“The value of another’s experience is to give us hope, not to tell us how or whether to proceed.”

Peter Block

Mob Programming

All the brilliant minds working together on the same thing... at the same time... in the same space... at the same computer...
Gather together people with all the needed skills and knowledge

Completely Different, All Together

It looks like this

It is NOT: 5 people watching 1 person coding.

Driver/Navigators

For an idea to go from someone's head into the computer it must go through someone else's hands.
This seems preposterous

Definition:
Contrary to reason or common sense; utterly absurd or ridiculous.
Why would we work this way?

- Knowledge sharing
- Continuous code and design review
- Many perspectives on the work
- Work on the right things
- Rapid feedback
- Better solutions
- Flow of work items
- Higher quality
- More fun, less stressful, more engaging... etc.
When I share Mob Programming this question is almost always asked:

How can we be productive with 5 people at one computer?

I don’t know. Does that matter?

We were paying attention

Here is what we noticed
Working Separately

\[ \text{Work} + \text{Work} + \text{Work} + \text{Work} + \text{Work} = \]

But working together

\[ \]

VS

Not just more stuff
The more meaningful stuff
It was better done
And of higher quality

VS

“A system is not the sum of the behavior of its parts, it’s the product of their interactions.”
Russel Ackoff
“A good question isn’t for answers... it’s for finding a better question”

I wanted a better question

Point of View

Working Separately
I want to get 5 things done, *NOT* just one thing.

Are we really getting 5 things done? Or are we getting 5 things worked on?

There is a difference.

How can we be PRODUCTIVE with 5 people at one computer?

About Productivity
Efficiency
Productivity
Effectiveness
Condensed:

Efficiency = Utilization
Productivity = Getting things done
Effectiveness = Getting right things done

Why I’m after effectiveness:

Efficiency: Busywork
Productivity: Wrong things
Effectiveness: Right things

How can you be effective with 5 people at one computer?
Let’s Flip This Over

What is a possible “reverse” question to “How can we be effective with 5 people at one computer?”

How can we be effective if we separate the people who should be working together?

This led to a better question
What are the things that destroy effectiveness?

Exercise

A short list of things that can destroy effectiveness:

- Fatigue
- Hunger
- Personality conflicts
- Personality clashes
- Missing requirements
- Missing resources
- Insufficient resources
- Monolithic architecture
- Cumbersome processes
- Disagreements
- Poor working conditions
- Too Much Noise
- Too Quiet
- Context Switching
- Workflow Interruptions
- Onboarding
- Negativity
- Not taking enough time
- the first time
- Communication barriers
- Lack of knowledge
- Fear
- Lack of plan
- Upsetting work environment
- Lack of control/understanding
- Indecision
- Doubt
- Distractions
- Analysis paralysis
- Bugs
- Snow days
- Not everyone is on the same page
- Not knowing something
- External dependencies
- Unclear requirements
- Unclear expectations
- Unrealistic expectations
- Time zone differences
- Waiting on other teams
- Lack of work backlog
- Interacting with others
- Dependency on other teams
- Waiting on dependency
- Technical blockers
- Scarce materials
- Not knowing how to do something

We noticed many problems simply faded away when we started Mob Programming!
One of many Communication Problems

Question Queue Time

The amount of time we must wait to get an answer to a question that is blocking us

Question Queue Time during an Eight Hour Day

Zero Queue Time – No Waste

Two Minute Queue Time – Wasting 36 minutes a day

Ten Minute Queue Time – Wasting 70 minutes a day

One Hour Queue Time – Wasting 4 hours a day

One Day Queue Time – Wasting the whole day!!
How do we typically solve this?

One task we are working on

We increase inventory so we can stay busy

Symptom? Problem?

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How do we typically solve this?

Work on many tasks to keep us busy

Inventory: Work started on, but not yet delivering value

We can not “solve” queueing symptoms by introducing an inventory problem

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How did we Solve This?

“Automatic” One-Piece Flow
Flow vs. Flow
Psychological Flow And Lean Flow

Flow
Mihaly Csikszentmihalyi
Author and Psychology Professor

Flow
A highly effective mental state of a person completely immersed in an activity.
Flow
Being “In the Zone”

- Leads to a sense of ecstasy and clarity
- You know exactly what you want to do from one moment to the other
- Sense of time disappears.
- You forget yourself.
- You feel part of something larger.
- Csikszentmihalyi

Do we destroy psychological flow when we work as a team?

Can we get psychological “Flow” when we work as a team?
This is ALL GOOD!

But...
There is another kind of flow.
Flow, as in Lean

Flow In Manufacturing [simplified]
- Complete production of one piece
- From start to finish
- With as little work in process (inventory) and as little waiting (queueing) between operations as possible

Well Worth the Read
The Principles of Product Development
Donald G. Reinertsen
The Principle of Queueing Waste:

Queues are the root cause of the majority of economic waste in product development

Donald Reinertsen

Queues create:

Longer cycle time
Increased risk
More Variability
More overhead
Lower quality
Less motivation

Value Stream Map

Green: The Right Work Getting Done
(includes exploring, experimenting, discovery)

Red (Waste): The Wrong Things
Examples: Waiting, Inventory, Merging, Arguing, Discussing rather than trying things, Work that doesn’t need to be done, Doing the “Wrong Thing”, Failure Demand, meetings, coordination, prioritizing... ad nauseam

Flow with Software Development:
Each Story flows from “idea” to delivered, working software directly
without queueing, inventory, waiting, distraction, interruption, or multitasking
The Small, Inexpensive, Attempt at Value

ONE AT A TIME

Idea
Something to learn

Story

Evaluate
And what did we learn?

Design and Code

Feedback
Deploy to real use

With Mob Programming what do we want to optimize for???

We optimize for the flow of the work rather than for the output of the individual

We are NOT trying to Get the most work out of each person
We are seeking to get the best of each of us into everything we do.

I believe I can now answer that original question.

How can we be EFFECTIVE with 5 people at one computer?

Flow Plus Flow

Flow
**Psychological Flow**
**Plus Team Flow**
**Plus Lean Flow**

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**Flow++**

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We Enable **Individual FLOW**
by giving each person the safety and space to think in their own way.

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We Enable **Team FLOW**
by Working Well Together
We Enable **Lean FLOW** by Eliminating Queues and excess inventory

The object isn’t to make art, it’s to be in that wonderful state which makes art inevitable

**Mob Programming Book**

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Mob Programming and the Power of Flow

Woody Zuill