TABLEAU
CONFERENCE
Design with the User in Mind

Alyshia Olsen
UX Designer
Tableau Software
It’s not your fault
UX Design is about anticipating user needs
The Design Process
The Design Process

Discover

Who is using this dashboard?
The Design Process

Discover
Who is using this dashboard?

Distill
What are their main goals?
The Design Process

Discover
Who is using this dashboard?

Distill
What are their main goals?

Ideate
How can I enable their success?
The Design Process

**Discover**
Who is using this dashboard?

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How can I enable their success?

**Validate**
Where can I improve the dashboard?
The Design Process

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Solve the right problem
The Design Process

Discover
Who is using this dashboard?

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How can I enable their success?

Validate
Where can I improve the dashboard?

Solve the right problem

Solve the problem right
Finding your User

Knowing who to talk to is just as important as talking to them.
You are not the user
HIGHLY PAID PERSON’S OPINION
Customers are not the user
Discover
Distill
Ideate
Validate
If I had asked people what they wanted, they would have said faster horses.

Henry Ford
Question the obvious
The Five Whys
The Five Whys
The Five Whys

Year and Make of vehicle over time
The Five Whys

Year and Make of vehicle over time

1

Understand what cars are coming into the shop
The Five Whys

Year and Make of vehicle over time

Understand what cars are coming into the shop
The Five Whys

Year and Make of vehicle over time

Understand what cars are coming into the shop
The Five Whys

1. Year and Make of vehicle over time
   Understand what cars are coming into the shop
   Figure out what parts to keep on hand
The Five Whys

1. Understand what cars are coming into the shop

2. Figure out what parts to keep on hand

Cost?
The Five Whys

1. Year and Make of vehicle over time
   Understand what cars are coming into the shop

2. Figure out what parts to keep on hand

Cost? Efficiency?
Keep questions open-ended
The Five Whys

1. Year and Make of vehicle over time
2. Understand what cars are coming into the shop
3. Figure out what parts to keep on hand
4. Know when a vehicle is waiting on a part shipment
The Five Whys

Year and Make of vehicle over time
1

Understand what cars are coming into the shop
2

Figure out what parts to keep on hand
3

Know when a vehicle is waiting on a part shipment
4

Understand when a vehicle isn’t being worked on actively
The Five Whys

1. Understand what cars are coming into the shop
2. Figure out what parts to keep on hand
3. Know when a vehicle is waiting on a part shipment
4. Understand when a vehicle isn’t being worked on actively
5. Eliminate wasted time
Contextual Inquiry (ask how they do it today)
Contextual Inquiry (ask how they do it today)
Contextual Inquiry (ask how they do it today)
Contextual Inquiry (ask how they do it today)
Contextual Inquiry (ask how they do it today)
Have conversations, not interviews
Discover

Who is using this dashboard?
### CompanySizeTable

<table>
<thead>
<tr>
<th>Company Size</th>
<th>Turnover</th>
<th>Number of Orgs.</th>
<th>Average Turnover</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Small</td>
<td>14,809,615</td>
<td>1,594</td>
<td>5,604</td>
<td>24,177</td>
</tr>
<tr>
<td>Small</td>
<td>80,709,330</td>
<td>4,637</td>
<td>13,052</td>
<td>141,460</td>
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<tr>
<td>Medium</td>
<td>21,504,174</td>
<td>657</td>
<td>30,925</td>
<td>139,849</td>
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<tr>
<td>Large</td>
<td>24,751,914</td>
<td>304</td>
<td>81,421</td>
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<tr>
<td>Very Large</td>
<td>14,440,759</td>
<td>32</td>
<td>451,274</td>
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<tr>
<td>Grand Total</td>
<td>138,382,388</td>
<td>7,524</td>
<td>18,124</td>
<td>798,946</td>
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</table>

### IndustryOverview

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Orgs.</th>
<th>Turnover</th>
<th>Average Turnover</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teknik Kon.</td>
<td>15</td>
<td>7,146,152</td>
<td>486,411</td>
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<tr>
<td>Fastighets.</td>
<td>162</td>
<td>5,096,479</td>
<td>30,801,503</td>
<td>1,432,459</td>
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<tr>
<td>Bank, Finans.</td>
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<td>4,006,194</td>
<td>10,562</td>
<td>61,420</td>
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<tr>
<td>Avlopp, Avf.</td>
<td>72</td>
<td>2,490,039</td>
<td>14,145</td>
<td>64,420</td>
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<tr>
<td>Parthandel</td>
<td>204</td>
<td>1,240,076</td>
<td>6,158</td>
<td>98,456</td>
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<tr>
<td>Transport &amp;</td>
<td>2</td>
<td>1,887,458</td>
<td>943,724</td>
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<tr>
<td>Föreningar.</td>
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<td>981,010</td>
<td>19,620</td>
<td>66,420</td>
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<tr>
<td>Hälso &amp; Sjukv.</td>
<td>16</td>
<td>730,294</td>
<td>46,145</td>
<td>28,571</td>
</tr>
<tr>
<td>Offentlig Förs.</td>
<td>2</td>
<td>483,030</td>
<td>241,500</td>
<td>44,571</td>
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<tr>
<td>Kultur, Nöje</td>
<td>9</td>
<td>321,097</td>
<td>3,567,200</td>
<td>768,420</td>
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<tr>
<td>Intresseb. Bra.</td>
<td>2</td>
<td>1,312,011</td>
<td>657,000</td>
<td>321,097</td>
</tr>
</tbody>
</table>

### Customers Sweden

[Map of Sweden]()}
Do not try to do everything. Do one thing well.

Steve Jobs
Notes from User Interviews
Build what they need
Not what they want
Solving the right problem

Who are your users?

What do your users need to do with the dashboard?

What are we explicitly NOT doing?
Look for insights
Affinity Mapping
Affinity Mapping

not sure what’s happening, but feels like things get stuck in holding pattern sometimes
Affinity Mapping

Stagnation

not sure what's happening, but feels like things get stuck in holding pattern sometimes
Stagnation

not sure what’s happening, but feels like things get stuck in holding pattern sometimes

how do I know if it’s an exception or a trend?
Affinity Mapping

Stagnation

not sure what's happening, but feels like things got stuck in holding pattern sometimes

Outliers

how do I know if it's an exception or a trend?
Affinity Mapping

Stagnation

- Time variables:
  - fall time of year affect efficiency?
  - seems to get worse in late spring. How can I handle this?

- Other Info
  - Estimating Time
    - Estimates are based on flat rate hour pay for a job

- Employees
  - Can’t really tell who is better at which job
  - Do I need to hire more people?
  - Demographics, need for training?
  - Wants to be able to train, grow employees. Not sure how.

- Suppliers
  - Which supplier is better?
  - It’s difficult to keep everything on hand. There’s just not space for large parts.

- Model/Year variables
  - Feels like some model/year combo are more problematic - not sure if this is true
  - Seem more prior to usual, not sure how many

- Outliers
  - How do I know if it’s an exception or a trend?
  - Sometimes something is just a fluke
  - If there’s abnormal data, want to know more information about it

- On Hold
  - Could be part shipment. This is suspected problem.
  - Could be technician availability. But thinks he has enough technicians
  - Car could be on hold because customer didn’t pick it up

- Pre-previous data
  - Seeing more Prius than usual, not sure how many estimates are based on flat rate hour pay for a job

- Affinity Mapping
  - Think is holding pattern is due to parts and incorrect orders
  - Also want to know in general how we are tracking against ourselves
Affinity Mapping

Stagnation

Think's may be holding pattern due to parts and incorrect orders

not sure what's happening, but feels like things get stuck in holding pattern sometimes

also want to know in general how we are tracking against ourselves

Model/ Year variables

feels like some model/year combos are more problematic - not sure if this is true

Scaling more pror' then usual, not sure how many

Outliers

how do I know if it's an exception or a trend?

sometimes something is just a fluke

Time variables

does time of year affect efficiency?

seems to get worse in late spring. How can I handle this?

Employees

can't really tell who is better at which job

do I need to hire more people?

Employees need more training?

dummy mechanics need more training?

Suppliers

it's difficult to keep everything on hand, there's just not space for large parts.

which supplier is better?

Other Info

Estimating Time

estimates are based on flat rate hour pay for a job

On Hold

could be part shipments, this is suspected problem.

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car could be on hold because customer didn't pick it up

Affinity Mapping

Pattern Identification
Pattern Identification
Pattern Identification

Tableau eLearning Executive Dashboard

Student Target

-$X.XXX$
CLOSED

$X.XXX$
COMMIT

$X.XXX$
LIKELY

$X.XXX$
BEST CASE

Q2

Q3

FY17

Revenue Target

-$X.XXM$
CLOSED

$X.XXM$
COMMIT

$X.XXM$
LIKELY

$X.XXM$
BEST CASE

Q2

Q3

FY17

Cumulative Revenue

Net New Revenue

Students by Volume Tier

Revenue by Price Tier

Revenue by Model

Revenue by Region

? 🔔💡✓
Interviewee: Andre

Notes:
<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Notes</th>
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<tr>
<td>Andre</td>
<td>Always running between meetings</td>
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<td>Notes</td>
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Many of these users don’t check their dashboards as often as they’d like
Pattern Identification - Insights

Users don’t check dashboard as often as they’d like

Generally communicate via email and use mobile devices often

Don’t need ability to explore data in-depth
Pattern Identification - Goals

Users don’t check dashboard as often as they’d like

- Get insights without disrupting existing flow

Generally communicate via email and use mobile devices often

- Dashboard doesn’t need to encourage exploration

Don’t need ability to explore data in-depth
Goals

Get insights without disrupting existing flow

Dashboard doesn’t need to encourage exploration
Goals

Get insights without disrupting existing flow

Use “article” style of dashboard

Communicate big wins
Goals

Get insights without disrupting existing flow

Use “article” style of dashboard

Communicate big wins

Understand impact of eLearning on revenue
Remember that you may have multiple user types
The Design Process

? Discover Distill

Who is using this dashboard? What are their main goals?

Solve the right problem
The first idea is often not the best idea.
Write everything down
Crazy Eights

Illustration by Lucia Ferro
Crazy Eights

8 Ideas
5 Minutes

Illustration by Lucia Ferro
Blue Sky Thinking
Blue Sky Thinking

Ground Ideas
Blue Sky Thinking

Blue Sky Ideas

Ground Ideas
Blue Sky Thinking

- Blue Sky Ideas
- Creative Solutions
- Ground Ideas
Connect the dots
The Race to Alaska is a 750-mile boat race from Port Townsend, Washington to Ketchikan, Alaska. The rules are simple: no motors, no support. Any boat can enter as long as there is no motor on board. There are two required check-ins: Campbell River and Bella Bella. It is a winner-take-all race with a $10,000 cash prize for the first boat across the finish line. Second place gets a set of steak knives.

**Top 5 Teams**
The lead boats covered the distance in under 5 days with the winning time by MAD Dog Racing in 3 days 20 hours and 13 minutes. The top 4 boats all have a length overall (LOA) of at least 30 ft. Jungle Kitty was the largest boat to finish with a LOA of 48 feet. 8 crew members made the journey aboard this boat.

**Steady Progress**
The chart below shows distance covered by hour. The near linear progression means each of these crews found ways to make positive progress regardless of time of day, tides, passageway difficulty. Each was fortunate to not run into any mechanical problems or mishaps as can often be the case on these waters.

**No Time to Rest**
The Top 5 didn’t spend any time at anchor. The blue highlights hours where the Top 5 covered the most distance. On Thursday at 6am, 48 nautical miles were covered. The consistency of blue in afternoons show productive winds and favorable tides.
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THE BIG BOOK OF DASHBOARD

Visualizing Your Data Using Real-World Business Scenarios
Check the basics
Check the basics

Interaction

Keep interaction effects on-screen

Don’t make users scroll within vizzes

Be mindful of users’ familiarity with Tableau
Check the basics

Interaction

Keep interaction effects on-screen

Don’t make users scroll within vizzes

Be mindful of users’ familiarity with Tableau

Visual

Get it right in black and white

Use color mindfully and consistently

Whitespace helps focus
Discover
Who is using this dashboard?

Distill
What are their main goals?

Ideate
How can I enable their success?
Validate

*Do not seek praise; seek criticism.*

Paul Arden
Try to break your ideas
Be a Detective
Be a Detective
Lightweight Feedback
Pretend a colleague built it
Lightweight Feedback
How do I answer the question:

How much have of our total training revenue has transferred to e-learning?
Lightweight Feedback

How do I answer the question:

How much have of our total training revenue has transferred to e-learning?
Lightweight Feedback

New Viz
Lightweight Feedback
User Testing
Give your users a task
Ask your users to think aloud
When are you finished?

Perfect is the enemy of done
The Design Process

Discover  Distill  Ideate  Validate
Discover

Distill

Ideate

Validate

Understand your user

Uncover insights
Define goals

Brainstorm and refine
Prototype

Look for flaws
Keep improving
Discover
The Five Whys
Contextual Inquiry

Distill
Affinity Mapping
Pattern Identification

Ideate
Crazy Eights
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User Testing
Good design is knowing your tradeoffs
Want more UX?

The Design of Everyday Things
Don Norman (Nielsen Norman Group)

www.interaction-design.org

A Project Guide to UX Design
For User Experience Designers in the Field or in the Making

Handbook of Usability Testing
How to Plan, Design, and Conduct Effective Tests
Questions?