



The Art of: Pair Programming

Presented By: Todd Merritt

Todd Merritt



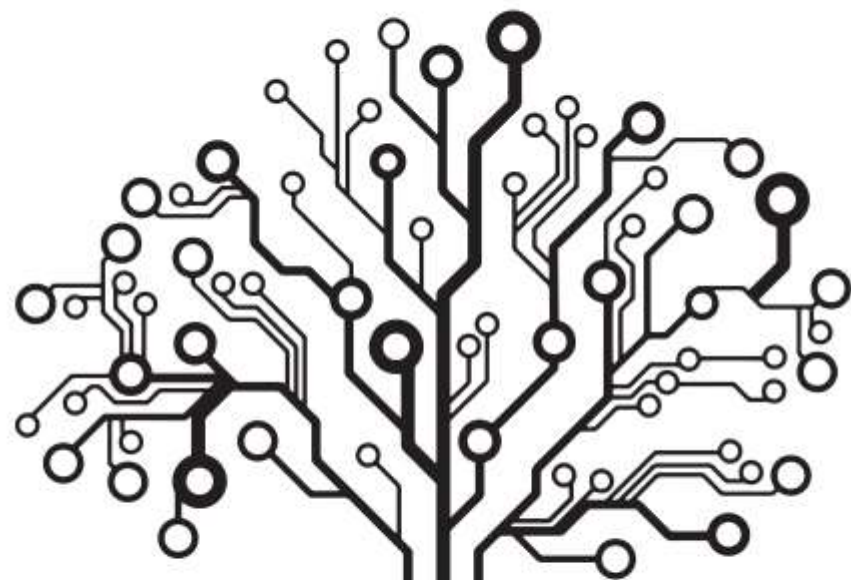
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- Over 18 years of Development Experience
- Over 6 years Pair Programming Experience
- Worked with Small Startups to fortune 500 companies
- Interests:
 - App Design/Development
 - Database Development
 - Software Craftsmanship



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 **GrapeCity**

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technology



CodeStock 2012

Talk: “You”

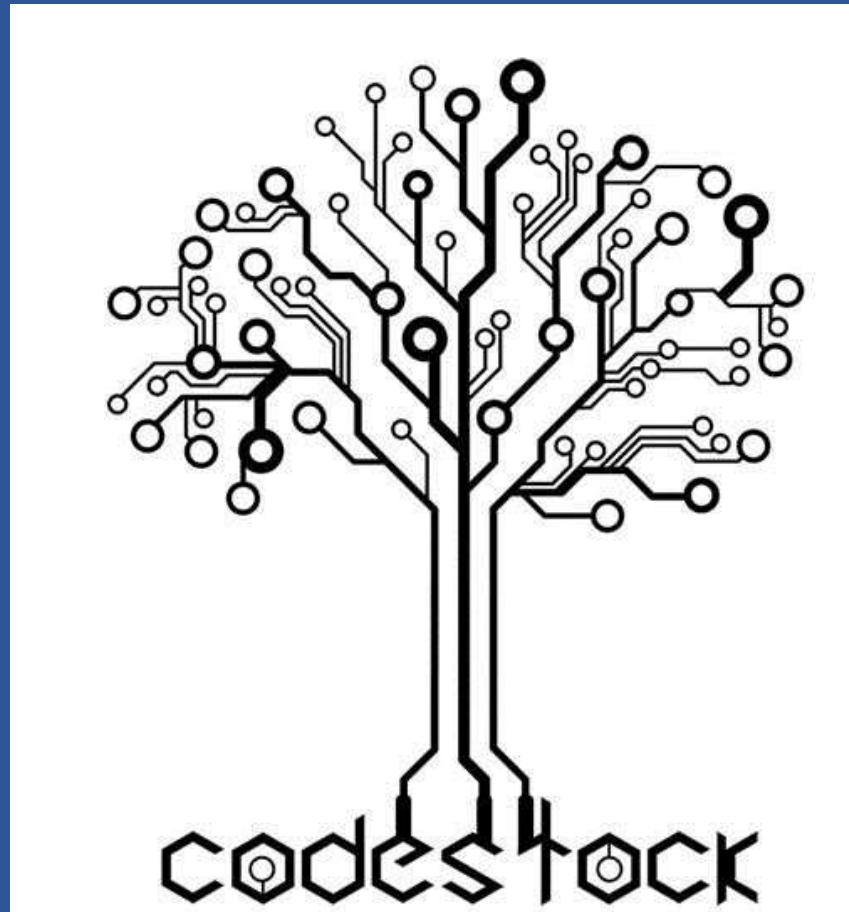
Speaker: Leon Gersing

“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 \neq )

(Pairing $\equiv \equiv$)

A hammer with a black head and a wooden handle with a red band.



WHEN YOU DON'T PAIR

It makes pandas sad

Assumptions:



Coding Is Social



Pairing is a Discussion



The background image is split into two horizontal sections. The top section shows a person's arm and hand in a blue denim shirt, holding a black pen and pointing at a dark, reflective surface, likely a computer screen. The bottom section shows a close-up of two hands typing on a black keyboard on a wooden desk. In the background of the bottom section, there are yellow and pink sticky notes on a stand and a smartphone.



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?

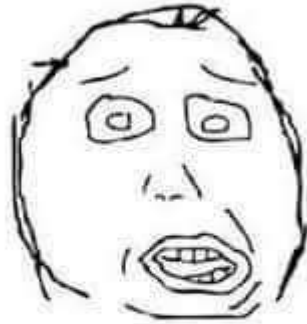
What is Pair Programming?

(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 Debt
- Reduces Poor Programming Practices

What Makes A Good Partner?

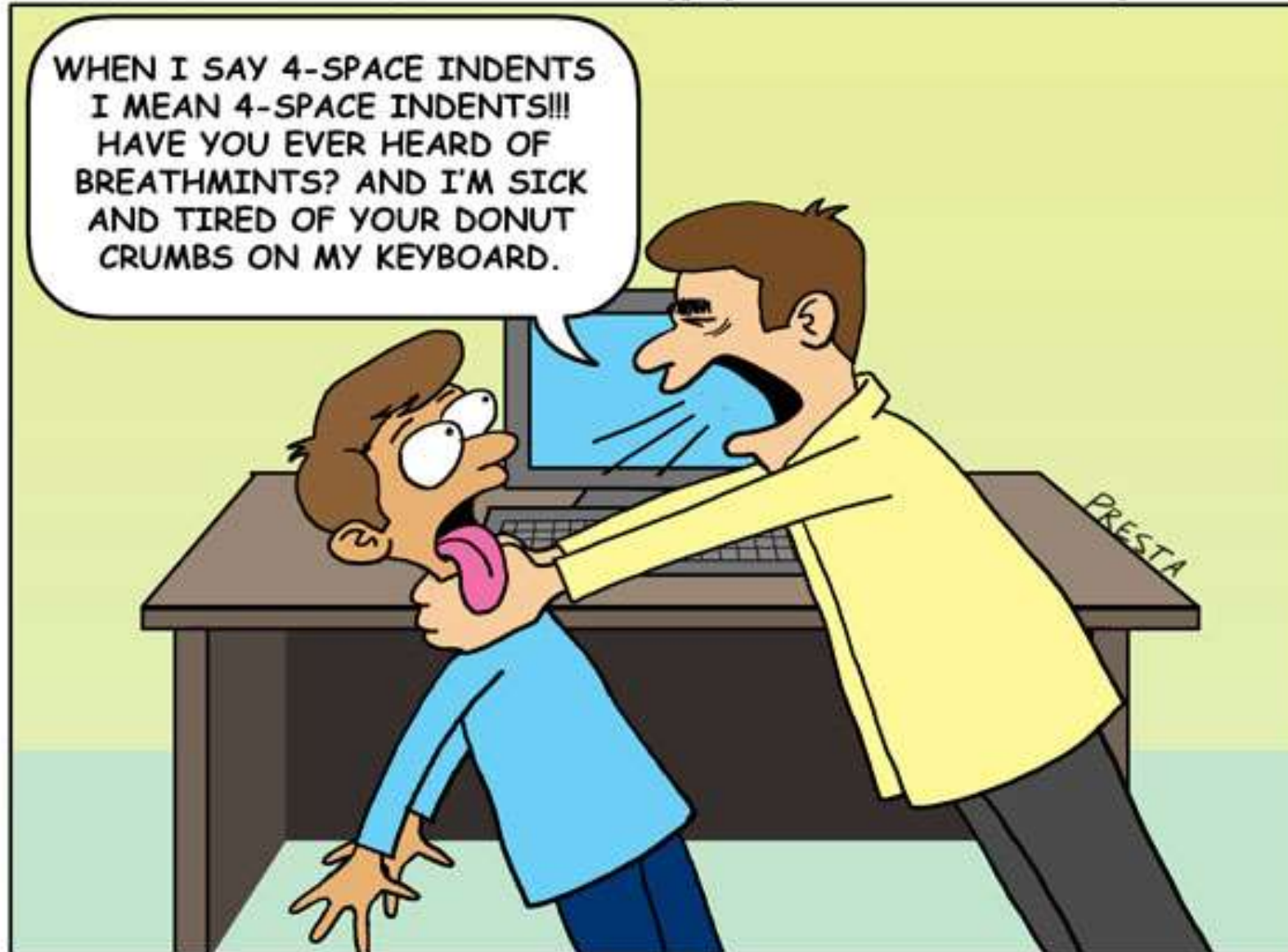
Ideal Pairing Partner

- 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



RESUME

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?

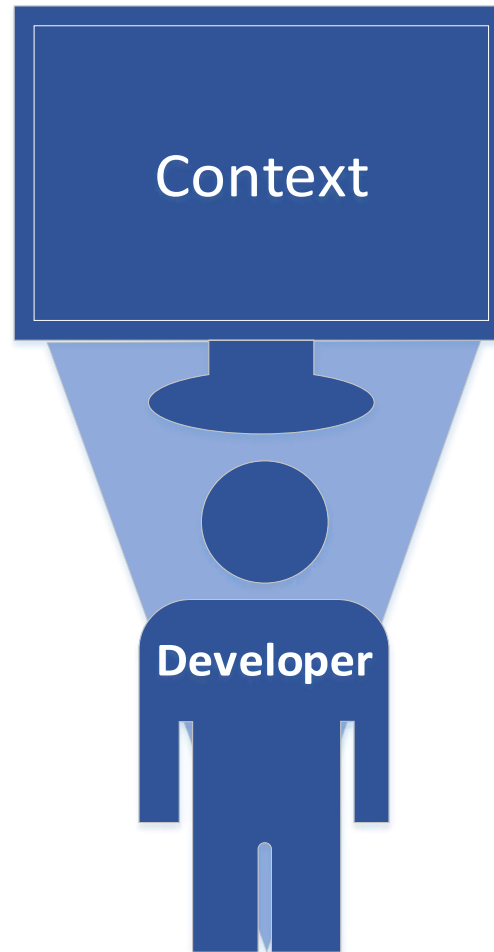
No, But Yes

What Are Some
Styles Of Pairing?



Unpaired

Unpaired



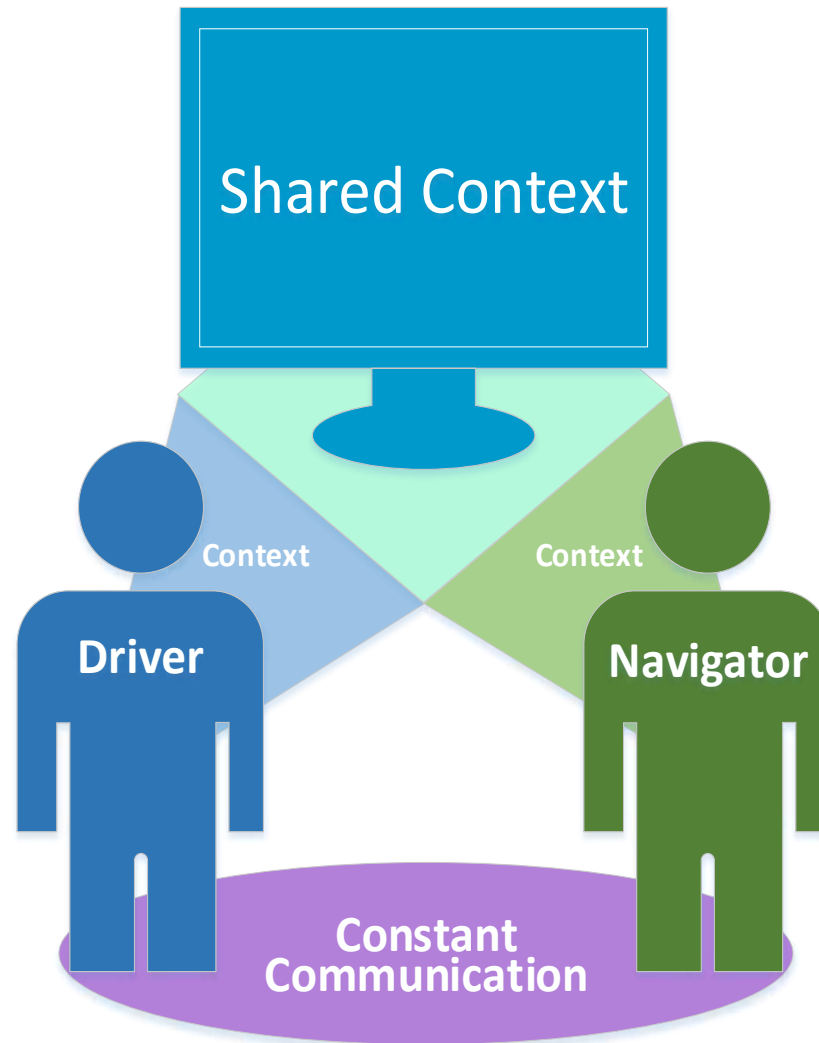


Unpaired



Standard Pairing

Standard Pairing



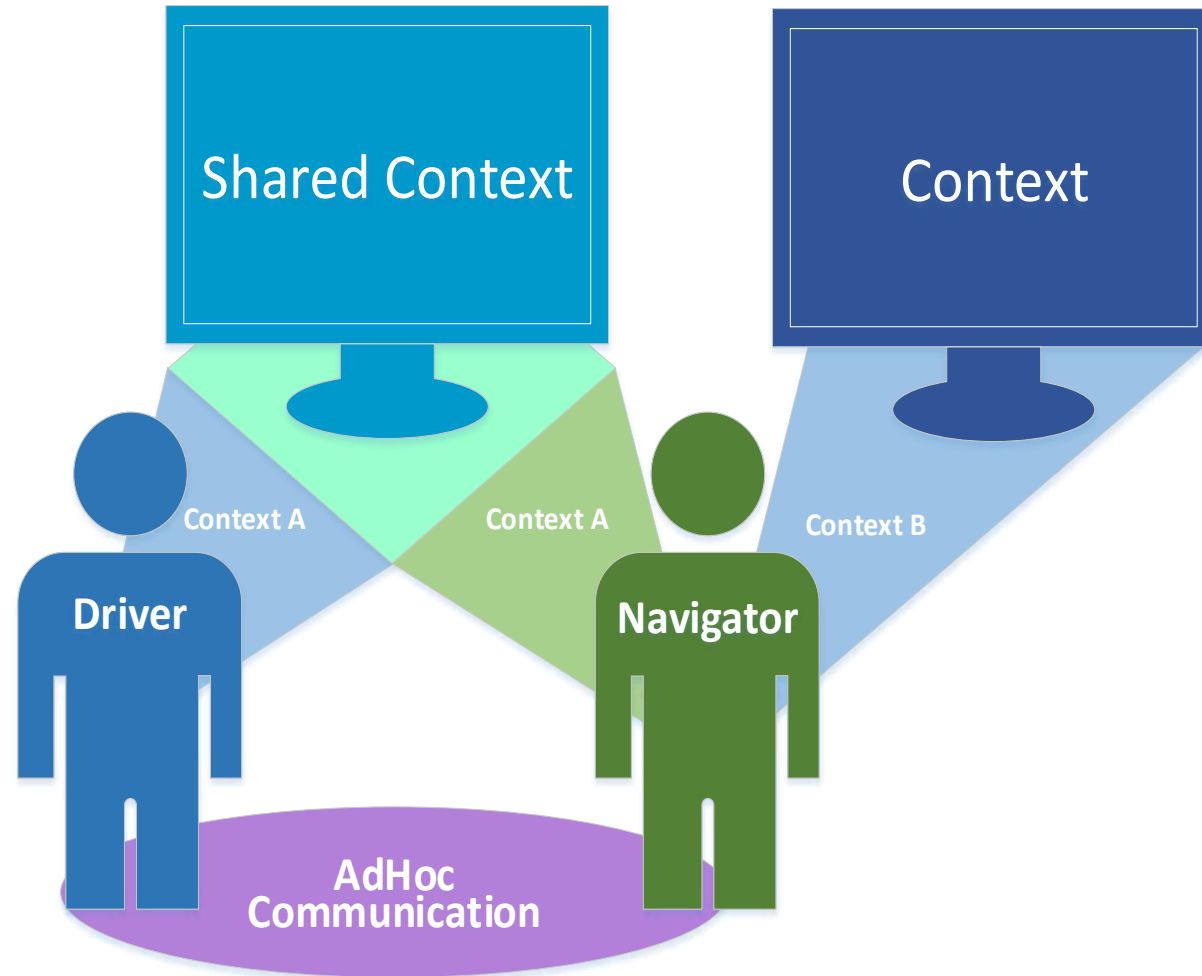


Standard Pairing



On Demand Pairing

On Demand Pairing



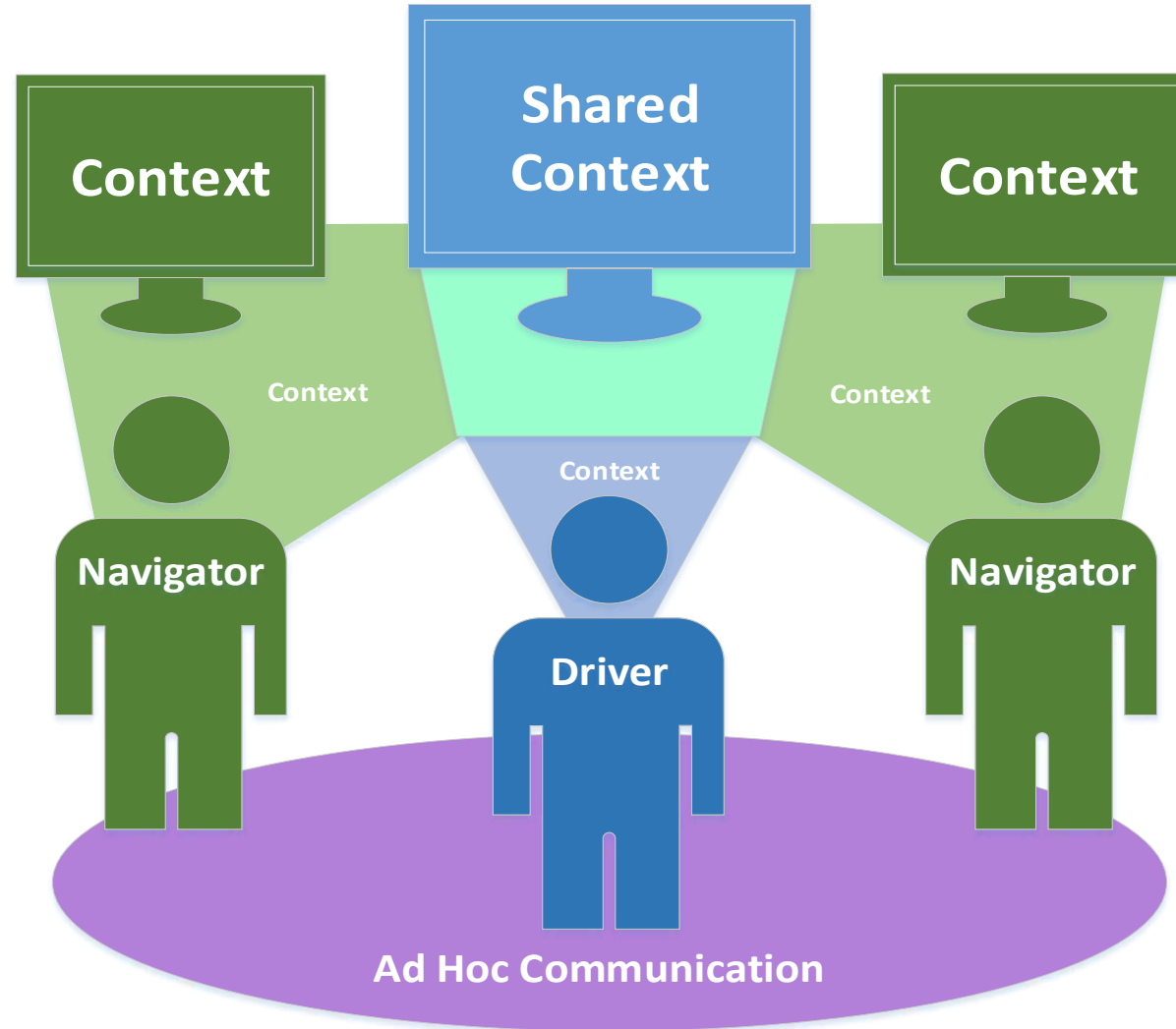


On Demand Pairing

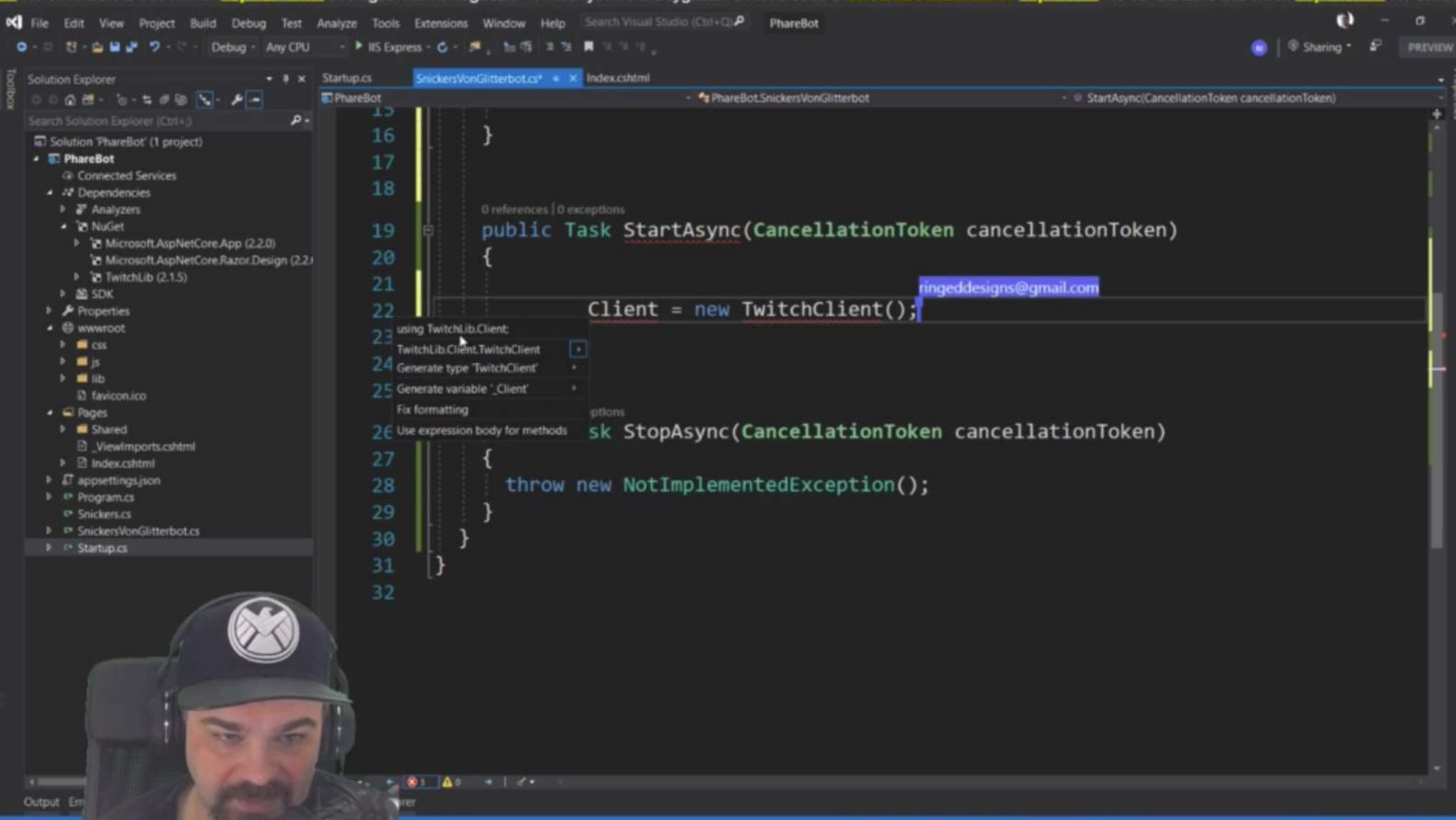


Mob Paring

Mob Pairing



0 contributors this month Top All Time: codingbandit 18 hugodahl 17 NotMyself 8 bradygaster 8 i-love-code 3 StreamDeckEmulator Top week: No contributors this week Top month: No contributors this month



PhareWings
@pharewings

instances of VS/vscode share extensions/snippets?
jaf1021 Good Morning!
swiftress It's like watching my mother program
svavabount (she doesn't use these often)
spacecato everyone starts somewhere
swiftress true enough
ahoeftling this reminds me of a coding dojo
codermat 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

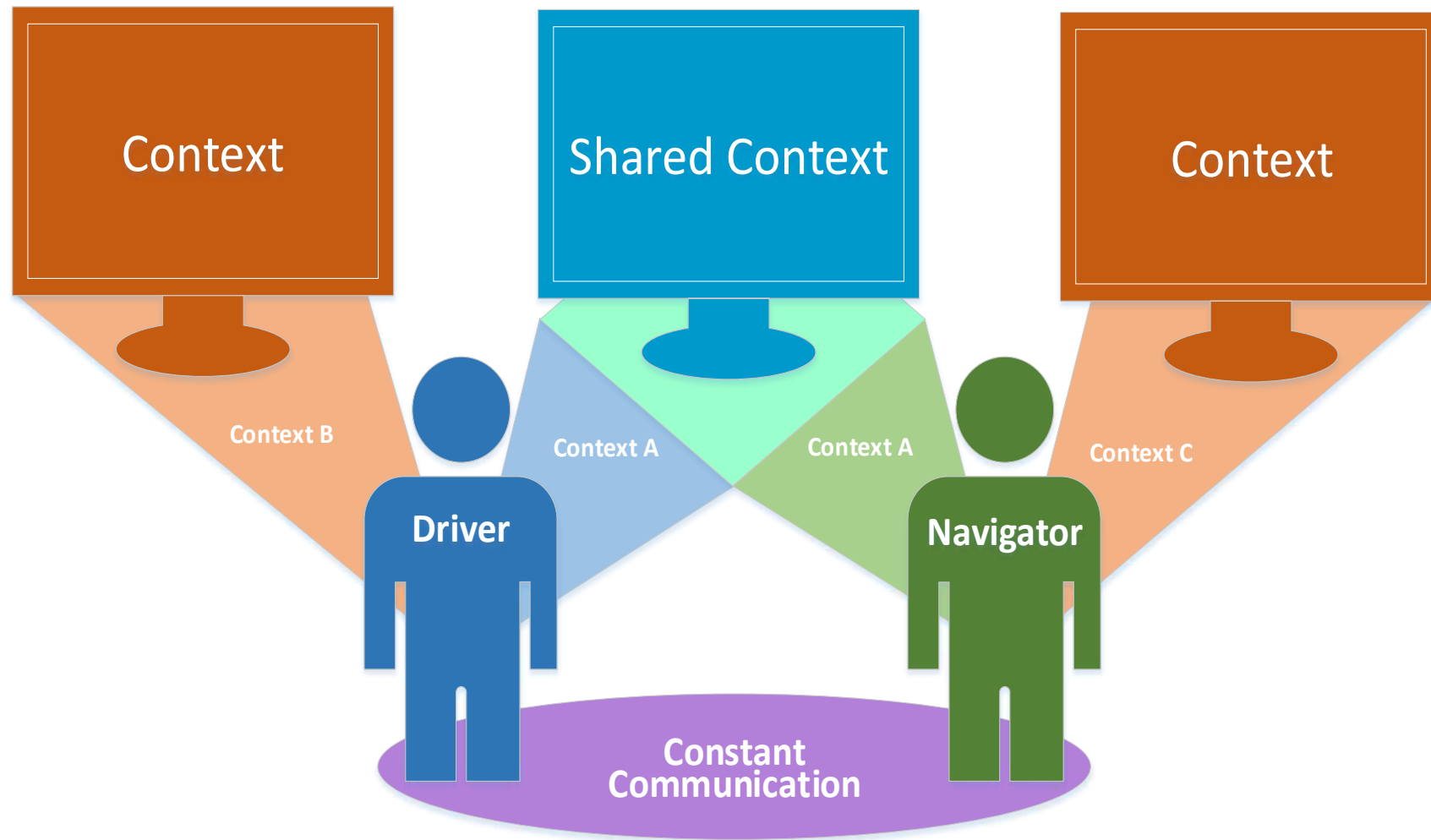
codestock

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Asynchronous Paring

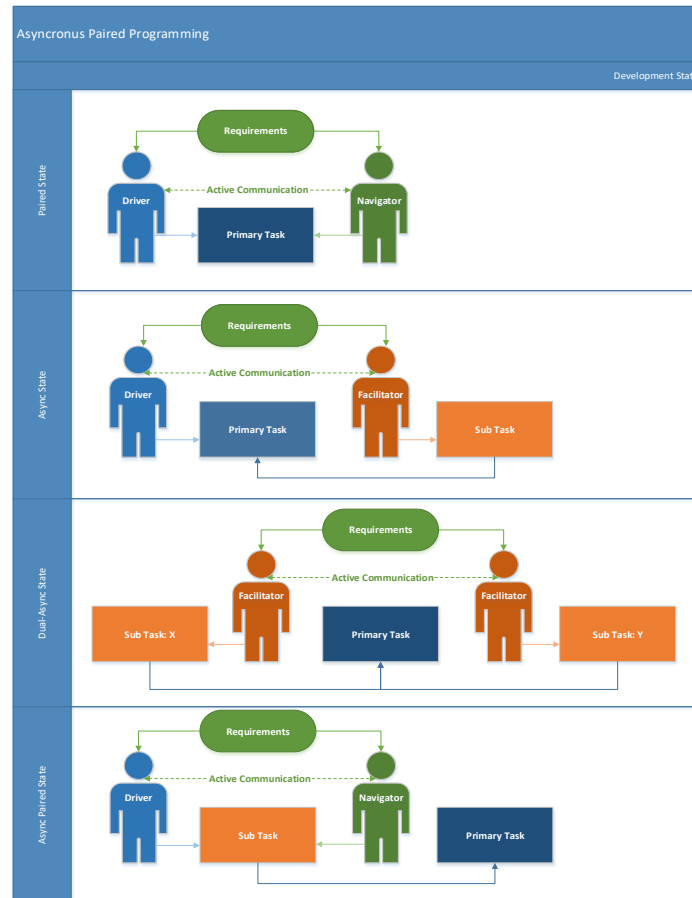
Asynchronous Pairing



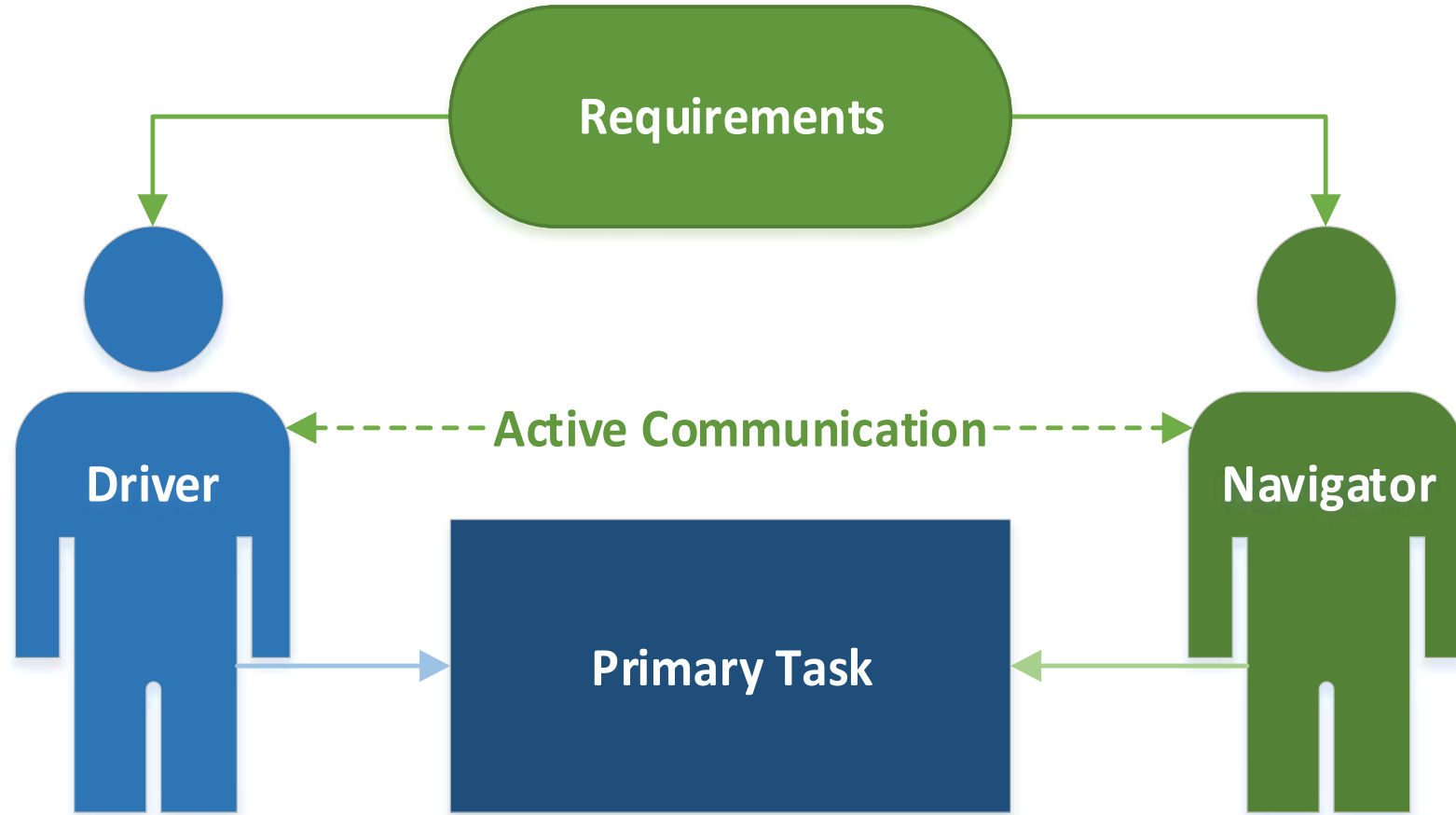


Asynchronous Paring

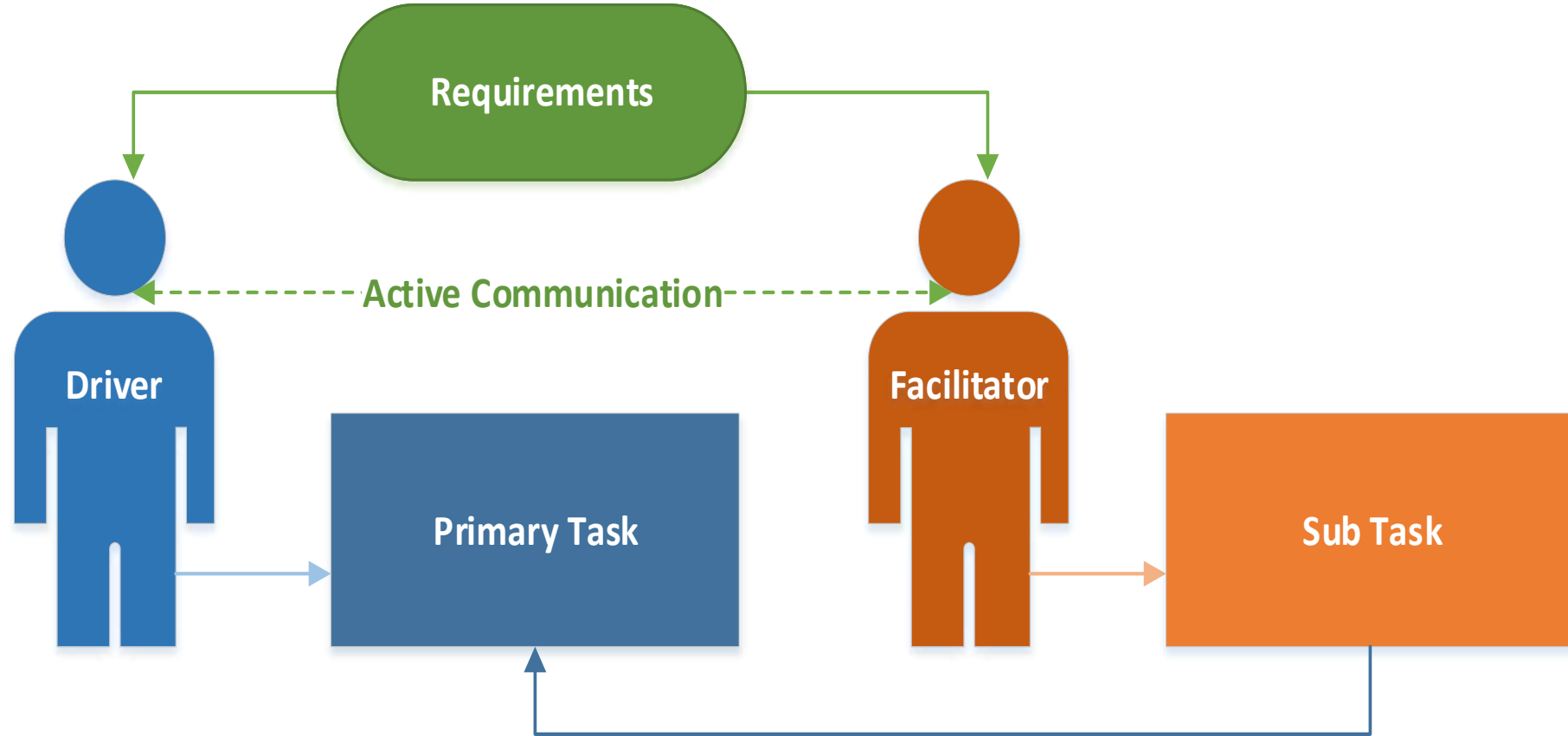
Asynchronous Pairing States



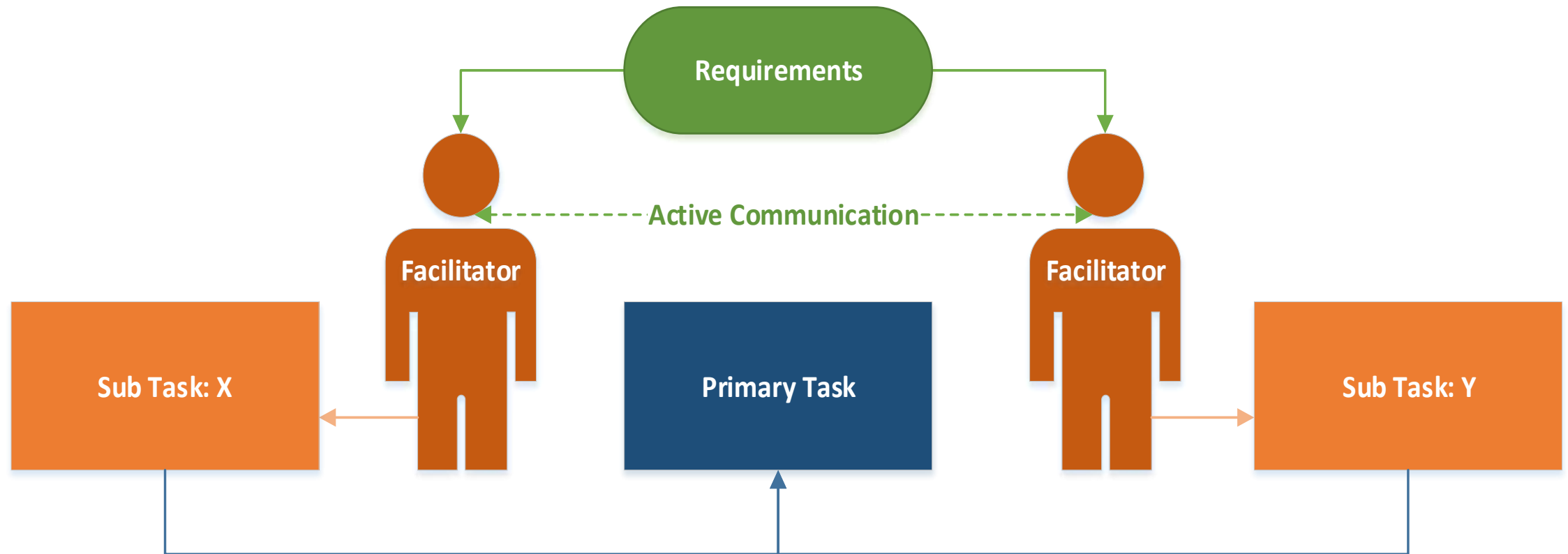
Paired State



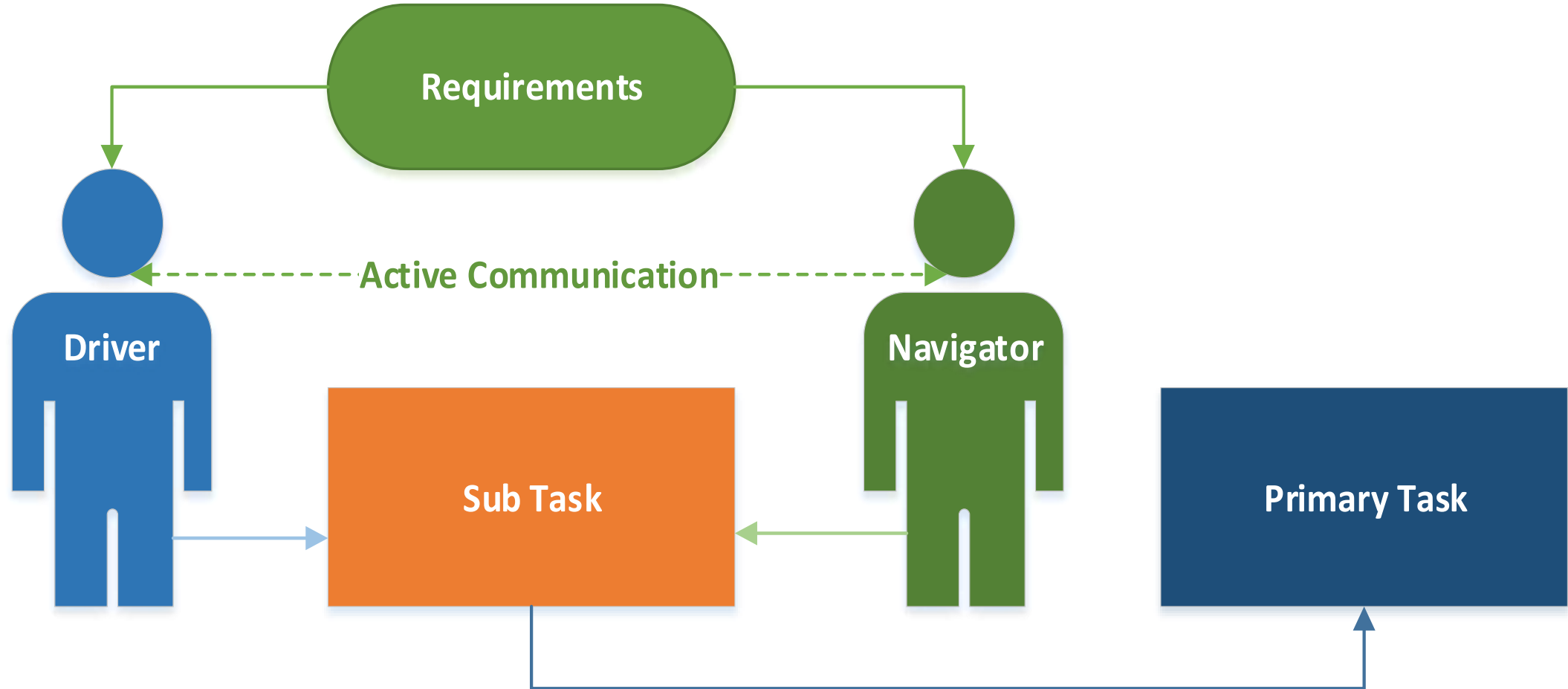
Async State



Dual-Async State



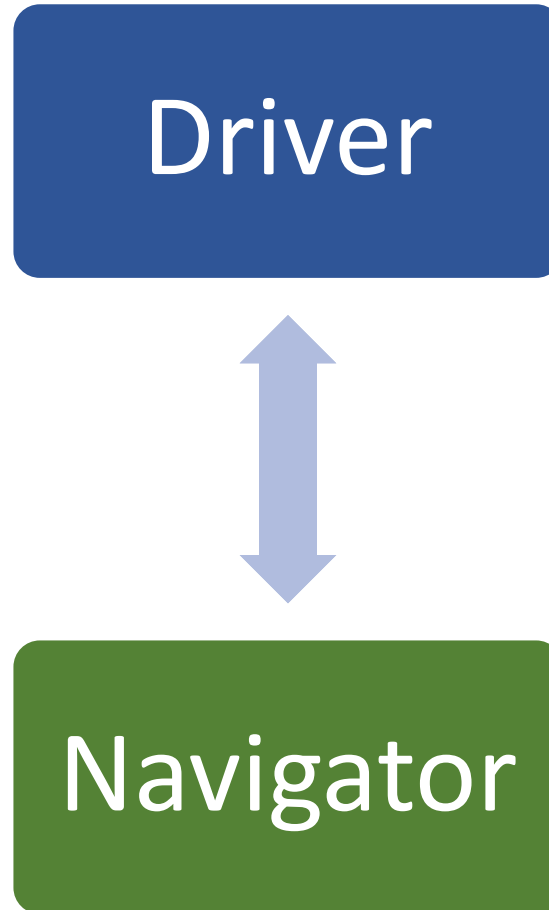
Async Paired State



A photograph of two women in an office environment. The woman in the foreground, with blonde hair, is looking down at a laptop screen with a slight smile. Another woman with blonde hair is leaning over her shoulder, also looking at the screen. In the background, a man with glasses is working on a laptop. A dark blue horizontal band is overlaid across the middle of the image, containing the text 'Pairing Roles' in white.

Pairing Roles

Pairing Roles



Pairing Roles

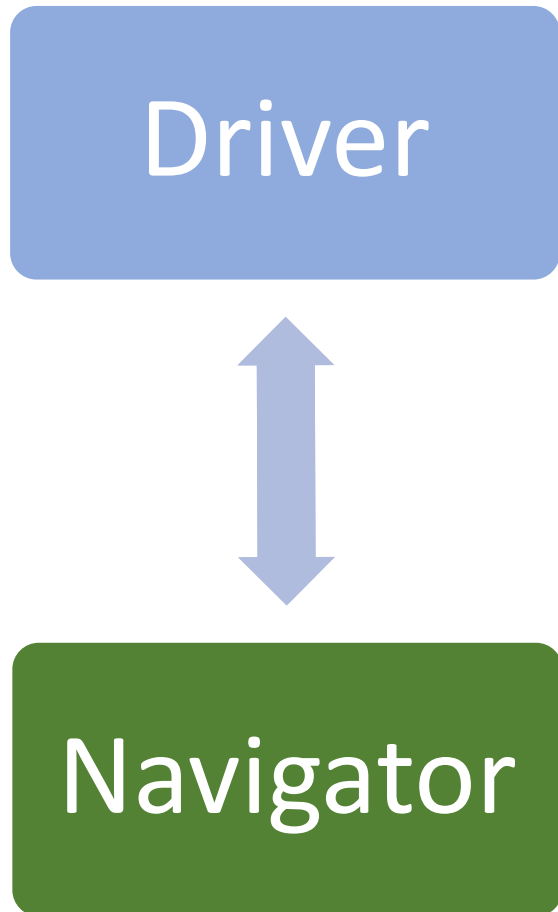
Driver



Navigator

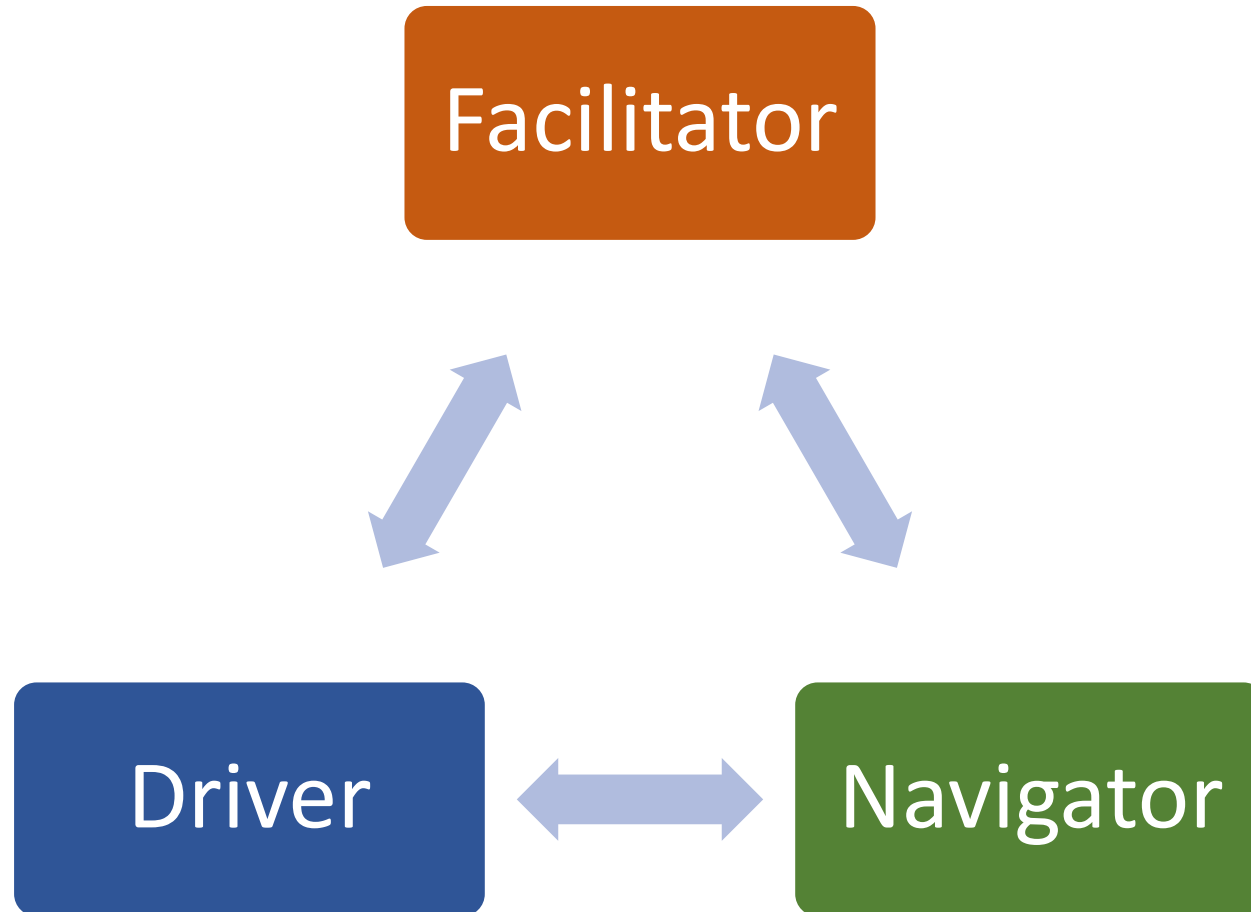
- Controls Keyboard and Mouse
- Discuss Ideas and Concepts being coded
- Constantly communicating with Partner

Pairing Roles

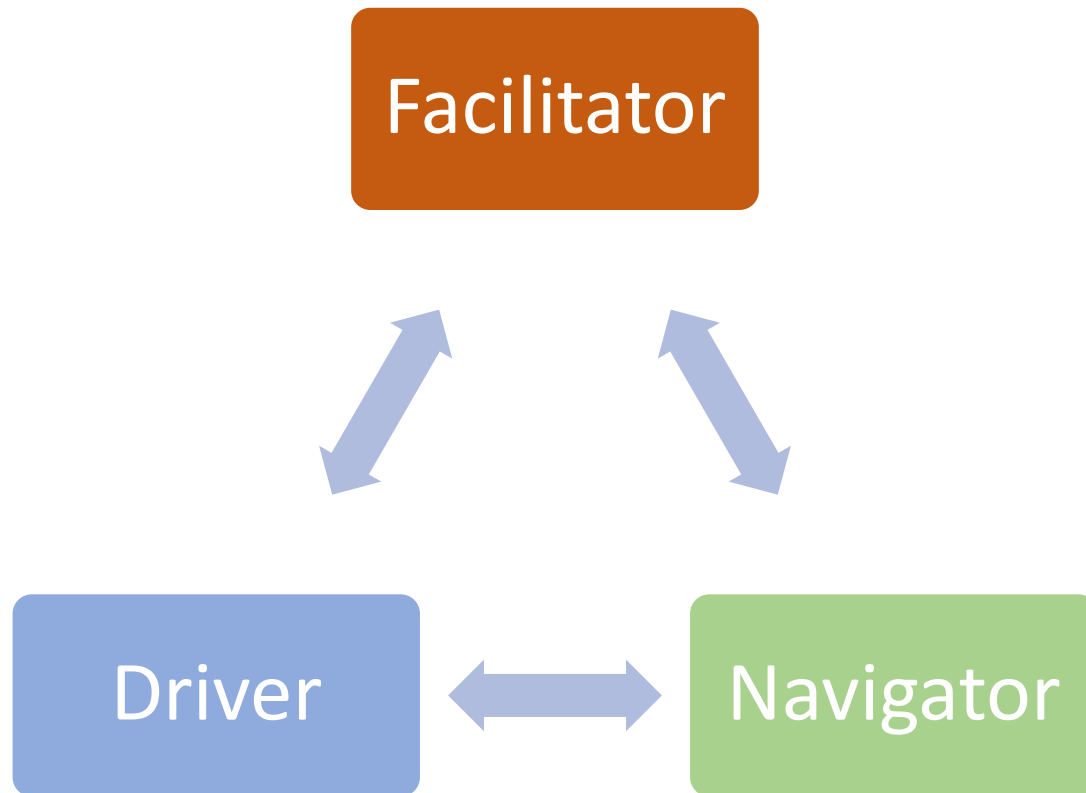


- Reviews Code
- Thinks Big Picture
- Discuss Ideas and Concepts being coded
- Constantly communicating with Partner

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

A close-up photograph of a person's arm and hand holding a red ping pong paddle. The person is wearing a white long-sleeved shirt with the sleeves rolled up. They are standing at a white table, likely a ping pong table. In the background, another person in a dark blue shirt is visible, slightly out of focus. The scene is indoors with warm lighting.

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 \neq )

(Pairing $\equiv \equiv$)

A hammer is positioned vertically on the right side of the image. It has a black, cylindrical head and a light-colored wooden handle. A red band is wrapped around the lower part of the handle. The hammer is oriented with its head at the top and handle pointing downwards.

(typeof(Programming) == "Work")

(Pair Programming == Pair Working)



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

A group of five diverse professionals (three men and two women) are sitting around a white table in a bright, modern office. They are all smiling and looking at each other, engaged in a collaborative discussion. On the table, there is a laptop, several glasses of water, and some papers with colorful charts. The background shows large windows with a view of a city.

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Questions? Comments?

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