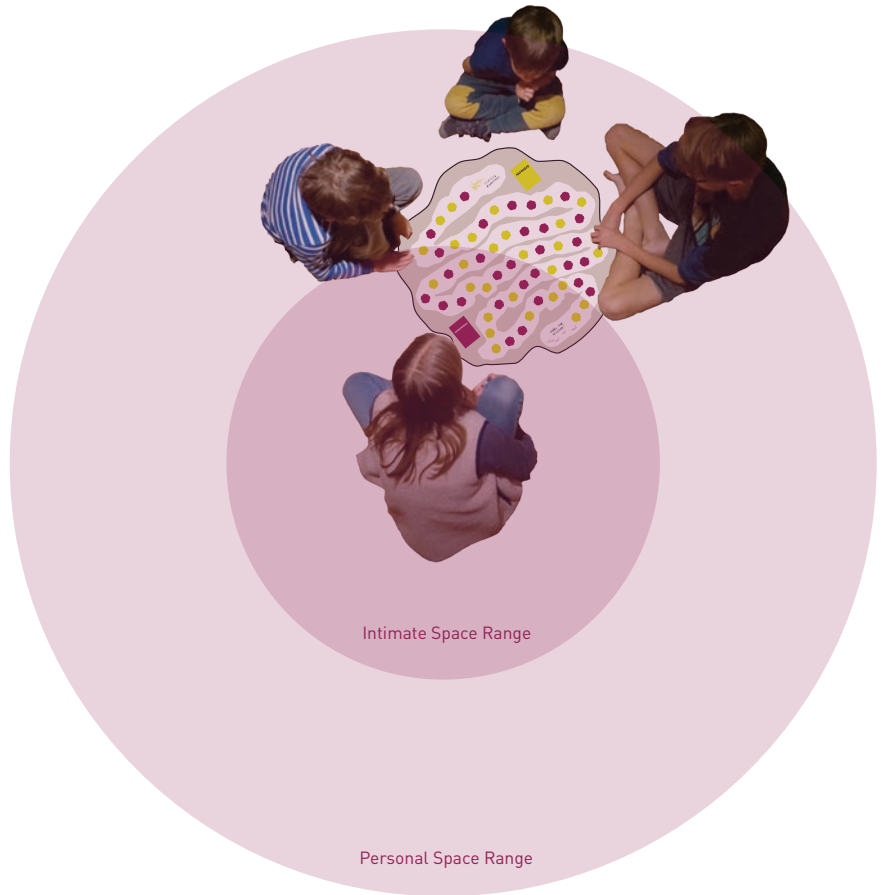
Proximity to other players will differ depending on table shape and size, and also the amount of players. In most classroom settings, it is possible to be in the personal space range, however, in some cases there is an invasion of intimate space. Some players may not mind this, and others might.

The board serves as a gathering place where players can be close enough to have personal connection, but the amount of players and table shape will determine how close players really are to each other. The board does not have straight edges, and therefore does not imply a specific way for the players to be seated.





# Design Process- Echelon!

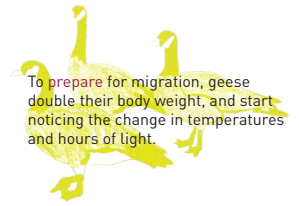


Drawings and studies of proxemics in relation to game playing.

# Design Process- Echelon!

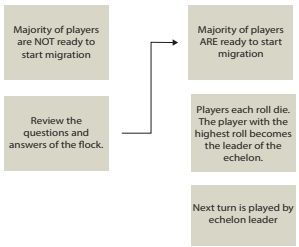
## Prepare

- Players draw a question from the deck and all answer it individually
- When question has been answered by all players, it is set in the "ANSWERED" deck space.
- Must have at least 5 cards in the "ANSWERED" deck space to initiate migration



To prepare for migration, geese double their body weight, and start noticing the change in temperatures and hours of light.

## Initiate

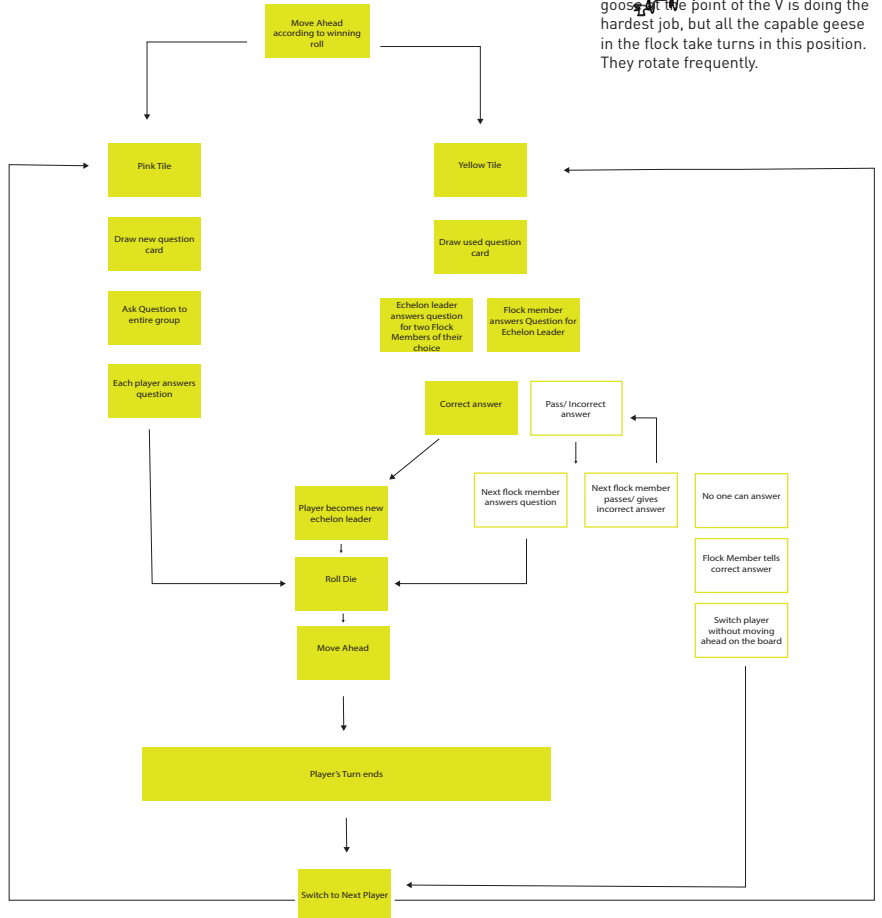


To initiate migration, geese honk loudly and point their beaks to the sky, to communicate to the others that they're ready to leave. If the other geese honk and point their beaks to the sky in response, they begin their migration.

## Migrate

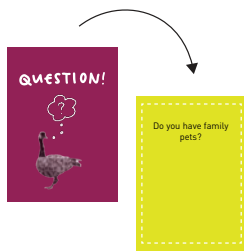
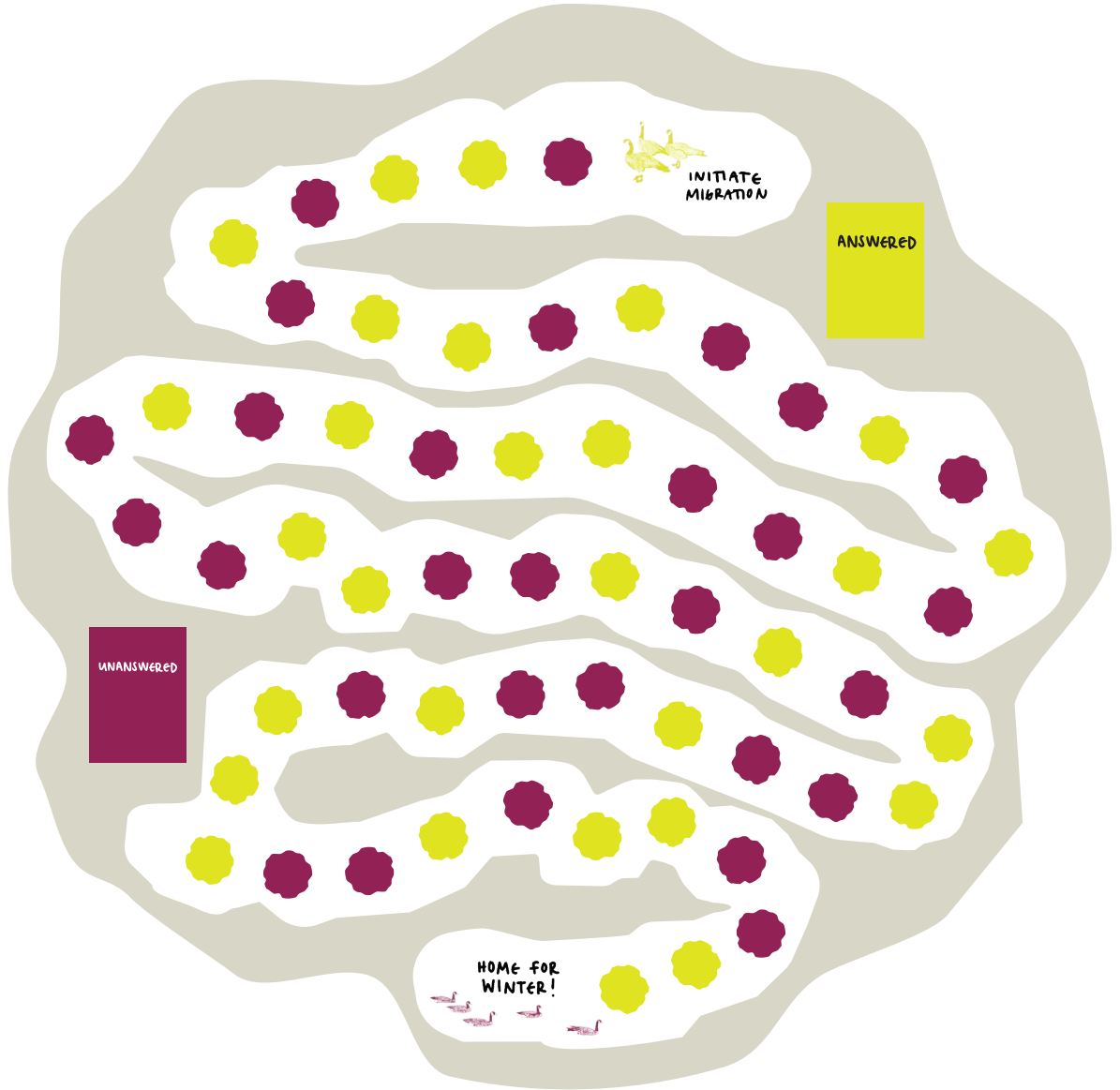


To migrate, geese fly in an echelon, in order to optimize their energy. The goose at the point of the V is doing the hardest job, but all the capable geese in the flock take turns in this position. They rotate frequently.



Game Play diagram

# Product Outcomes



## ECHELON!

**Setting up the Board:**  
 This game contains: 1 board, one deck of question cards, a die, and a character piece. It is designed to be played with 4-7 players. Unfold the board, and place the question cards on the UNANSWERED square. Place the character piece at the start, however you won't be using it until the Migration phase.

**The objective of the game** is to complete a migration from making it from the "Start" square, to the "Home For Winter" square by answering questions about yourself and remembering the answers of others.

**Narrative and Characters:**  
 Did you know when geese migrate, they must first prepare for migration by eating enough to double their body weight? Next, they initiate migration by honking and pointing their beaks to the sky and seeing if others reciprocate the action back. They must communicate about the migration before they start to make sure the whole flock is ready. Then, they migrate. They migrate specifically because food becomes scarce when the ground and water start to freeze in the winter. Did you know geese formations normally fly at around 40 miles per hour? When the winds are strong enough they can even fly up to 70 miles per hour, which is the same speed most cars drive on the freeway! When migrating, geese make a V or J shape formation called an "echelon" (in-dah-shawn). There is one leader at the front of each echelon at a time. The leader is the one doing most of the work, and the other flock members are benefiting from the upwash of wind from the flaps of the geese in front of them. When the leader gets tired, another goose will take the leader's place, becoming the new leader. They all take turns as the leader to share the responsibility.

Front

**Phase 1: Prepare**  
 In order to prepare for migration, you must get to know your flock. In order to do this, draw a question from the deck and take turns each answering the question. When the question has been answered by all flock members, place it on the "ANSWERED" space from the deck. Try your best to remember the answers of your flock members - this is the challenge of the game! Your flock must answer at least five questions before initiating migration.

**Phase 2: Initiate**  
 When you have answered 5 question cards, your flock will discuss if they're ready to migrate. If less than half of the flock is ready to migrate, you can review the answers to the questions until the flock feels prepared. If over half of the flock votes they are ready to migrate, you are ready to begin.

**Phase 3: Migrate**  
 Before you start your migration, you must determine the leader rotation of the echelon. In order to do this, each flock member must roll the die. The member with the highest roll will be the first leader, the second highest will be the second leader, and so on. The first leader will take the first turn. They will use their winning roll as the first roll to move the game piece. When the turn comes back to the echelon leader, the leadership will rotate to the second in line. The new leader will now take their turn. Leadership will continue to rotate this way throughout the game.

**Phase 4: Prepare**  
 In this phase, you will start moving the piece along the board. Your goal is to reach the "Home For Winter" square as a flock. Starting with the echelon leader, each player will take individual turns, going clockwise around the flock members. There are two different styles of turns, depending on which colored square the character piece lands on.

**When you are on a yellow square, you draw a card from the "UNANSWERED" question deck. You will play this turn the same way you did while in preparation to migrate. You will ask the question on the card, and each flock member will answer the question (including you!). Then you will place the card at the bottom of the "ANSWERED" deck. Then the flock member whose turn it is will roll the die and move the piece ahead. This is the end of their turn.**

**When you are on a pink square, your preparation is put to the test. You will draw a card from the "ANSWERED" deck. This will be a question that you and your flock already answered while in the Prepare for Migration phase, or from answering the question in Migration. To complete your turn, you must answer this question with the answer the echelon leader gave for that question previously. If you answer the question correctly, you can roll the die and move the character piece ahead, ending your turn. If you cannot remember the answer, you can pass the turn onto the member to your left and so on. When someone can answer it, they can roll the die and move the piece ahead. The player who answered the question will take the next turn.**

**If you are the echelon leader, you complete the turn the same way, however, you have to recall the answers of two flock members. The echelon leader gets to choose which two flock members they recall the question for.**

Back



# MIGRATION

### Setting up the Board:

This game contains: 1 board, one deck of question cards, a die, and a character piece.

It is designed to be played with 4-7 players

Unfold the board, and place the question cards on the UNANSWERED square. Place the character piece at the start, however you won't be using it until the Migration phase.

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Instruction Card: Front

### Phase 1: Prepare for Migration

In order to prepare for migration, you must get to know your flock. In order to do this, draw a question from the deck and take turns each answering the question. When the question has been answered by all flock members, place it on the "ANSWERED" space from the deck. Try your best to remember the answers of your flock members- this is the challenge of the game! Your flock must answer at least five questions before initiating migration.

### Phase 2: Initiating Migration

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If you are the echelon leader, you complete the turn the same way, however, you have to recall the answers of two flock members. The echelon leader gets to choose which two flock members they recall the question for.

**Informed by Geese Migration:**

- The game is split into three phases: prepare, initiate, and migrate, each informed by geese migration.
- The echelon leader has the hardest job, but rotates out frequently.
- This game is non-competitive and relies on group dynamics, as geese rely on their flock.

**Informed by Geese Characteristics:**

The characteristics I have pulled from the geese behavior in flocks are: encouragement, loyalty, teamwork, care, and communication.

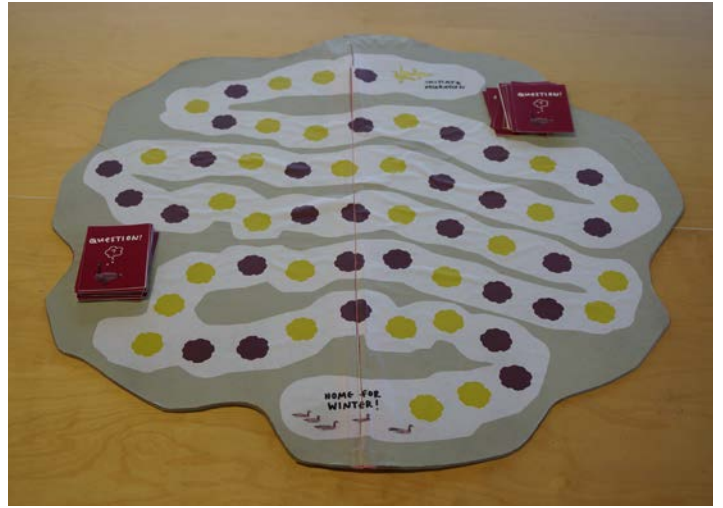
- Players show teamwork by answering questions and collectively completing a migration.
- Players show care by remembering details about each other that they have learned through conversation.
- Players communicate with each other by answering questions about themselves, and therefore talking about different topics. They also must communicate about when to start their migration on the board.

**Informed by Proxemics:**

- This activity had a board in order to provide a structure for players to gather around.
- This board is about 25 inches diameter, therefore allowing players to be more spaced out than in a normal board game.
- This board is large enough that players may sit around it in each other's personal space, and with more players it will breach into intimate space.
- The board is not shaped in a way that implies a specific way for players to be seated.



# Product Outcomes



Product Outcomes



Echelon! has had the impact I was intending for so far! I have played with multiple groups of people, most of whom I consider to know quite well, and I learned a lot more about each of them that I had not known before.

The recalling part of the game has been helpful to incentive players to really listen to each other. I have gone through the questions without the board as well, which works great if the group is already motivated to engage with each other without the game aspect.

It was very exciting to see groups come together and get to know each other in a new way, and see spontaneous conversations start as individual players elaborate on stories, share memories, laugh together, and think about questions they might not have thought about before.

The question cards have worked well at serving as something that can be elaborated on or not, depending on the player's preference and mood. There is a good balance of straightforward questions and thought provoking questions, so the players are still entertained and getting to know each other more personally, while not dealing with the emotional exhaustion of long vulnerable conversation.

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DIN OT Medium size 12 for in- text headers.

Colors used: black, magenta: #942257, chartreuse: #E2E419, and taupe #D8D7C8.

Grid used: .5" margins, a grid of 4 columns, 5 rows, and .1667" width gutters.

Designed for 8.5 x 11 paper.

Drawings were created using Adobe Illustrator and Procreate.

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