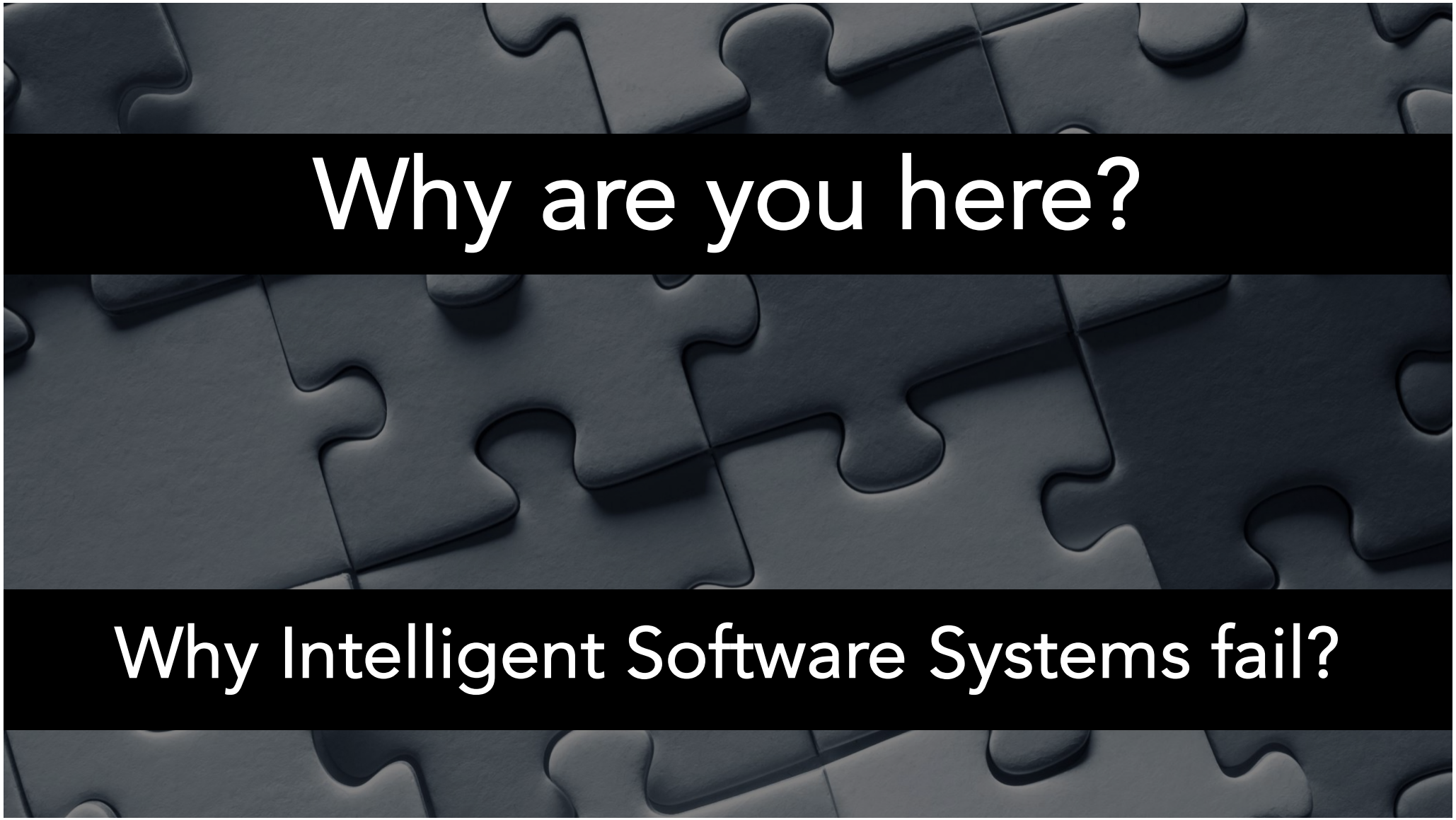
Intelligent Software Systems

Introduction

Jin Guo
SOCS McGill University


Why are you here?
Why Intelligent Software Systems fail?

Activity 1

Introduce yourself to your group;

Tell your group one boring fact about yourself.

Select one intelligent software system that you have personal experience with

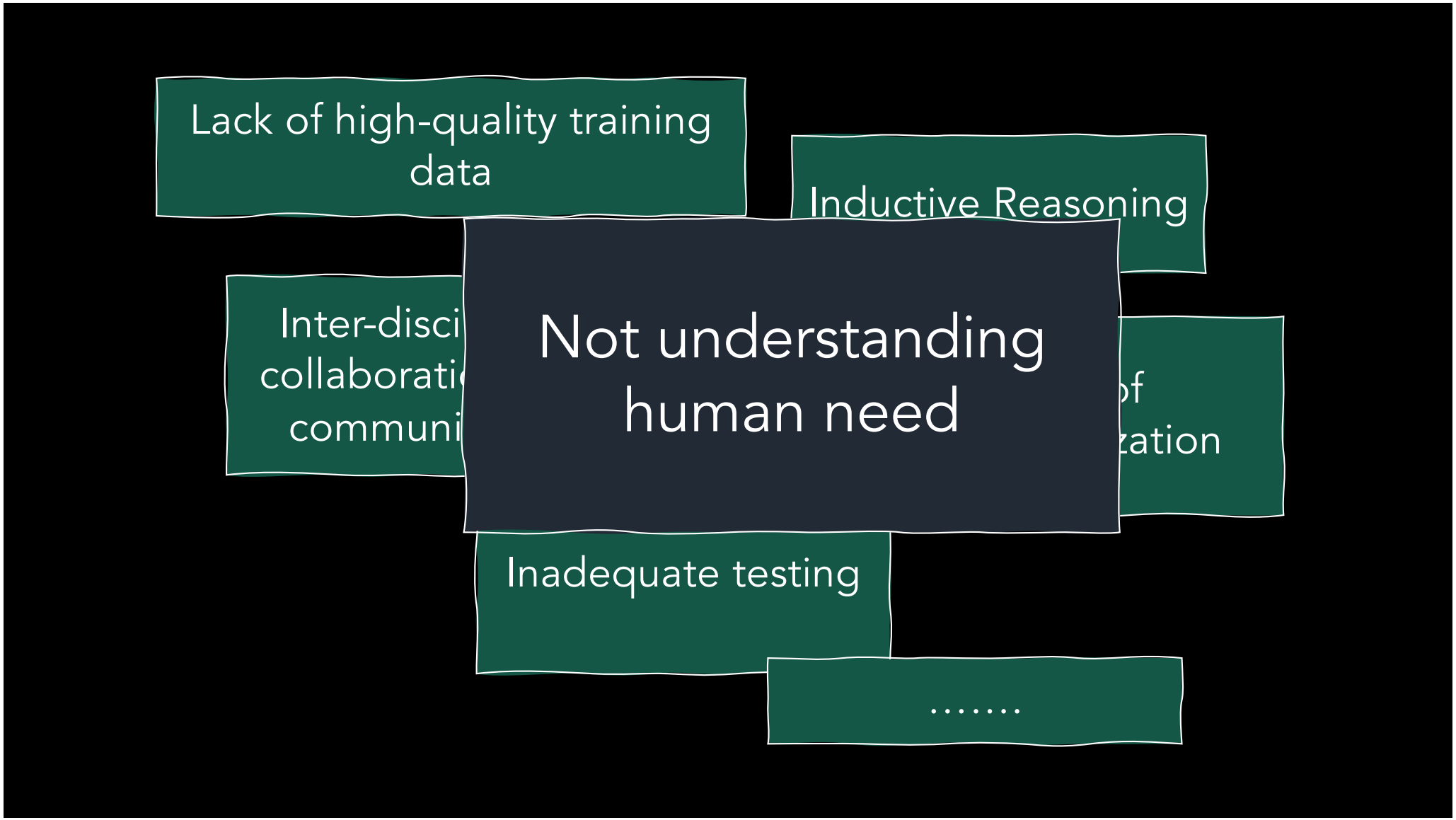
- What would you consider "intelligence" in this context?
- What information might be useful to help you achieve the intelligence?
- How do you know you have achieved the intelligence?
- What might be the challenges that prevent you from achieving such intelligence?

Why Intelligent Software Systems fail?

Uninvited Guests is a short film that explores the frictions between an elderly man and his smart home. Thomas, aged 70, lives on his own after his wife died last year. His children send him smart devices to track and monitor his diet, health and sleep from a distance. But Thomas has always been fiercely independent, happy to live in an organised mess. He struggles with the order and rules imposed on him by the objects that are meant to make his life easier. In a world where 'smart objects' will increasingly be used to provide care at a distance, how will we live with these uninvited guests?

This film was created by Superflux Lab for the ThingTank project. For further information visit: superflux.in/work/uninvited-guests

Why Intelligent Software Systems fail?


Lack of high-quality training data
Inductive Reasoning
Inter-disci
collaborati
communi
Not understanding human need
of
zation
Inadequate testing
.....

This course will help you to

1. Understand engineering best practices and principles related to building and maintaining intelligent systems.

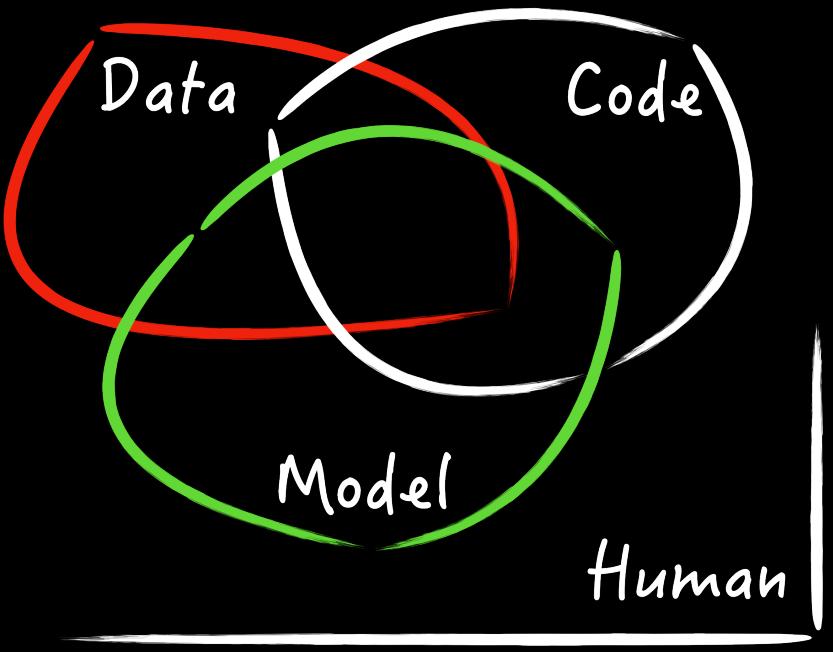
2. Adopt a human-centered approach to inspect and approach designing usable intelligent systems.

3. Select effective tools and ML models to align with the product objectives and values.

This course will NOT

1. Teach you details about machine learning algorithms
2. Provide hands-on guidance on the lasteset MLOps tools

This course is about



Tentative Schedule

1	31-Aug	Introduction	14	19-Oct	Inclusive Design
2	05-Sep	Human Intelligence and Intelligent Systems	15	24-Oct	Project QA
3	07-Sep	ML Model Quality	16	26-Oct	Fairness
4	12-Sep	From Model to System	17	31-Oct	M2 Presentation
5	14-Sep	Data Acquisition & Management	18	02-Nov	Decision-making
6	19-Sep	Project QA	19	07-Nov	Transparent and Explainability
7	21-Sep	Human Need and Requirements	20	14-Nov	Creativity
8	26-Sep	Human Need and Requirements	21	16-Nov	Creativity
9	28-Sep	Team and Collaboration	22	21-Nov	Project QA
10	03-Oct	M1 Presentation	23	23-Nov	Project Presentation
11	05-Oct	Quality beyond Model - System	24	28-Nov	Project/Assignment presentation
12	12-Oct	Design for Human-AI Interaction	25	05-Dec	Assignment presentation
13	17-Oct	Design for Human-AI Interaction			

Prerequisite and Related Background

- SE (COMP 303, COMP 361, ECSE 321, ECSE 326, ….)
- AI (COMP 424, COMP 550, COMP 551, ECSE 526, …)
- Design (ECSE 424, GLIS 627, GLIS 626, …)
- Academic/Project Background survey

Activity 2

Think about one of your past project related to either SE, AI, or Design:

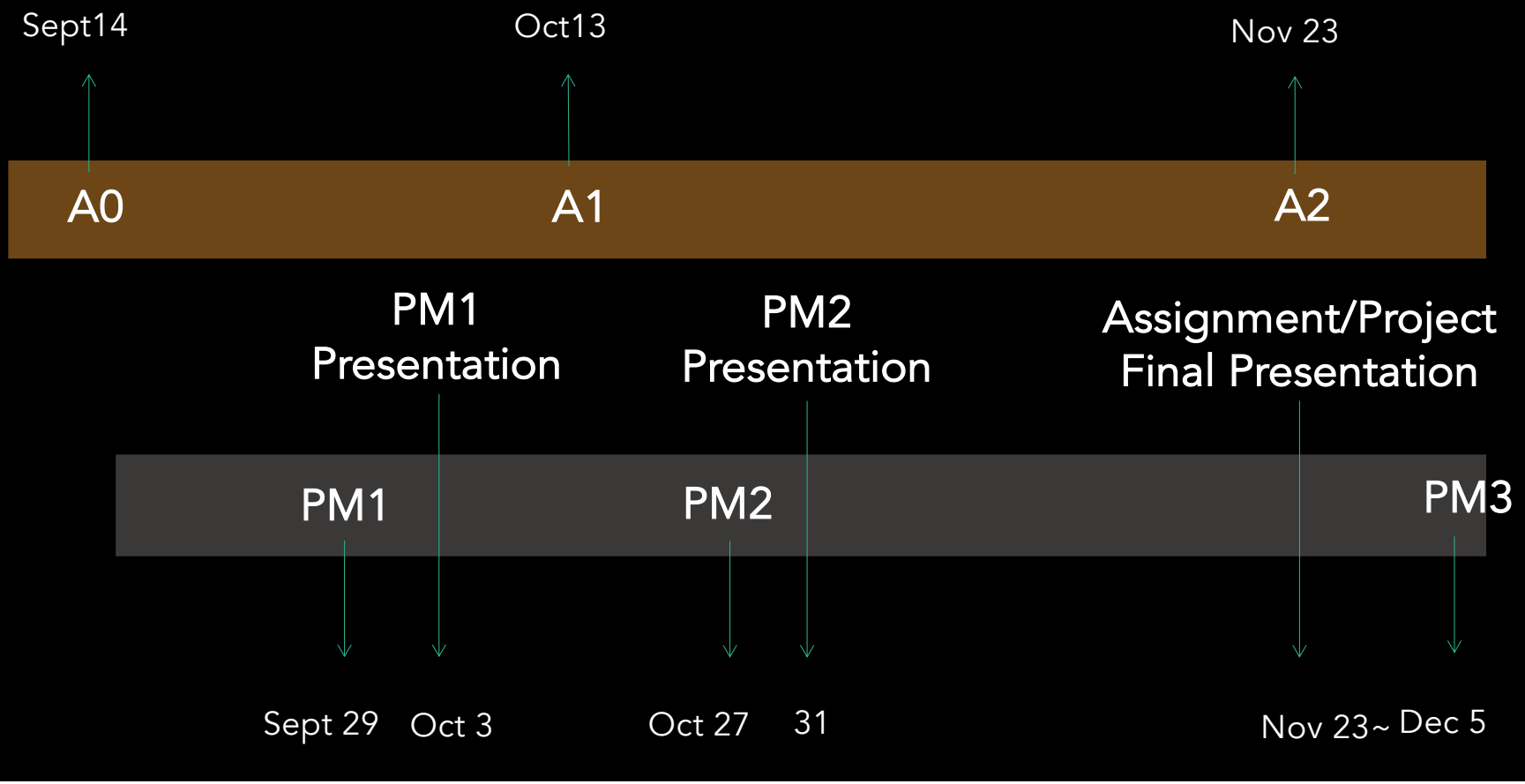
- Describe the problem you were aiming to address;
- Describe the biggest achievement through this project
- Describe challenges you have faced.

Assessment

- Activities 25%
- Assignment 35%
- Team project 40%

Focus on active and collaborative learning

Timeline

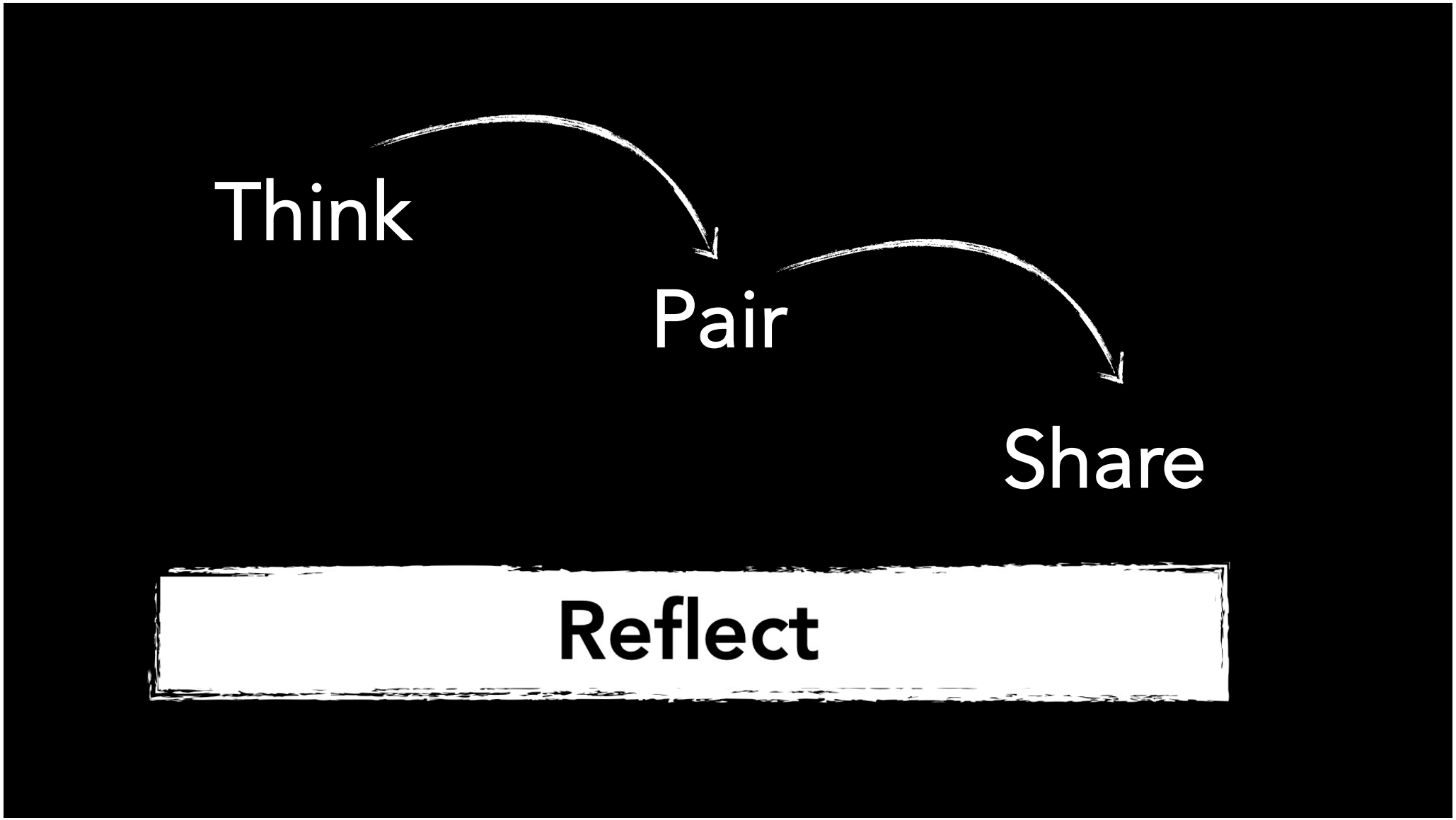

Sept14
Oct13
Nov 23
A0
A1
A2
PM1
Presentation
PM2
Presentation
Assignment/Project
Final Presentation
PM1
PM2
PM3
Sept 29
Oct 3
Oct 27
31
Nov 23~ Dec 5

Before the Class

- Effectively prepare for the activities
  - Instructions will be released at least two days in advance
- Finish required readings on the syllabus

During the Class

- Speak up when having questions
- Engage in-class discussions and activities


Think
Pair
Share
Reflect

To-dos

- Join Slack
  - Easiest way to reach out to your peers;
  - Find/discuss common interests;
  - Collaborate on assignments and projects.
- Join GitLab
  - Apply a CS account and let us know your ID
  - Questions for Assignments/Projects
  - Latest schedule, release of assignments and projects).
- Reading
  - TIS book: Intro & Human Compatible: Intelligence

Who Are We

- Jin Guo
- Deeksha Arya

See you next week!