The Art of: Pair Programming

Presented By: Todd Merritt

Todd Merritt

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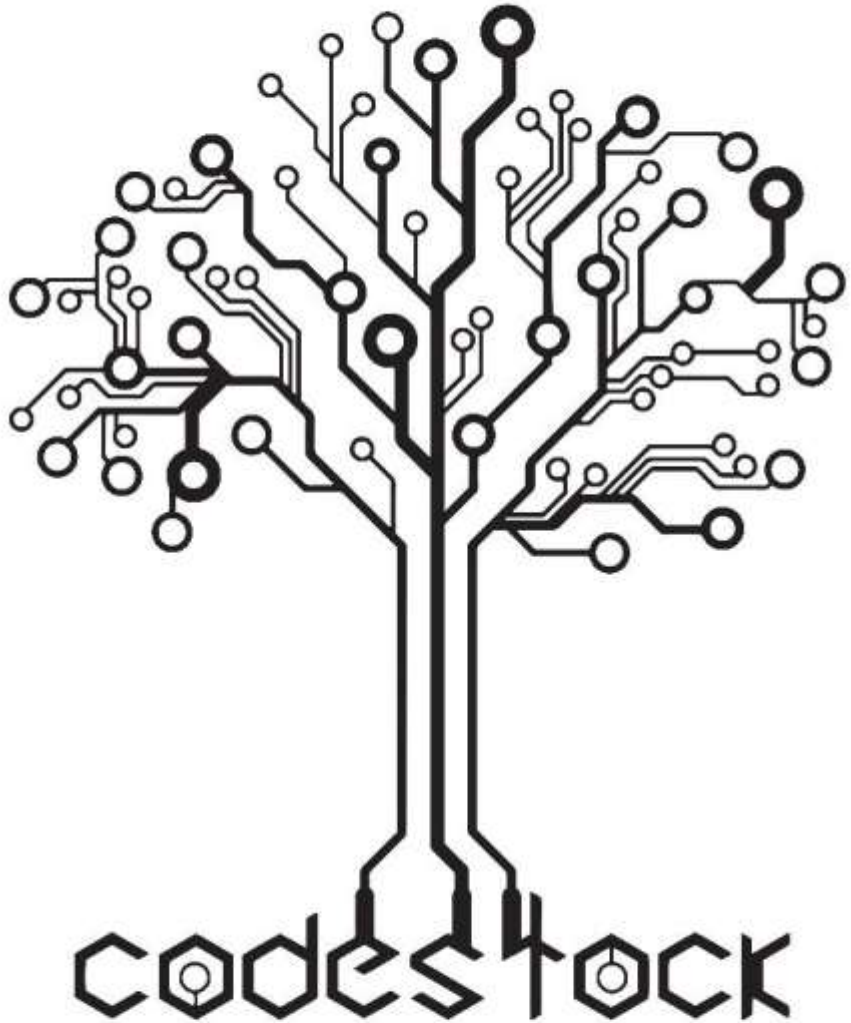
- Over 18 years of Development Experience
- Over 6 years Pair Programming Experience
- Worked with Small Startups to fortune 500 companies
- Interests:
  - App Design/Development
  - Database Development
  - Software Craftsmanship



Premier Staffing Partners

Pilot Flying J

GrapeCity

Discovery

Clayton technology

CodeStock 2012

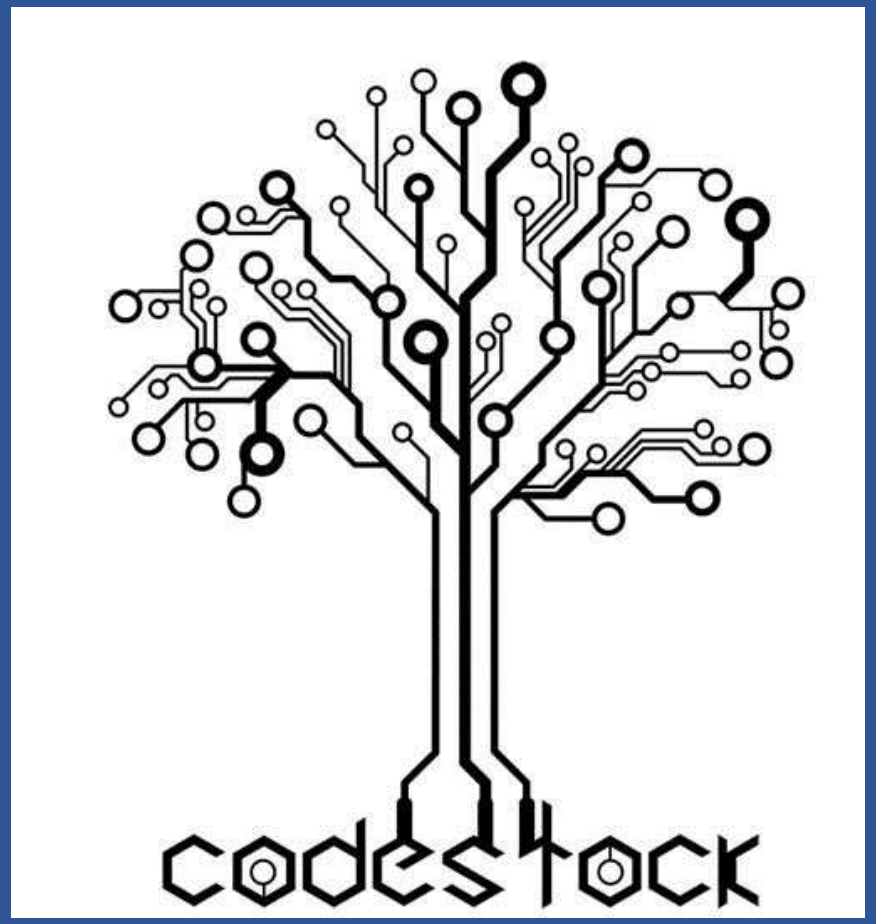
Talk: “You”
Speaker: Leon Gersing

“In order to learn, you must do it badly and fail”

- Leon Gersing
@RubyBuddha

“In order to learn, you must do it badly in front of a crowd and fail”

-Leon Gersing
@RubyBuddha



CodeStock 2017

Disclaimers:

(Pairing != )

(Pairing == )

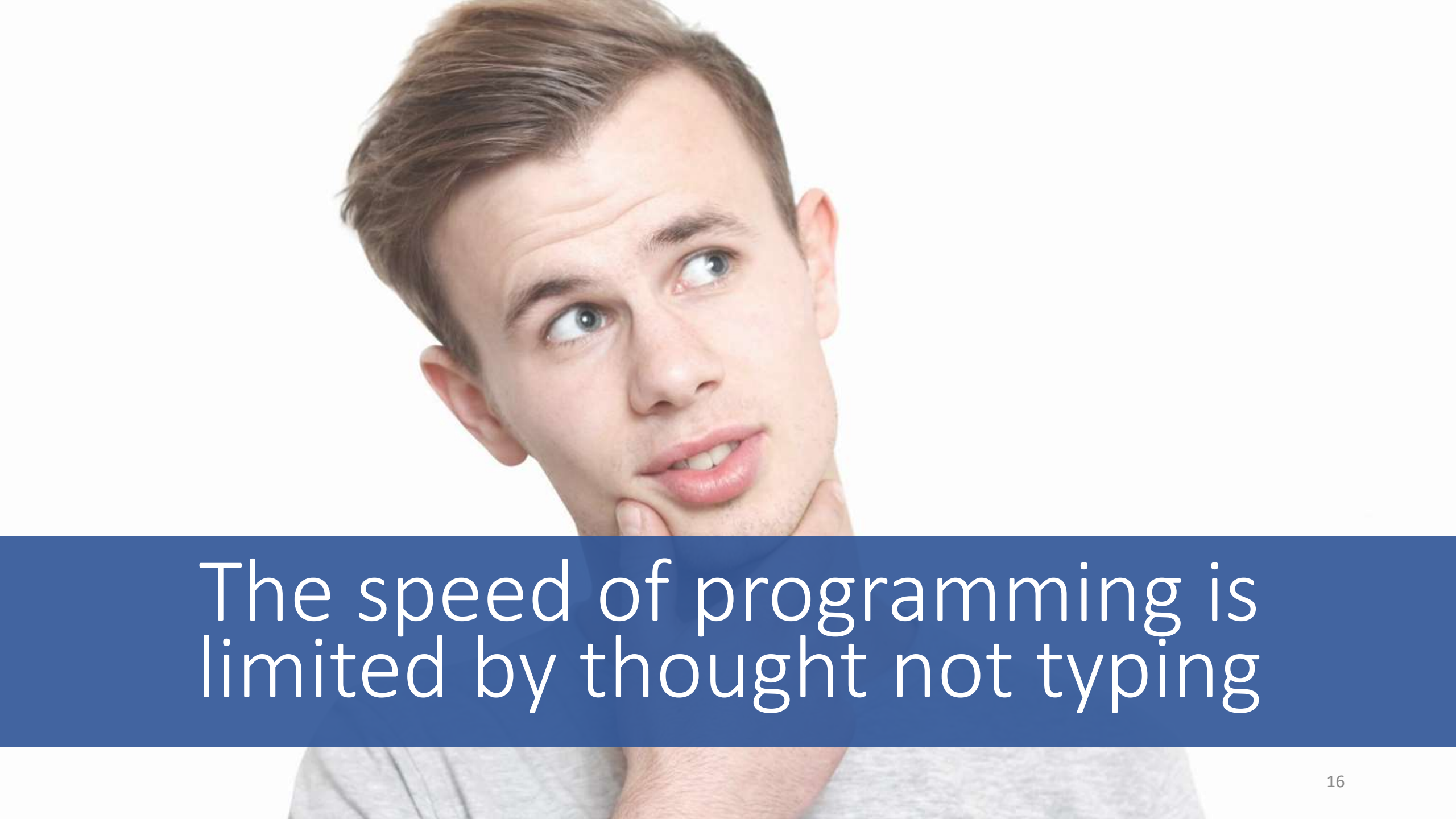
WHEN YOU DON'T PAIR

It makes pandas sad

Assumptions:

Coding Is Social

Pairing is a Discussion



The speed of programming is limited by thought not typing

(typeof(Programming) == “Work”)

(Pair Programming == Pair Working)

The speed of **WORK** is limited by the speed of thought

Pairing is not just for Programming

What is Pair Programming?

What is Pair Programming?

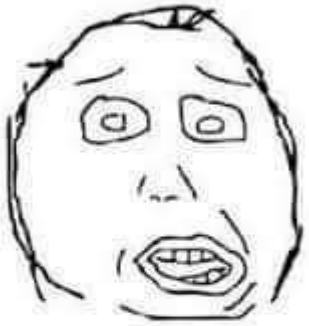
(Please Do Not Answer All At Once)

Pair Programming is a development technique where two programmers work together at the same work station at the same time.

TLDR:

(Programmer x 2) + WorkStation + Discussion

Programming alone



```
c = a + b;
```

Programming while someone watches

```
/// <summary>
/// A function, that adds two numbers
/// </summary>
/// <param name="a">First number</param>
/// <param name="b">Second number</param>
/// <returns>Sum of a and b</returns>
```

```
private int Add(int a, int b)
{
   // This line adds two ints
   return a + b;
}
```

Why Should You Pair?

Benefits of Pairing

- Collective Code Ownership
- Team Building
- Reduction in Calendar Time
- Knowledge Transfer
- Focus on Quality over Quantity
- Prevents Silos
- Constant Code Reviews
- Quick Turnaround on Feedback
- Prevents Technical
- Reduces Poor Programming Practices

What Makes A Good Partner?

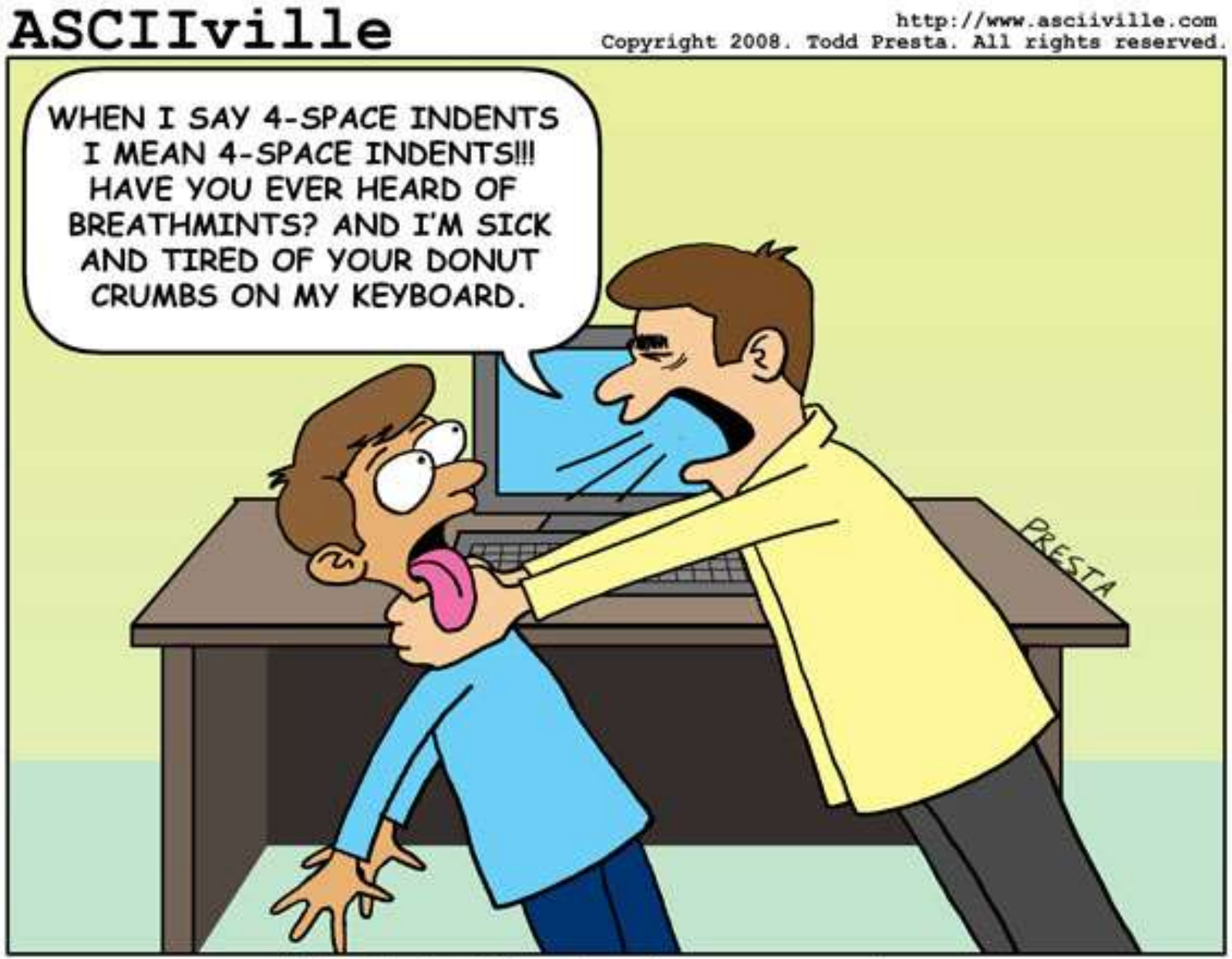
Ideal Pairing Partner

- Good Communicator
- Willingness to Fail
- Asks Good Questions
- Accepts Productive Criticism
- Controls Ego
- Similar Schedules
- Trusts Partner

What Does **NOT** Make A Good Partner?

Potential Issues with Pairing

- Personal Space
- Cultural Misunderstanding
- Scheduling
- EGO/Attitudes
- Change Resistant
- Control Freak
- Lack of Communication



The dark side of pair programming.

What Do You Talk About When Pairing?

Everything!

Things to Discuss when Pairing

- Logic
- Design
- Refactoring
- Naming
- Order of Operation
- Requirements
- Estimates
- Anything related to System

When Should You Pair?

Complex Systems

Mission Critical Systems

Constant Change/ Volatile Systems

Shared Code\Libraries

High Risk Deadlines

Knowledge Transfer / Mentoring

Onboarding Team Members

Technical Interviews

Technical Phone Screens

Why Should You Pair?

Common Reasons to Pair

- Fewer Defects
- Simpler Designs
- Faster Problem Solving
- Rapid Feed Back
- Knowledge Transfer
- Better Communication
- Enjoyable

When Should You **NOT** Pair?

When Not To Pair

- Simple Tasks
- Non-Production Code Spikes
- Partner Is Sick (**Only Pair Virtually**)

Is Pairing is Instinctive?

Code Reviews

System Architecture Design

Analyzing Systems

Mentoring

New Technologies and Methodologies

Production Support

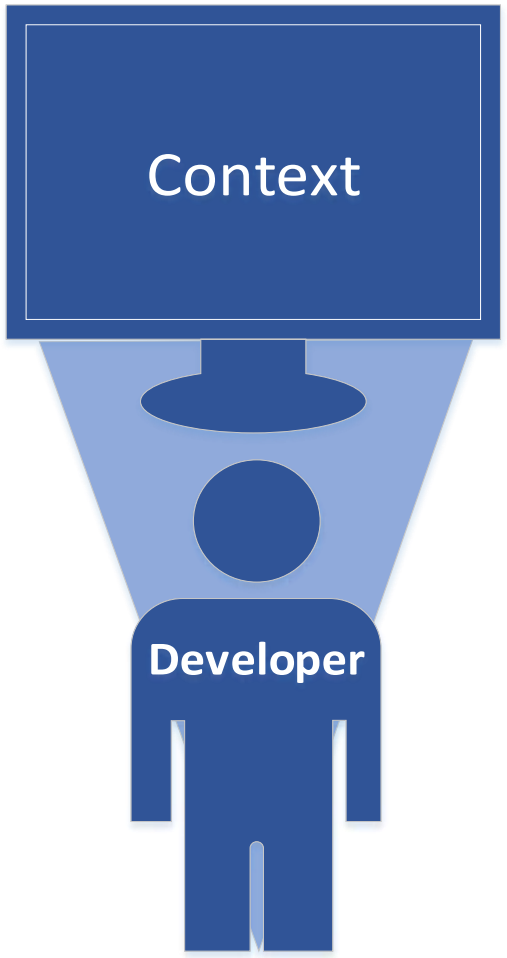
Is There Only One Way To Pair?

No, But Yes

What Are Some Styles Of Pairing?

Unpaired

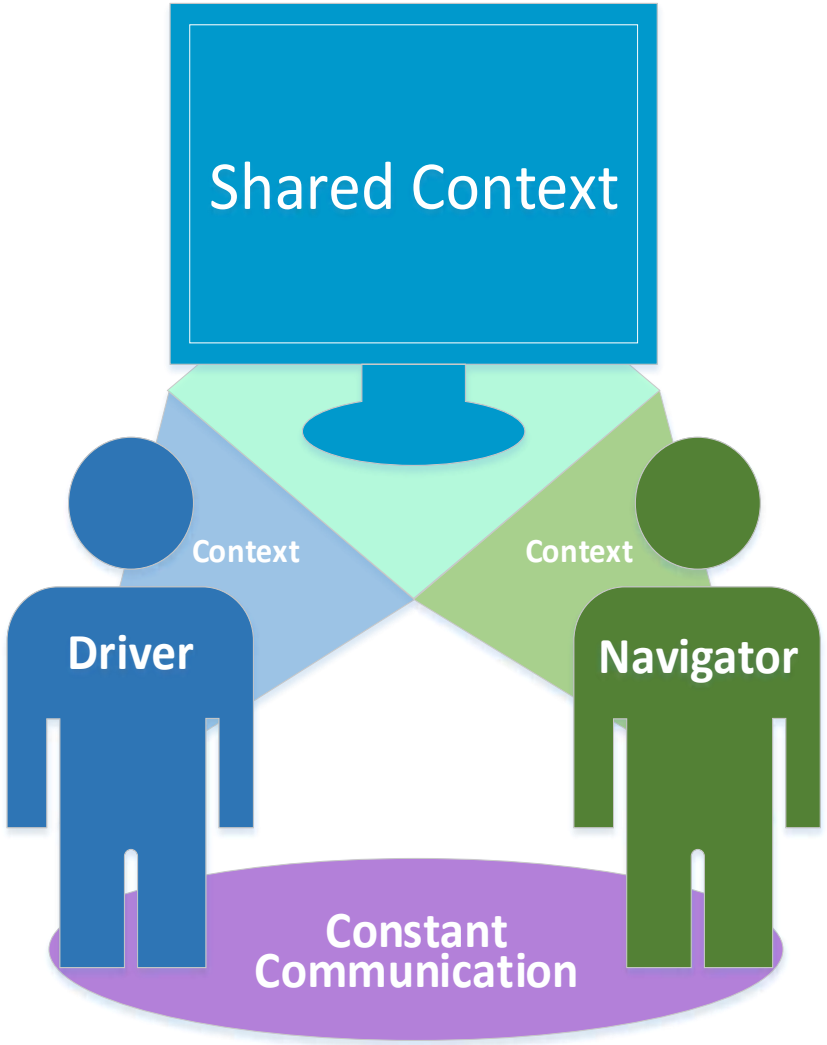
Unpaired



Unpaired

Standard Pairing

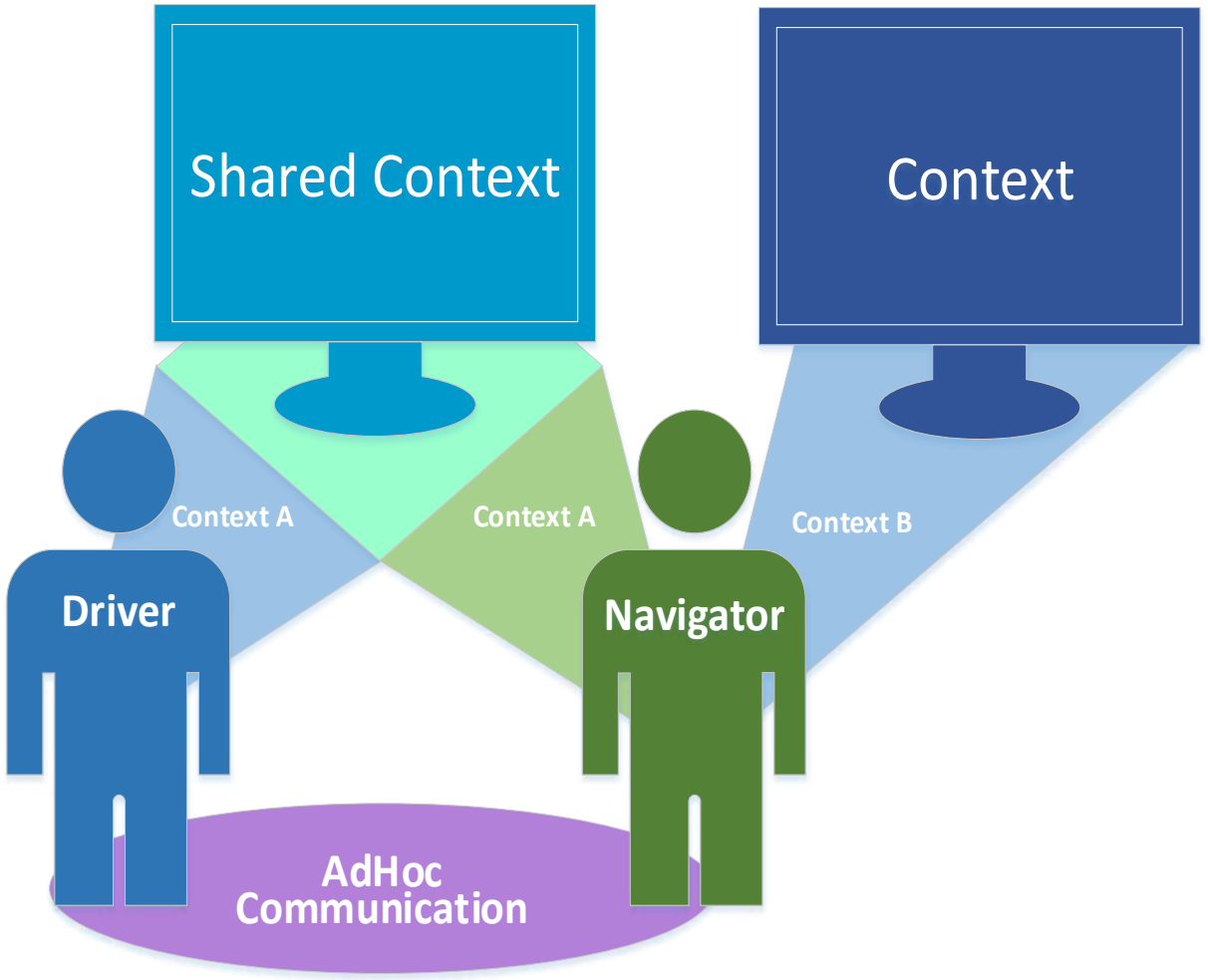
Standard Pairing



Standard Pairing

On Demand Pairing

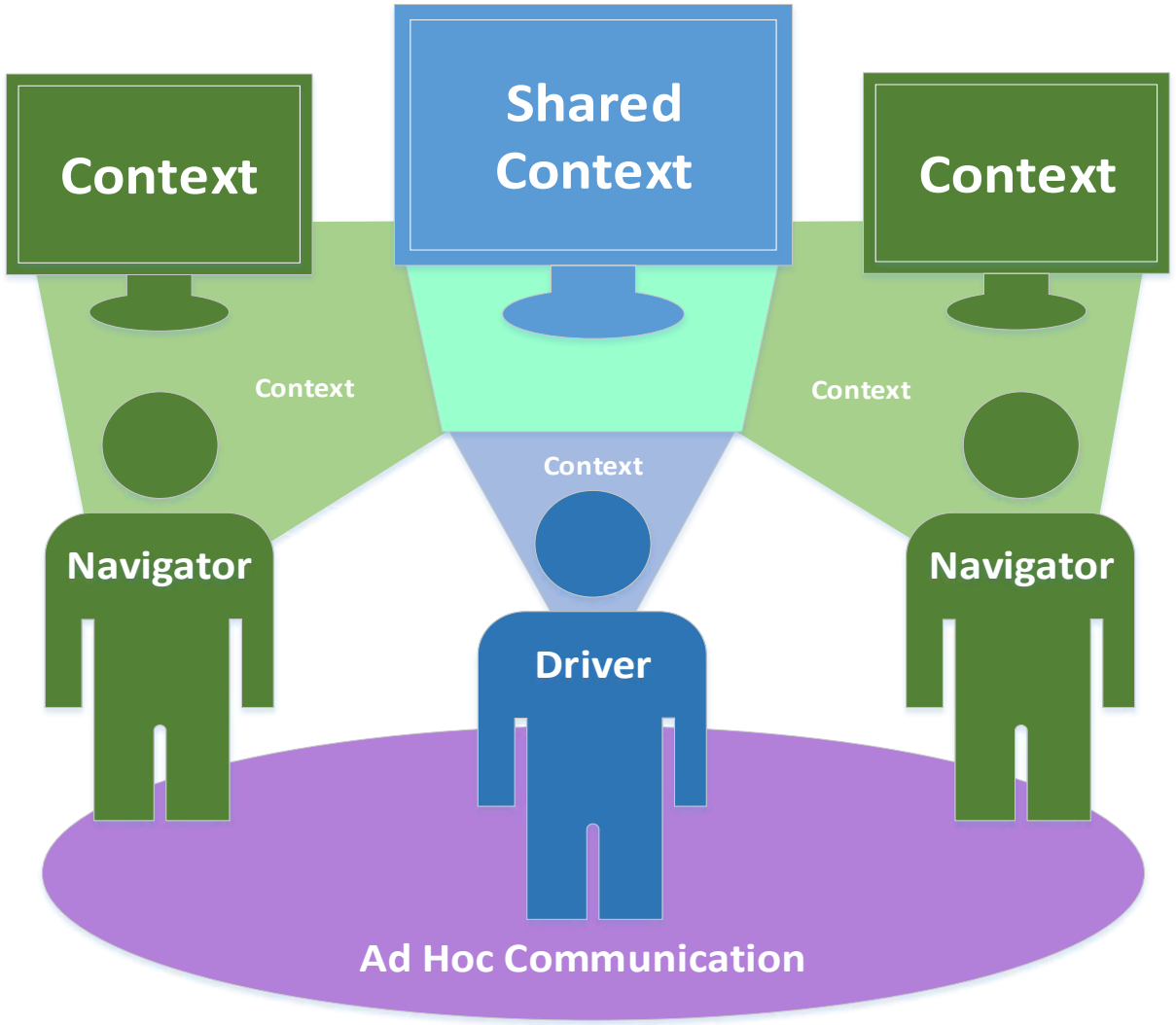
On Demand Pairing

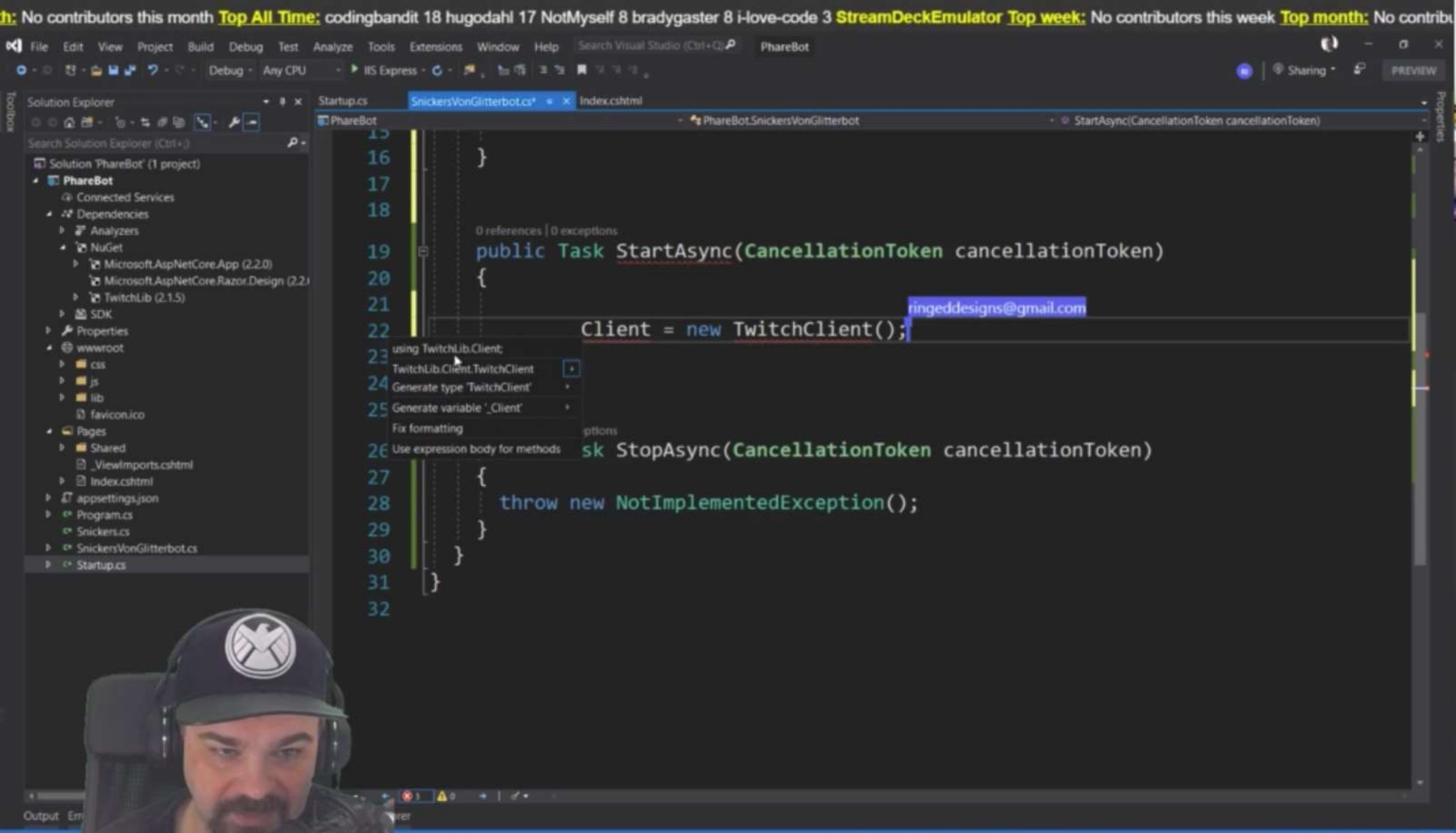


On Demand Pairing

Mob Paring

Mob Pairing


Context
Shared Context
Context
Context
Context
Context
Navigator
Driver
Navigator
Ad Hoc Communication



PhareWings
@pharewings

instances of VS/vscode share extensions/snippets?

jaf1021 Good Morning!

swiftress It's like watching my mother program

svavablount (she doesn't use these often)

spacecato everyone starts somewhere

swiftress true enough

ahoefling this reminds me of a coding dojo

coderkat We are all with you - 💜 💜 💜 💜 💜

DEVLEAD	731 BITS
PERRYATDIGITALOX	100 BITS
DEVLEAD	1500 BITS
DEVLEAD	1000 BITS

Jeffrey T. Fritz

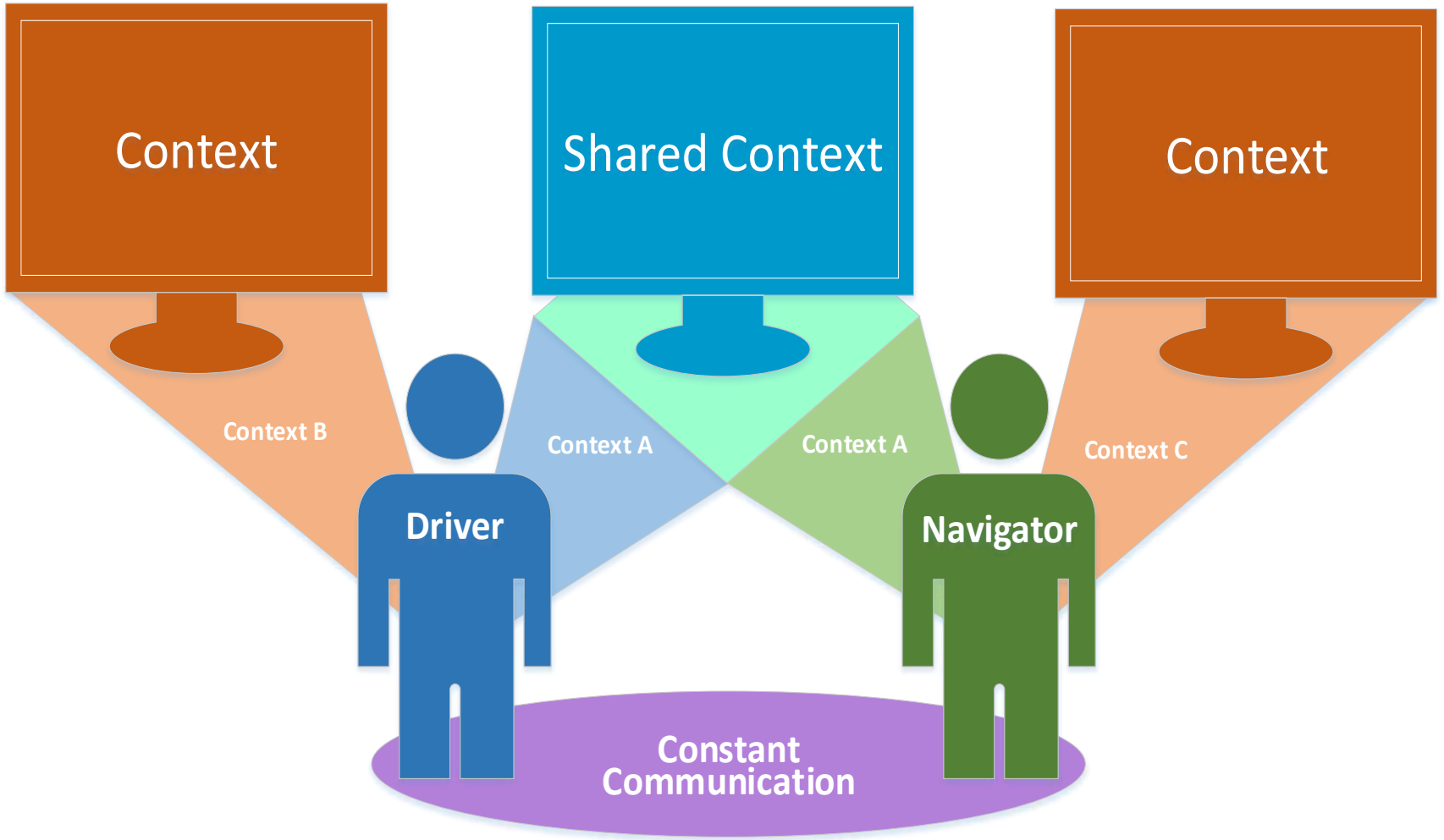
5873 69 70.0

Rainbow Beard Build 2019 5873 7000

codestock

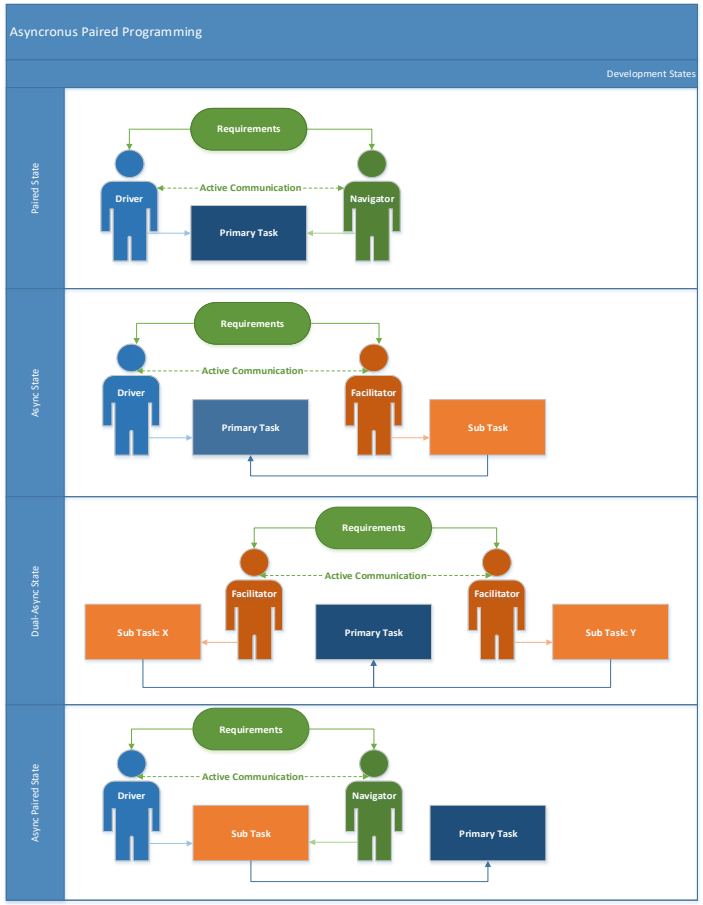
Asynchronous Paring

Asynchronous Pairing

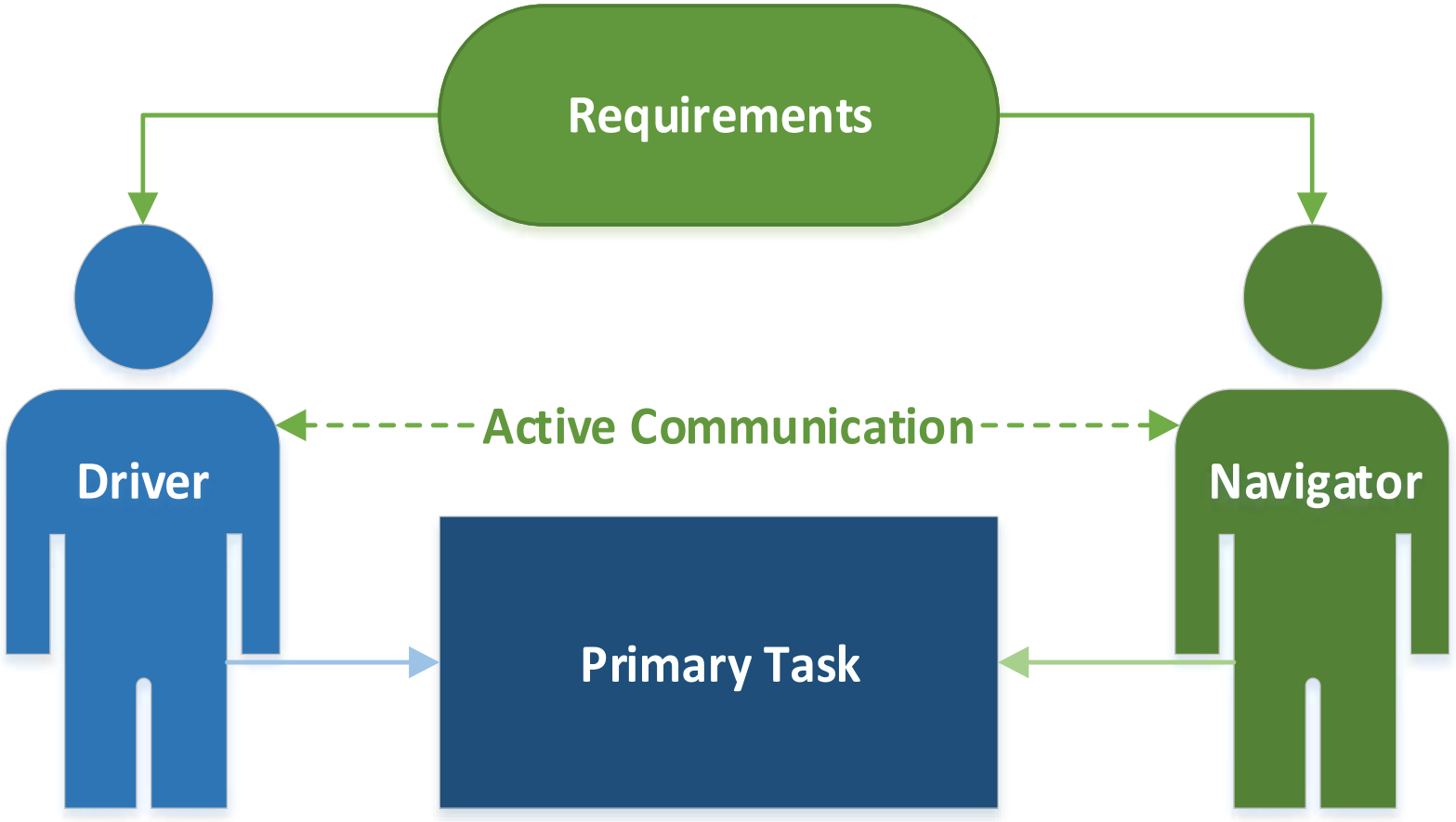


Asynchronous Paring

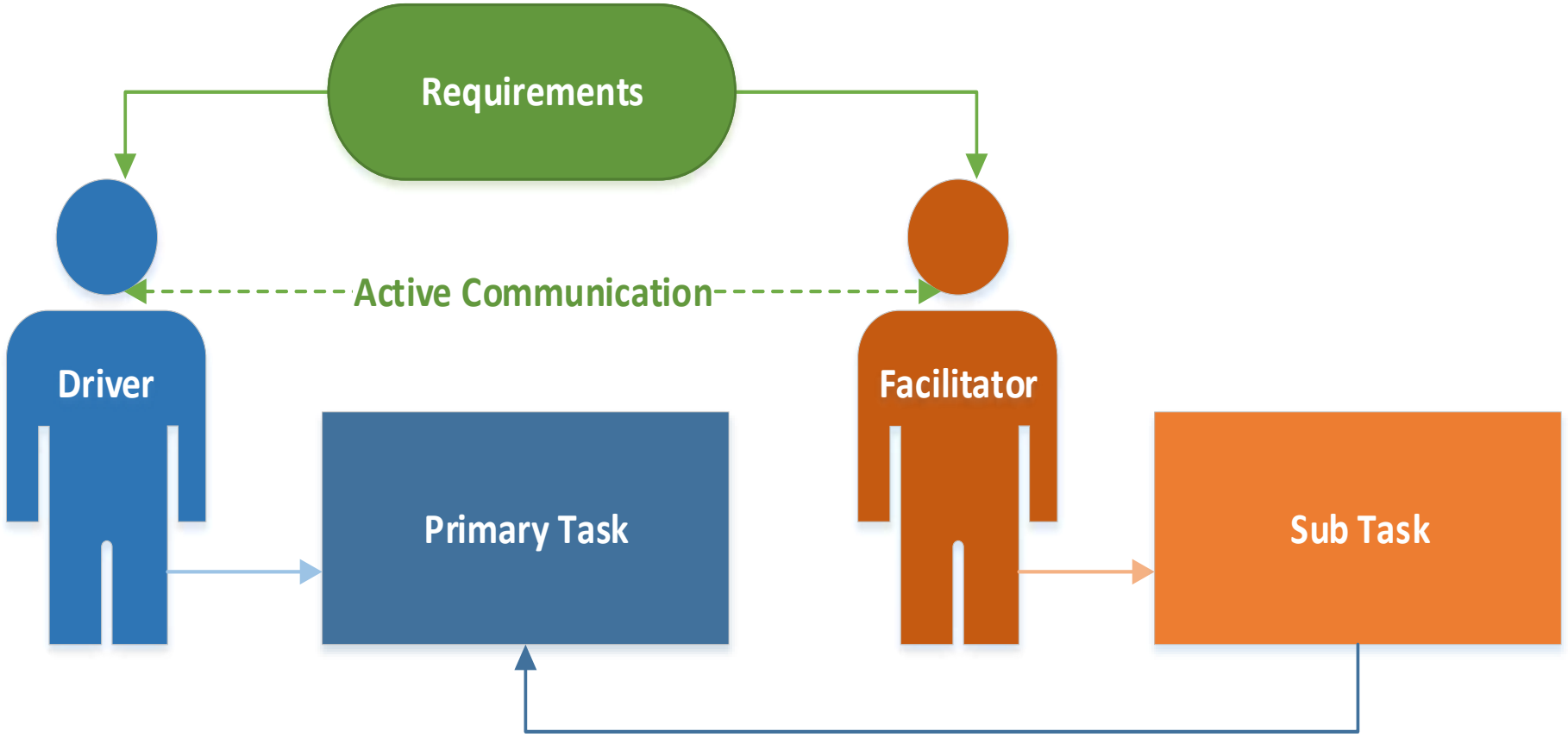
Asynchronous Pairing States



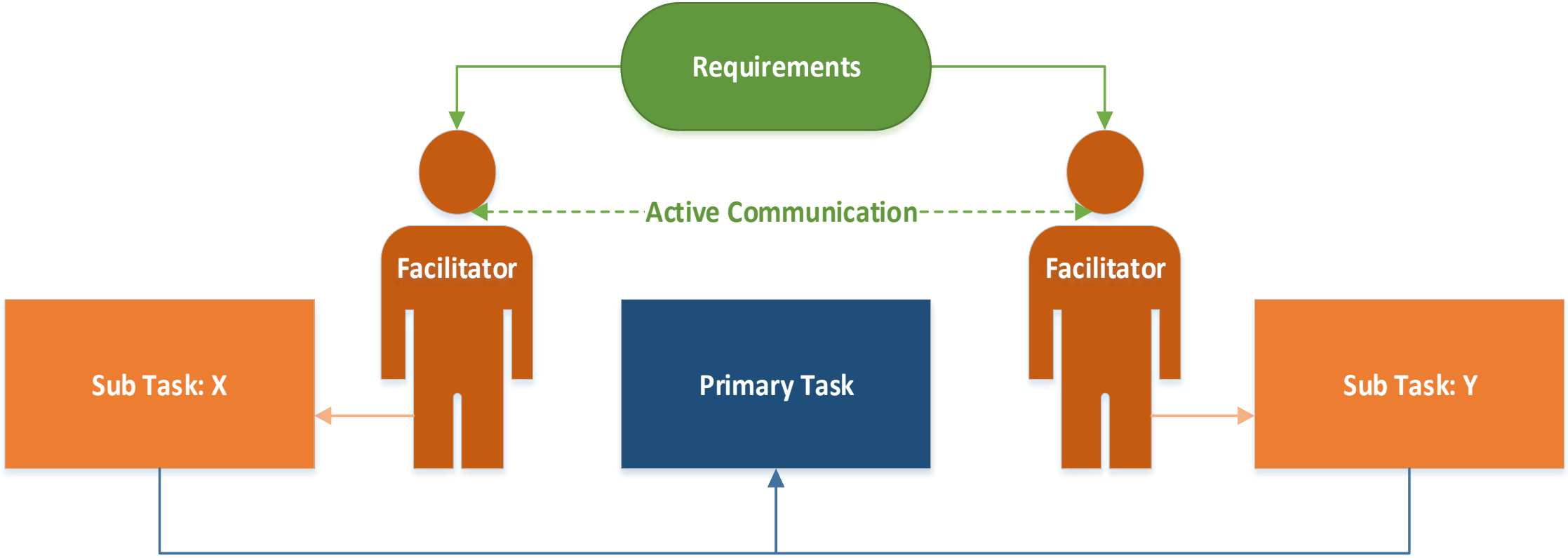
Paired State



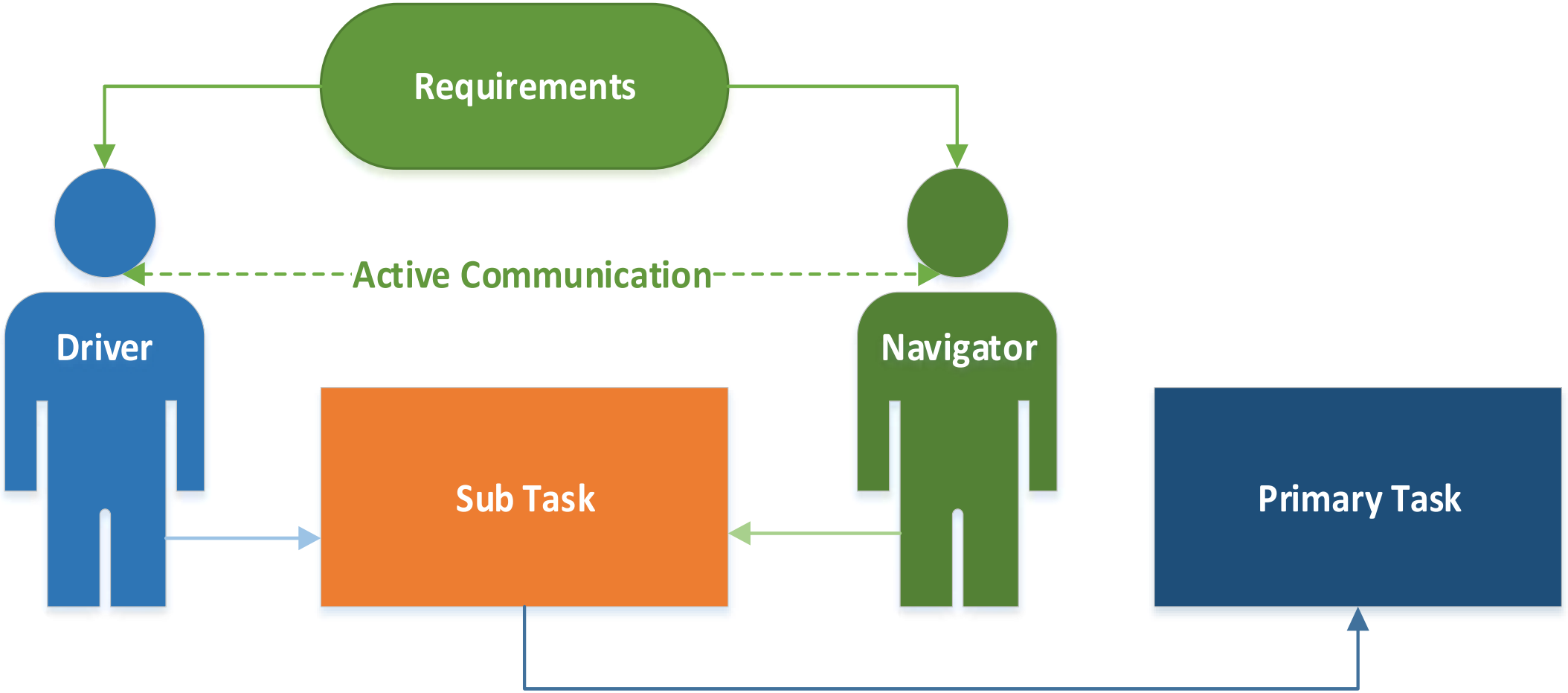
Async State


Requirements
Active Communication
Driver
Facilitator
Primary Task
Sub Task

Dual-Async State

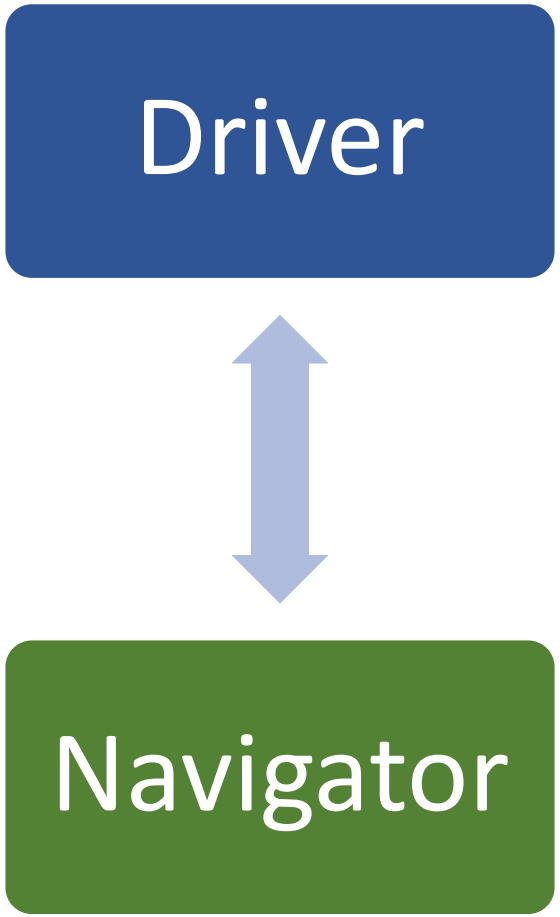


Async Paired State

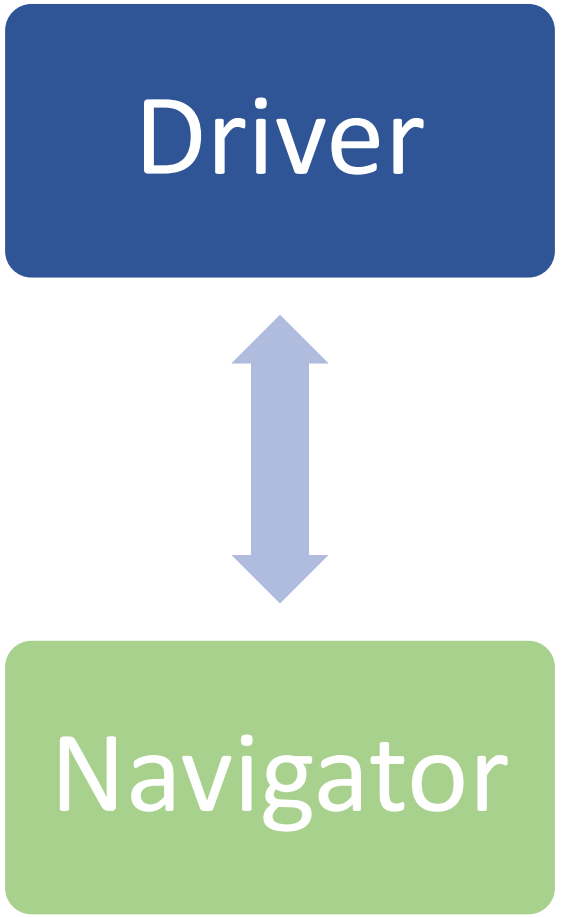


Pairing Roles

Pairing Roles

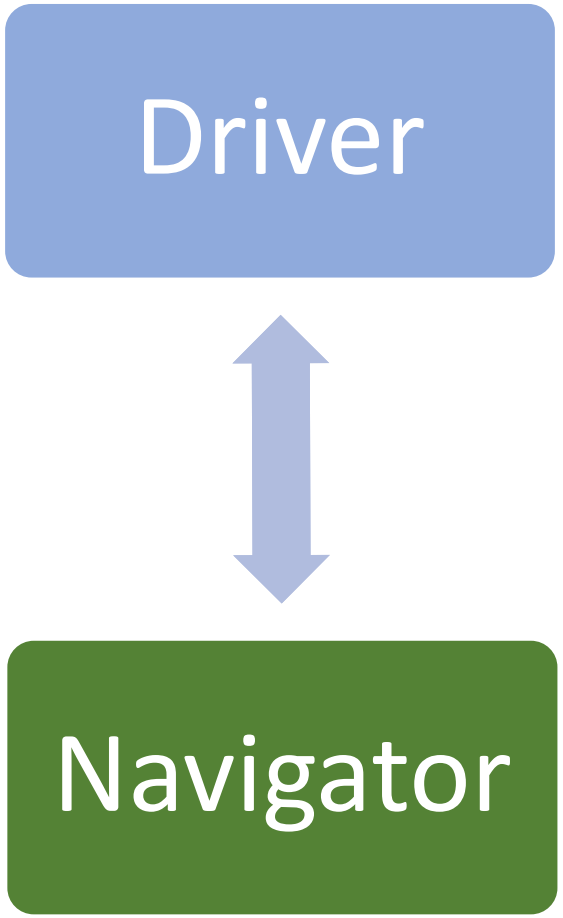


Pairing Roles



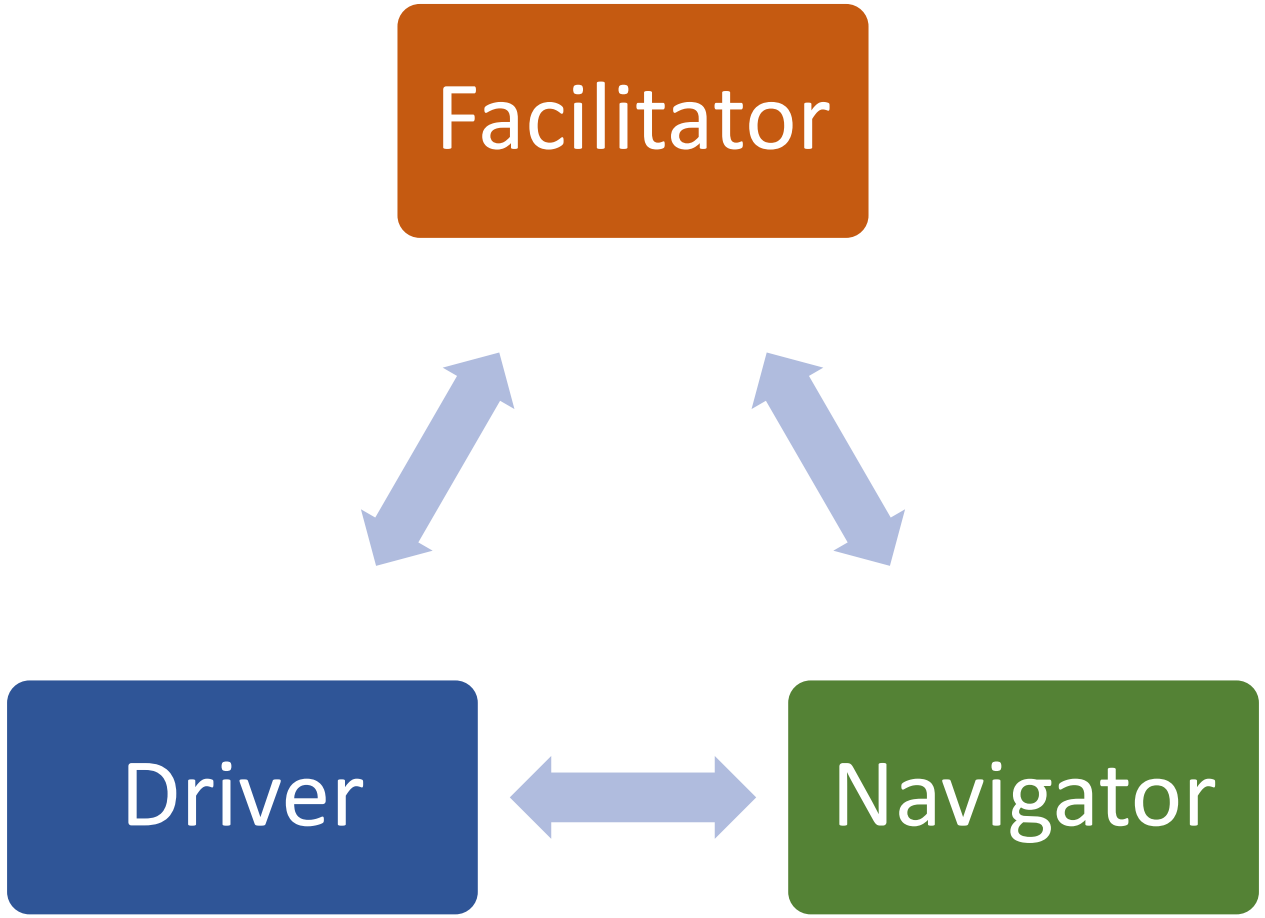
- Controls Keyboard and Mouse
- Discuss Ideas and Concepts being coded
- Constantly communicating with Partner

Pairing Roles

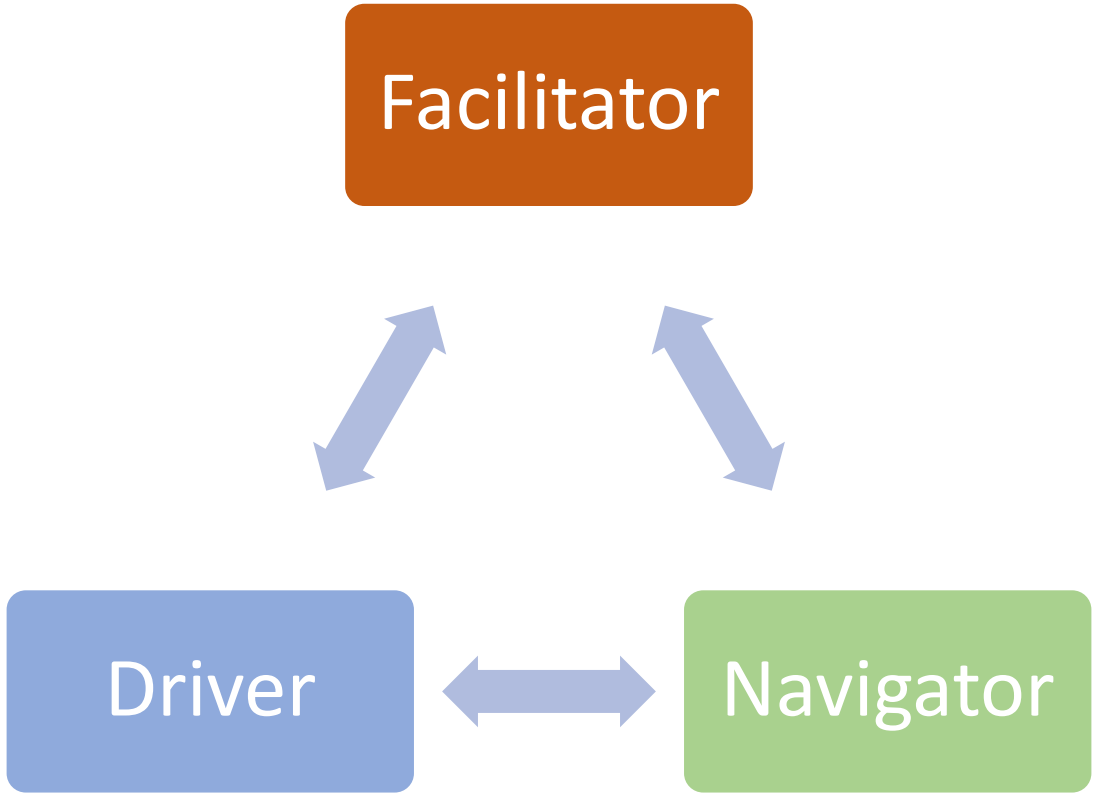


- Reviews Code
- Thinks Big Picture
- Discuss Ideas and Concepts being coded
- Constantly communicating with Partner

Asynchronous Pairing Roles



Asynchronous Pairing Roles



- Performs sub tasks related to the primary development task.
- Constantly communicating with Driver
- Constantly communicating with Partner

Can Your Role Change?

Time Box Switching

Ping Pong Switching

Ad Hoc Switching

What Do I Need To Pair?

Basic Environment for Pairing

Basic Environment for Each Asynchronous Pairing Partner

Take A Ways

(Pairing != )

(Pairing == )

(typeof(Programming) == “Work”)

(Pair Programming == Pair Working)

The speed of **WORK** is limited by the speed of thought

Pairing is not just for Programming

WHEN YOU DON'T PAIR

It makes pandas sad

Questions? Comments?

Todd Merritt

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- Over 16 years of Development Experience
- Over 6 years Pair Programming Experience
- Worked with Small Startups to fortune 500 companies
- Interests:
  - App Design/Development
  - Database Development
  - DevOps – Sometimes