AGENDA

1. Overview
2. Outcome Focus
3. Vision and Motivation
4. Problem Solving
5. Conflict Management
1. OVERVIEW
LEADERSHIP IS AN ARCHITECT’S IMPERATIVE

• “Digital” is becoming core to business
• We as architects need leadership skills equal to our technical skills
• Responsibility to guide business and align broad strategy
• Need to effectively communicate to our teams and motivate them
The goal of leadership is to influence individuals, teams, and organizations to effectively deliver durable results
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The goal of leadership is to influence individuals, teams, and organizations to effectively deliver **durable** results.
THE THREE “C”s OF LEADERSHIP

Credibility
Capability
Confidence
2. OUTCOME FOCUS

In order to be seen as credible by the business, you need to be able to think and talk in terms of outcomes rather than simply tasks, timelines, and technologies.
BIAS TO OUTCOME > BIAS TO ACTION

“We have to achieve something” vs. “We have to do something”
VOCABULARY

- **Tasks** are things we do
- **Deliverables / Artifacts** are things we create
- **Results** typically imply a narrow-focused outcome
- **Value** typically implies a measurable positive business impact
OUTCOMES

The “why” behind the decisions we make

The impacts we make based on our actions
Running late for work

- **Solution:** Drive fast!
- **Why:** Don’t want to be fired!
- **Other outcomes:** Ticket, accident, lose license 😞
Project running behind

- **Solution:** Work long hours
- **Why:** Make the launch date
- **Other outcomes:** Team burnout, employee turnover 😞
APPLYING OUTCOMES TO ARCHITECTURE
OUTCOME FOCUS HELPS PREVENT WASTE

Shifts focus from “let’s build this in case ... happens” to “let’s build this because we need this outcome”
We shouldn’t talk about an approach being right or wrong, or good or bad.

We simply need to know: does the solution achieve the desired outcomes?
OUTCOME FOCUS HELPS US CONSIDER THE BIGGER PICTURE

Acknowledge and embrace constraints

Constraints are part of “why”
OUTCOME FOCUS CREATES CREDIBILITY

Understand how your technology decisions impact the business

Talk in terms of outcomes

Seth Dobbs | @sethdtech
EXAMPLE: WHY BUILD AN INTRANET?

Our people should connect to the intranet every day vs.

We should build an intranet that provides information and support for our team members that is available when they need it.
EXAMPLE: WHY MOVE TO MICROSERVICES?

We need to move off of a monolith because microservices are a more modern architecture vs. We need to move off of a monolith so that we can be more nimble and respond quickly to business needs with rapid deployments of new capabilities.
SIMPLE TRUTHS

• Systems never need “more features”
• Businesses need to increase revenue, decrease costs, etc.
• Users have jobs to be done that can be made easier or harder
• Knowing how our work ties into these things makes a difference in our approach
“WHY” IS A POWERFUL MOTIVATOR

• Explain the “why” of your architecture:
  • To the developers so they will do a better job
  • To the business stakeholders so they understand how it aligns with their needs

• Outcomes in Agile:
  • “As a ... I’d like to ... so that I can ...”
CONSIDERATIONS

• Business does not always talk in terms of outcome focus!
• Don’t be afraid to ask “why” or “what are the outcomes you’re hoping for?”
• We shouldn’t engage in initiatives we don’t understand the purpose of
In the absence of a great dream, pettiness prevails.

Peter Senge
“The Fifth Discipline”
IN OTHER WORDS

“If we don’t have a common measuring stick for checking the value of our work, all things are equal and decision making becomes arbitrary.”

Seth Dobbs | @sethdtech
Don’t elevate the means over the end result
IT’S EASIER TO TALK ABOUT TASKS!

Our goal is to:

• Read a book
• Code a feature
• Implement a queue
• Build a website
IT’S MORE EFFECTIVE TO TALK ABOUT OUTCOMES!

Our goal is to:

• Become a better leader
• Increase dollar per cart
• Manage risk of network failure
• Enable our buyers to more easily buy from us
EXAMPLE OF OUTCOME FOCUS

Cutting corners to make a deadline...
Always do right.

This will gratify some people and astonish the rest.

Mark Twain
EXERCISES

We discussed outcomes from two perspectives:

1. Expected outcomes (talking about what we want to achieve, not what we’re going to do)

2. Impact outcomes (the ramifications of a decision we’ve made beyond the immediate desired result)

**Exercise #1**

Try to describe a task you're currently working on in terms of both expected and impact outcomes.

Discuss with each other.

**Exercise #2**

Work together to convert the following statements into expected or impact outcomes.

You can make up scenarios / assumptions to give them more depth.

For expected, the exercise is to think about “why”.

For Impact, the exercise is to think about “what else” (could be positive or negative impacts).
**Expected Outcomes**

1. We need to sort search results
2. We need a carousel on the home page
3. Users should be able to change any of their profile information
4. We need to implement payment processing
5. We want people to use our app daily

**Impact Outcomes**

1. We will implement a chatbot to directly connect with our support and sales staff
2. We’ll move our manufacturing control system to the cloud
3. We will use microservices to create an agile environment
4. We will use document store (NoSQL) for our order transactions to enable rapid order placement
5. We want to keep the payment experience fully branded so we will host the credit card page ourselves
6. We’ll start selling our equipment direct to consumer instead of just through reseller channels

3. VISION AND MOTIVATION

You need to be able to articulate your vision in a way that captures your external stakeholders while motivating and giving direction to your team.
"Vision without action is a daydream. Action without vision is a nightmare."

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Japanese Proverb

Seth Dobbs | @sethdtech
If we don’t know where our actions are taking us, the results can be disastrous.
WHAT VISION ISN’T...

• We don’t need to have grandiose visions for the future
• It’s not necessarily about robots, space flight, talking dogs
• It’s not sloganeering or a valueless statement to post on a wall
An outcome-oriented view of the future that you use to guide yourself and your team
WHAT THE VISION DOES

• Drive us forward: What does it look like when we “achieve” it?
• Helps individuals / teams / organizations understand where they’re headed
• Helps us understand “why”
• Enables people to do their work with a focus on the right outcomes
EXAMPLE ARCHITECTURAL VISION #1

We will implement a queue architecture to handle order requests to enable scale and to enable recovery from network failure.
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We will implement a queue architecture to handle order requests to **enable scale** and to enable **recovery from network failure**.
EXAMPLE ARCHITECTURAL VISION #2

We will support viewing of high performing media content in an environment with poor WiFi. This will be done through an offline first approach that opportunistically caches content.
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EXAMPLE ARCHITECTURAL VISION #2

We will support viewing of high performing media content in an environment with poor WiFi. This will be done through an offline first approach that opportunistically caches content.
The “How” is not included in the vision!
CREATING AND COMMUNICATING VISION

1. **Research**: Understand the “Why”
   - Who are your stakeholders? What outcomes are they looking for?

2. **Qualify**: Establish a clear context for your vision
   - Problem statements, assumptions, constraints

3. **Define**: Articulate the what and why, not the how

4. **Communicate**: Begin socializing the vision to get feedback and grow commitment
OUR STAKEHOLDERS: A DESIGN THINKING POV

TECHNOLOGY

Feasibility
OUR STAKEHOLDERS: A DESIGN THINKING POV

HUMAN
Desirability
OUR STAKEHOLDERS: A DESIGN THINKING POV

BUSINESS Viability
OUR STAKEHOLDERS: A DESIGN THINKING POV

HUMAN
Desirability

BUSINESS
Viability

TECHNOLOGY
Feasibility
STAKEHOLDER INTERACTIONS

• **Provide input:** requirements, goals, desired outcomes

• **Have needs and goals:** beyond the business outcomes, everyone has their own personal needs, goals, growth, etc.

• **Need to understand:** how our vision helps them realize outcomes

• **Can cause friction:** when needs aren’t being met
GOOD VISION?

We will implement a queue architecture to handle order requests to enable scale and to enable recovery from network failure.

**User Desirability:** Available, won’t lose requests

**Business Viability:** Keeps users from leaving site, allows order processing

**Technical Feasibility:** Queues are fairly known. Will it fit in architecture?
We will implement a queue architecture to handle order requests. This will allow us to keep the business running even if there is a network failure as we won’t lose user orders and we won’t have to turn them away from our site.
GOOD VISION?

We will support viewing of high performing media content in an environment with poor WiFi. This will be done through an offline first approach that opportunistically caches content.

User Desirability: High quality media viewing / listening

Business Viability: Can sell into facilities with poor networking

Technical Feasibility: How costly is it to develop this approach?
BETTER VISION

We will support viewing of high quality media content in an environment with poor WiFi. This will be done through an offline first approach that opportunistically caches content. We will be able to sell into facilities that our competitors can’t work with using this approach. We can launch by xx date.
CLEAR VISION CAN DRIVE COMMITMENT

The outcome of a well-defined vision is commitment
COMMITMENT

• Committed team members bring energy, excitement, and passion that can’t be achieved by mere grudging compliance

• Committed team members tend to be high achievers and will “change the rules” to succeed

• Our teams are intrinsically motivated – they need a level of clarity combined with autonomy to do their best
The hardest lesson for many managers to face is that ultimately there is really nothing you can do to get another person to enroll or commit. They require freedom of choice.

Peter Senge
“The Fifth Discipline”
It’s not effective to simply force our team to do what we want. We’ll get our best results by leading with “why”.

Seth Dobbs | @sethdtech
EXERCISES

We discussed components of a good vision statement:

- **Outcome-focused view of a future state**
- **Contains "what" and "why"**
- **Does not contain "how"**
- **Appeals to three classes of stakeholder**

Exercise #1

Take a project you’re working on and describe your vision for it.

Use the three stakeholder criteria to test it with your group.

Discuss with each other.

Exercise #2

Create better vision statements than those listed.

Be sure to think about the user, business, and technology stakeholders and if their POVs are represented.

Again, feel free to make up some background info to justify the story.

#1: Live bidding
**Problem:** We want to support live bidding in an online auction system and web refreshes aren't cutting it.

**Vision:** We're going to use websockets to support the live bidding

#2: Furniture Delivery
**Problem:** Delivering and installing complex office furniture that can have complex and variant configurations that are hard to get right.

**Vision:** We'll use augmented reality to visualize how it should look in the office

#3: High-End Hotel
**Problem:** High-end hotel wants personalized reservation management system that manages checking in/out at desk, kiosk, phone; displays room

**Vision:** Use cloud to integrate all points of sale and mobile devices but ensure local network is set up in hotels if connection to internet is lost.

#4: Patient Search
**Problem:** Healthcare provider needs to look up patients to find benefit information. Can enter partial names, partial ssn, etc.

**Vision:** We will truncate search results at 100 and inform the provider they need to enter better criteria
4. PROBLEM SOLVING

Applying rigor to the problem solving process will build confidence in our stakeholders
PROBLEM SOLVING FRAMEWORK

Develop the discipline to avoid instant solution gratification.
A SIMPLE APPROACH

1. Develop a **Problem Statement** that includes context
2. Provide a **Hypothesis** to drive discussion
3. Attempt to **Disprove** hypothesis
4. **Solve**
1 PROBLEM STATEMENTS
There is plenty of research around methods for optimal boarding time.

Why don’t airlines use this?
SHAPE THE PROBLEM BEFORE THE SOLUTION

A problem well-stated is a problem half-solved

Work to clarify and bound the problem
IS THIS A GOOD PROBLEM STATEMENT?

“We need SEO optimization”

NOT A PROBLEM STATEMENT
IS THIS A GOOD PROBLEM STATEMENT?

“We need to generate more online leads”

MAYBE A PROBLEM STATEMENT
IS THIS A GOOD PROBLEM STATEMENT?

“We aren’t closing enough new business”
“We need” means it’s a solution, not a problem.
EXAMPLE

• “We need to rebrand our website”
• We need our website to reflect our brand
• Potential customers won’t understand our services and won’t buy from us
GOOD PROBLEM STATEMENTS

A problem statement should have:
• A desired outcome that isn’t happening
• Or an existing outcome that shouldn’t be happening.
Order placement is timing out and orders aren’t being taken
Average $ in cart has gone down recently
Users have to re-login when they switch to a different brand site
MORE EXAMPLES

• Google Glass project
• Scheduling
• People
• Super Sort
BUSINESS PROBLEMS

Our solutions are valuable only if our business / clients / users see them as solving meaningful problems.

As architects, we need to tie technical needs to business problems.
<table>
<thead>
<tr>
<th>Technical Problem</th>
<th>Business Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>The customer profile queries are slow</td>
<td>Our users have to wait so long to view their profile that they leave the site and don’t come back.</td>
</tr>
<tr>
<td>Technical Problem</td>
<td>Business Impact</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>The servers cannot support high throughput.</td>
<td>If more than ___ users come to the site, performance will degrade to the point that it will seem the system is down.</td>
</tr>
</tbody>
</table>
Working to understand the full context in which the problem sits will lead to better solutions
CONTEXT: CONSTRAINTS

Do the homework to understand what constraints you are operating under
TYPICAL CONSTRAINTS: TIME

- Time-to-market is a real constraint
- “We” often mistake it as a deadline for releasing features
- Need to consider it **time-to-value**
We will have a different solution to a problem depending on if we’re given 2 days vs. 10 days vs. unlimited time to solve.
TYPICAL CONSTRAINTS: BUDGET

• Budget is often a reality
• We need to understand the cost of our recommendation
• Think incrementally
• Sometimes a roadblock because we aren’t talking about outcomes
TYPICAL CONSTRAINTS: LEGACY INVESTMENT

• Often, various technologies are a given
• We are sometimes bound by sunk investments
CONTEXT: ASSUMPTIONS

Make sure you stakeholders are in sync with assumptions
Unspoken assumptions are the seeds of disaster
ASSUMPTIONS

• Work with stakeholders to surface all assumptions
  • User behavior
  • System behavior
  • Reasoning
Current technology (and even versions) need to be considered.

Team skillset needs to be considered.
RETRAINING & REPLATFORMING

Sometimes retraining and/or replatforming can be justified by focusing and outcomes
Many of us work in industries and/or with data that fall under regulations. Clearly an important part of our context.
PROBLEM STATEMENTS

A good problem statement:
- Captures desired outcomes / absence of undesired outcomes
- Addresses business value
- Considers context
EXAMPLE PROBLEM STATEMENT + CONTEXT

Some memory loss patients can reduce their intake of psychotropic medication through regular interaction with certain kinds of quality digital content.

These patients often reside in facilities with poor wifi that cannot reliably support streaming from external servers.

They need devices that support poor vision and are easy to handle.

We have competitors exploring similar concepts so we believe that if we don’t have a solution to market in 4 months we may miss the opportunity.
2 HYPOTHESES
HYPOTHESES

• Provide a hypothesis as a strawman or direction to guide thinking
  • “Using queues will give us the capability to recover from network failures”
• Hypothesis = Vision
“We need an architecture that enables offline tablet usage but can get content updates when wifi is available”
3 DISPROVING QUESTIONS
The hypothesis or vision serves as a framework to the solution

Ask disproving questions

- Use them to ensure you encompass full context
- Use them to discover full context!
“How many transactions per day do you expect over the next year?”
“We’ll need to scale up over the next year, right?”
4 SOLVING
SOLVING

Solving is mapping from needs/goals to solution while honoring constraints and context
AVOID SOLUTIONS IN SEARCH OF A PROBLEM!

• We should not shape problems:
  • Based on the solutions at hand
  • Based on the solutions we want

• Ask ourselves:
  • Do we have a problem that microservices/serverless/etc. actually solves?
Just because Google, Netflix, or Facebook does it, doesn’t mean it applies to our situation.
5 PROBLEM SOLVING WRAP-UP
THE APPROACH

1. Develop a **Problem Statement** that includes context
2. Provide a **Hypothesis** to drive discussion
3. Attempt to **Disprove** hypothesis
4. Solve
Don’t get stuck thinking that “making your solution work” is the problem you have to solve.
A costly trip to Europe...
We discussed an approach for problem solving:

1. Create a problem statement (and context!)
2. Form a hypothesis
3. Attempt to disprove the hypothesis
4. Solve

This exercise is intended to give you practice in working through this approach.
Exercise #1

Take an existing problem you're working and have the group help in forming a hypothesis and disproving it.

Exercise #2

Use one of the scenarios to help you practice problem solving. These should be used in two parts:

Part 1: Overall need identified. One of you gets to play the client and look at the client notes (none of the others should look during this part). The rest practice asking questions to understand constraints, context, true problem. The “client” can make up stuff that isn’t listed here.

Part 2: All of you work together to create a better problem statement and a hypothesis, then try to disprove the hypothesis, then final vision.

5. CONFLICT MANAGEMENT

Tension and disagreements are to be expected when working with different parts of the organization. Being able to productively resolve will help keep you on track.
CONFLICT – THE GOOD AND THE BAD

The Good
- Conflict of Ideas
- Tension
- Inherent part of problem solving
- Positive intent

The Bad
- Conflict of People
- Friction
- Dysfunctional team behavior
- Negative intent
TENSION – NECESSARY CONFLICT

- Organizations with low tolerance for conflict of ideas will end up reducing the height of their goals
- People stop wanting to deliver bad news – easier to pretend everything is fine
- Easier to declare victory than deal with tension
- This ultimately lowers our standards
CONFLICT: HEALTHY TENSION

Our organizations **must** embrace healthy tension to bring out our best results.
"It’s tempting to choose harmony over conflict, but harmony is like cancer to good decision making."

Patrick Lencioni
AVOID FALSE HARMONY

• Even close families fight at some point
• It’s natural for human beings to disagree with each other
• False harmony sticks us in the Forming stage because we lack the courage to get through Storming
• Forming is not Performing, it’s mediocrity
• False harmony prevents us from getting to our best solutions
Conflict doesn’t mean arguing.
Healthy teams can resolve without friction.
FRICTION: UNNECESSARY CONFLICT

• Friction, left unchecked, will reduce team effectiveness and demoralize team members
• People stop wanting to interact and will work in isolation
• Discomfort in interactions will prevent us from doing our best
• Bad actors
THE DEVIL’S ADVOCATE

Someone who, given a certain point of view, takes a position they do not necessarily agree with (or simply an alternative position from the accepted norm), for the sake of debate.
The Falsehood of Devil’s Advocates

- This is often a technique to filibuster against change
- Used to create small, personal (but unproductive) victories
“THE DETAIL”

• An obscure but “important” detail that can shoot down ideas
• Roadblockers can use esoteric knowledge to thwart progress
• Sometimes we have visibility to too many details and can make the honest mistake of giving equal weight to details
CONFLICT RESOLUTION

Most of this works under the assumption of positive intent
CONFLICT IS ROOTED IN SOLVING DIFFERENT PROBLEMS

Different people have different views on the actual problem

Solving for users vs. business vs. tech

Leaders help provide the boundaries (assumptions, priorities, etc.)

Problem statement is key
THE TRUTH OF CONFLICT

Conflict most often occurs at the time of solution, but is typically about the problem and context.
RESOLVING CONFLICT THROUGH INQUIRY

• Make your reasoning clear, go back to problem statement and context (assumptions, constraints)
• Encourage others to provide their reasoning, assumptions, etc.
• Ask questions to help disprove your own ideas (and others)
• Is there a way to test, experiment, and validate ideas?
RESOLVING CONFLICT (CONT’D)

• Begin conversations with motivation
  • “I’m trying to better understand your concerns”
• Ask questions to guide rather than confront
• Responding > Reacting
QUESTIONS TO TRY

• What outcome will you achieve with this approach?
• What assumptions led you to that conclusion?
• Help me understand how that priority maps back to the business need?
PATH TO TAKE

• Walk them through from the beginning
  • Restate problem statement and context
  • Get agreement that this is the problem
• Map from problem statement to your solution
THIS METHOD OF INQUIRY AND WALKTHROUGH WILL:

• Get alignment with positive intentioned team members
• Discover negative intent
The main goal is to practice going through the techniques of asking questions, walking back to assumptions, and discussing outcomes. Practice helps form the habits so that you use these tools when under real pressure.

Exercise #1

Handy-Fit

For this scenario, it may be best to work in pairs as it’s mostly a one-on-one.

You can peek at the client motivation if necessary.

Exercise #2

Use the scenario you used from Problem Solving.

One of you represents the architect.

Everyone else take a different Team Member description (the Architect doesn't open any of the sections).

Take turns working through the different techniques for working through differences.

6. FINAL THOUGHTS
HALO EFFECT OF CHANGE

• We can only control ourselves, but we can affect others through good modeling
• You might seem strange taking this approach, depending on your org
Always do right. This will gratify some people and astonish the rest.

Mark Twain
Thank You!

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