BFBMBVSP
Business Value For Fun and Profit

Ken Pugh

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Ken Pugh

ken@kenpugh.com

- OOA&D, Design Patterns, Lean, Scrum, Kanban, Test-Driven Development
- Over 2/5 century of software development experience
- Author of seven books, including:
  - *Prefactoring: Extreme Abstraction, Extreme Separation, Extreme Readability* (2006 Jolt Award)
  - *Interface Oriented Design*
  - *Lean Agile Acceptance Test-Driven Development: Better Software Through Collaboration*

No code goes in till the test goes on.
A journey of two thousand miles begins with a single step.

Outline

- Agility focuses on rapidly delivering business value
  - What is it?
  - How do we estimate it?
  - What do we do with it?

The Product (Project) Team

- The Product (Project) Team consists of:
  - The Customer Unit
    - Provides requirements
    - Provides business value estimates
  - The Developer Unit
    - Provides implementation estimates
    - Implements requirements
  - The Quality Assurance Unit
    - Validates requirements are the right ones
    - Verifies manifestation implements requirements

Business Value – What Is It? (1)

- "I can't define it, but I know it when I see it“

Business Value – What Is It? (2)

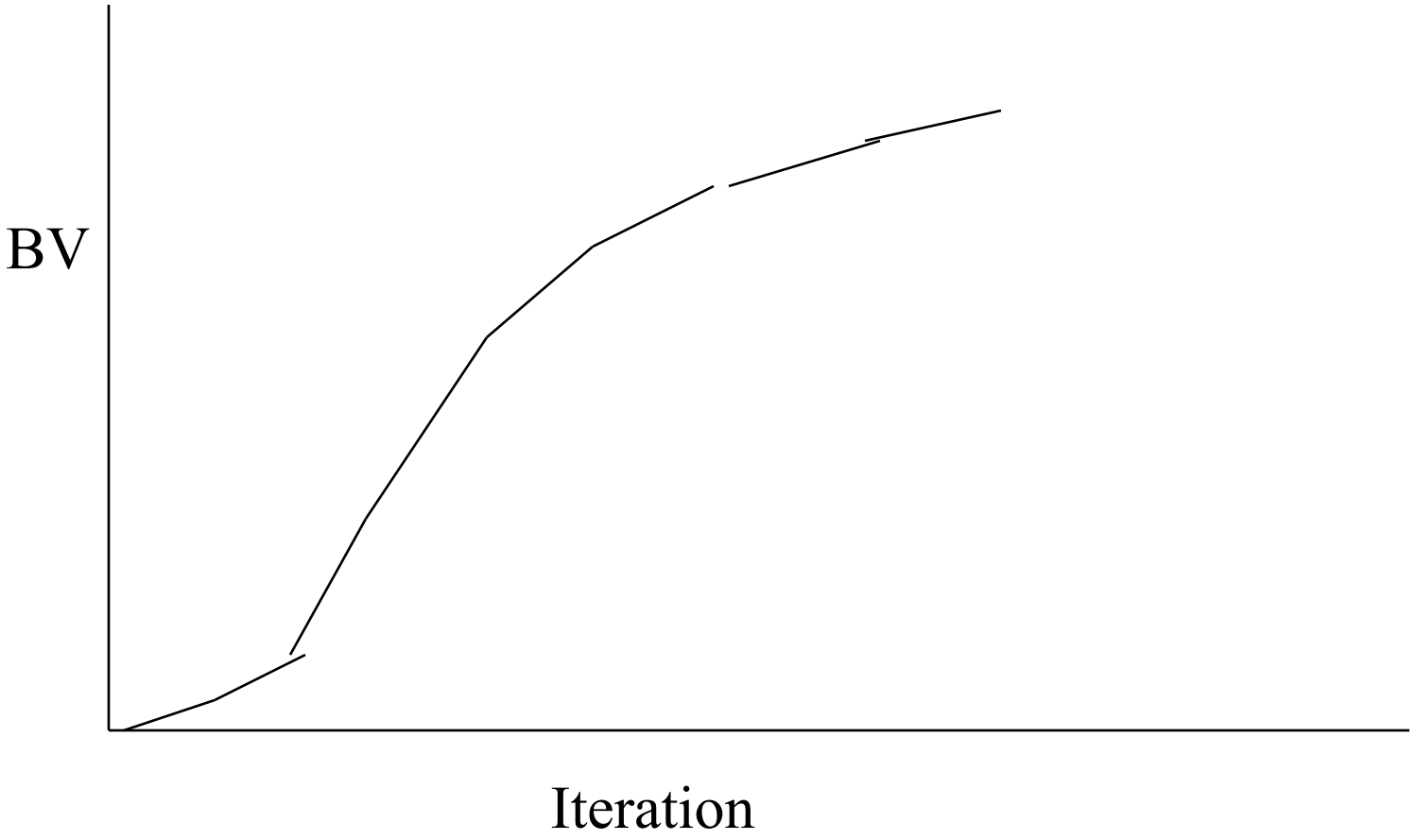
- Business Value can be:
  - Increased revenue (sales, royalties, fees) ($$)
  - Decreased expenses ($$)
    - Less resources
    - More efficient use of resources
  - Customer satisfaction ($$??)
    - Promoters / Satisfiers/ Detractors
  - Staying in business ($$??)
  - Staying out of jail ($$??)
  - Avoiding risk ($$??)
  - Information (what to build, how to build it) ($$??)

Business Value Measurement

- Customer should estimate business value for requirement stories
  - Could use $$
    - Often difficult to do or compute
    - Question: Can it be measured?
- Business value is unit-less
  - Allows comparison between non-$$ and $$
- As requirement is "done", business value achieved

Business Value Chart

- Shows increase in business value



Business Value Chart

- Business value not delivered linearly
- 50% of effort usually delivers more than 50% of BV
  - 40% / 60%
  - 20% / 80%

- Often for new team / project
  - Velocity is initially slower (stories / iteration)
  - Or some overall issues are dealt with
  - Therefore BV delivery is slow

Business Value Points (1)

- Could set highest priority story at a value (e.g. 100) and estimate relative points
- Or could use triangulation
  - Compare stories to multiple other stories
  - Group like stories together
- Values (unit-less)
  - 0, ½, 1, 2, 3, 5, 8, 13, 20, 40, 100, etc
  - 0 is little business value

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Game Play

- Place Story Cards in pile
  - Place top card on playing surface
- Next player places top card relative to first card
  - (left easier, right harder, below equal)
- In succession, each player can either:
  - Play top card from pile
  - Moving a played card
  - Pass
- Repeat above until:
  - No more cards remain in the pile, and
  - No player wishes to move a card
- Then assign points to each column
  - (1,2,3,5,8,13, 20, 40, 60, 100)

Starting Point

As a <user> I want
<capability> so
that I get <value>

Ending Point

1

As a <user> I want
<capability> so
that I get <value>

2

As a <user> I want
<capability> so
that I get <value>

As a <user> I want
<capability> so
that I get <value>

As a <user> I want
<capability> so
that I get <value>

3

As a <user> I want
<capability> so
that I get <value>

As a <user> I want
<capability> so
that I get <value>

5

As a <user> I want
<capability> so
that I get <value>

As a <user> I want
<capability> so
that I get <value>

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As a <user> I want
<capability> so
that I get <value>

Business Value Workshop

- Sample
  - Mow lawn
  - Take out trash
  - Repair leaky faucet
  - Clean basement
  - Tune up auto
  - Set clock on microwave
  - Watch basketball finals

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Business Value and Story Points

- Business value is one-half of equation
- Need cost estimate as well
- Time/cost estimates are frequently WAG's
  - Story points are relative measure of time/cost

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Story Points (2)

- Estimation Poker
  - Each estimator has deck of cards
  - Decide on one story that's average – 5 or 8 - for comparison
  - Read story
    - Each person pulls a card
    - Turn all cards over
    - Discuss differences
    - Redo until agreement

Story Point Workshop

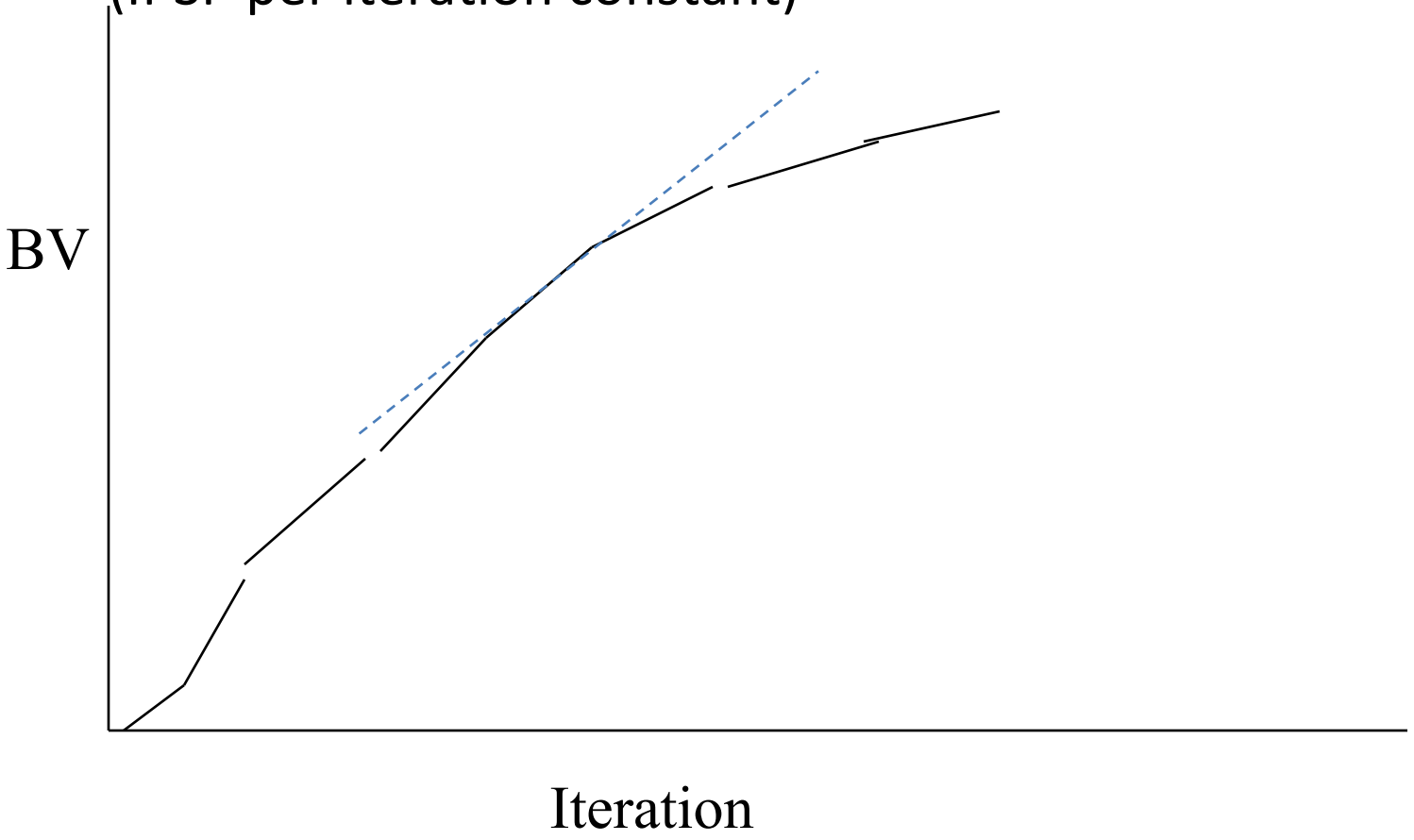
- Instead of cards, we'll use hand signals

Bang for the Buck

- Once business value and time estimated
  - Determine “bang for the buck”
- Bang = Business value points / Story points
  - Represents roughly “return on investment”
  - Don’t get into differences of 1.3 versus 1.4, but rather 1 and 2 or 3
- May want to prioritize high Bang stories

Business Value Chart (Revisited)

- Slope is roughly "Bang for the Buck“
  - (If SP per iteration constant)



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Requirement Prioritization

- Example priorities
  - Must have
  - Should have
  - Could have
  - Might have
  - “In your dreams”
- Every requirement has a business value
  - Or else why is it required?
- Need to prioritize requirements
  - If multiple product owners, need agreement on priorities
  - Priorities should be partially based on business value or bang for the buck

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Bang for the Buck

- When Bang for Buck decreases
  - Consider project termination
  - Look for other projects with bigger BfB

Weighted Shortest Job First (1)

- WSJF uses Cost of Delay (CoD) which combines
  - Business value
  - Time Criticality
    - Does value decay over time?
    - Fixed deadline?
    - Will customer wait for us?
  - Risk reduction / opportunity enablement
    - What else does this do for us?
    - Reduce risk?
    - Open up opportunities?

Weighted Shortest Job First (2)

- Estimate (on 1 to 20 or 1 to 100 scale)
  - Business value
  - Time Criticality
  - Risk reduction / opportunity enablement
- Then combine into CoD
  - At least two ways to do this:

    CoD = BV + TC + RR_OE

    CoD = BV + TC*TCWeight + RR_OE * RR_OEWeight
- WSJF = CoD / SP

CoD Exercise

	Business Value	Time Criticality	Risk reduction / opportunity enhancement
Mow lawn			
Take out trash			
Repair leaky faucet			
Clean basement			
Tune up auto			
Set clock on microwave			
Watch basketball finals			

CoD Considerations

	Time Criticality	Risk reduction / opportunity enhancement
Mow lawn	Harder to do when higher	Neighbors complaining Win best yard in neighborhood
Take out trash	Smell increases	Rats
Repair leaky faucet	Cost of additional water	Possible water damage Prevent mold growth Prevent losing job from loss of sleep
Clean basement	Loss of pizza due to cockroaches	Losing significant other after seeing cockroaches
Tune up auto	Loss of resale value	Possible car not starting Possible engine repairs
Set clock on microwave	None	Missed taping of shows Annoyance of blinking
Watch basketball finals	Won't be real time if missed	Watching after knowing score

Assumptions

- Benefits of estimating CoD (or just BV)
  - Make explicit the implicit assumptions about value

Smaller Picture

- Example had “big level stories”
- Big level stories turned into smaller stories for scheduling
- BV allocable among stories
  - Can use planning poker, card movement, or just agreement

"Right-Sized" Stories

- If story not breakable into stories with BV
  - Break story into developer stories
  - Developer stories have no BV (they support BV)
    - Should have developer-supplied acceptance tests
- Achieve BV when all developer stories done

BV to $$

- If need $$
  - Take total estimated $$ for a project
    - BV $ = (Total $$) / (Total BV)
  - Using past history, determine estimated SP $
    - (Total $$ / Total SP for project)
- ROI is BV $ / SP $
- Example:
  - Sam's benefit was $100K, total BV was 173, $/BV is $580
  - Based on past history, 1 SP equivalent is $10000, total cost of 30 SP is $300,000.
    - Total ROI = $100k/$300K = 33%
  - Earned value is $580 per BV completed

Not an Ending, But a Beginning

Summary

- We've looked at business value
  - What is it?
    - Measure of worth to the business
  - How do we measure it?
    - Customer unit estimate sit
  - What do we do with it?
    - Determine bang for buck
    - Determine requirement priorities
    - Show business value growth
    - Prioritize portfolios

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Start Becoming Business Valuators

Thank you

Supplemental

Technical Value

- Technical value
  - Some work items are technical
    - E.g. upgrading database
- Assign TV points
  - May be on different queue than BV items
  - Compute BfB

A Last Exercise

- If there's time
  - Let's try it for real

Bigger Picture

Bigger Picture

- Can use"Bang for the Buck" on larger scale
  - Determine "Business Value" for project on large scale
  - Determine "Story Points" for project on large scale
  - Rank projects (or individual features) on "Bang for the Buck“
- Issues
  - People who have bigger picture view / appreciation
  - Need to rank non-homogeneous projects
  - Need to adjust effort estimates by different teams
    - Use past history, if available
- Measures
  - May use WP (work points) for non-software work
  - Need to determine a WP to SP ratio to adjust BfB

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Portfolio Project Example

CheckInOut
BV =
SP =
BB =

Website Redo
BV =
SP =
BB =

HR Automation
BV =
SP =
BB =

New Store Layout
BV =
WP =
BB =

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Portfolio Feature Example

CheckInOut	Website Redo	HR Automation	New Store Layout
Keep track of Albums BV 100; SP 5; BB 5	Menus BV 100; SP 3; BB 33	Paychecks BV 5; SP 2; BB 3	Checkout area BV 20; WP 5; BB 4
Overdue report BV 40; SP 2; BB 20	Sign up BV 20; SP 13; BB 2	Vacation plans BV 1; SP 3; BB .5	New Album shelves BV 13; WP 20; BB .5
Catalog BV 13; SP 3; BB 4			
Charge system BV 20; SP 20; BB 1			

What might be the sequence?

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