

August 22, 2012



The Science of Guessing - Drupal Estimation Techniques from Project Managers



Introductions

Who are these people?



Shannon Vettes

D8 Project Liason, Project Managing
since 2005, Drupal since 2010,
Working in IT since 2000



Mattias Axelsson

CEO and co-founder, Happiness
Drupal agency



Jakob Persson

Co-founder at Wunderkraut, being
doing Drupal since 2005



Introductions

Tweet, Tweet, Tweedly-deet...



Questions & comments?

#drestimate



Why You Are Here



Why You Are Here

When a client or colleague asks you for an estimate, what's your initial reaction?



Why You Are Here

When a client or colleague asks you for an estimate, what's your initial reaction?

Is it THIS? →





Why You Are Here

When a client or colleague asks you for an estimate, what's your initial reaction?

Or... Maybe This?





Why You Are Here

When a client or colleague asks you for an estimate, what's your initial reaction?

I hope it's not this....





Why You Are Here

If it's anything like that,

You've come to the right place!

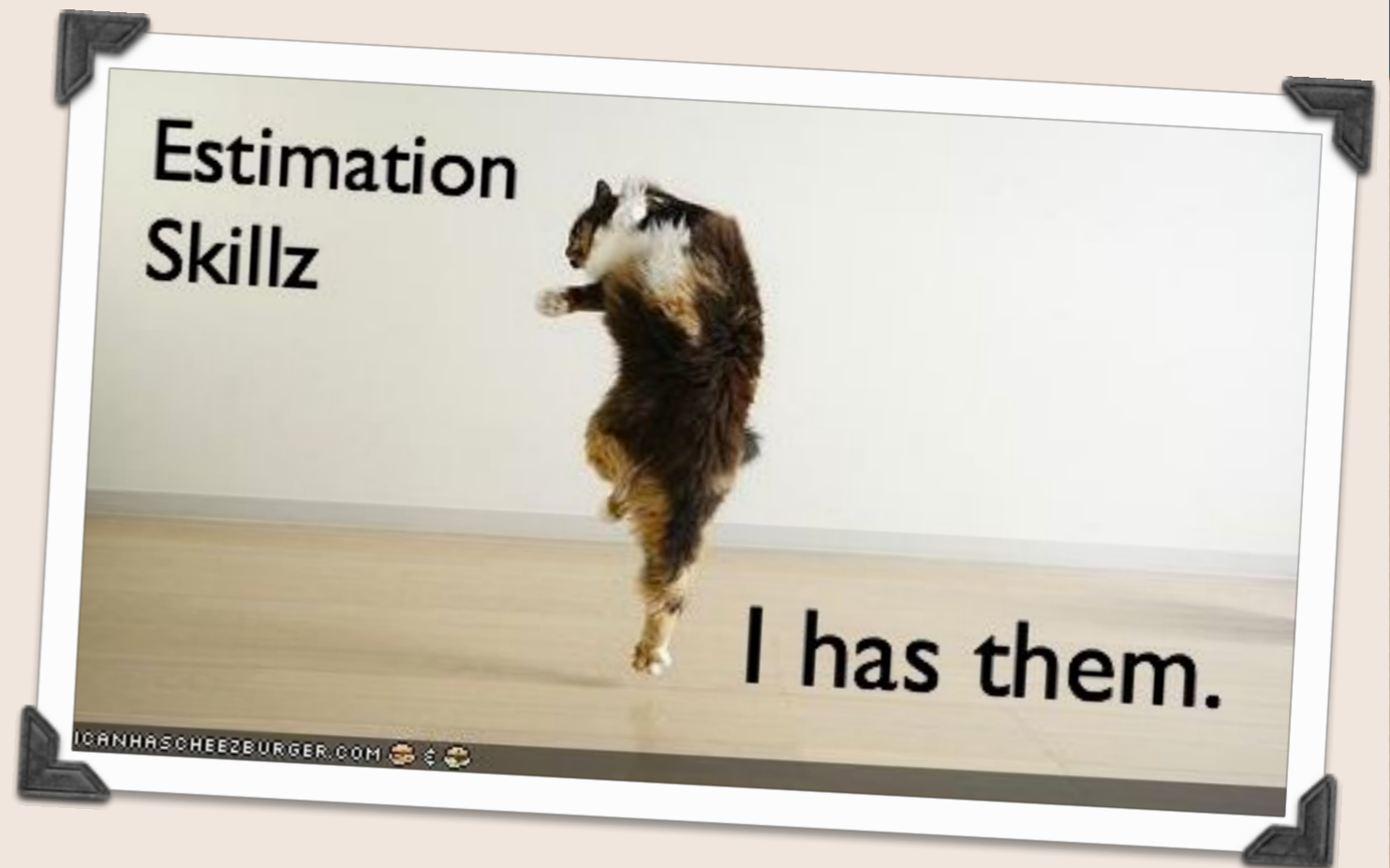


Why You Are Here

At the end of this presentation, we want you to feel like this when asked for an estimate

We'll cover:

- **What an estimate is**
- **What (not) to use them for**
- **What they are affected by**
- **How an estimate is done**
- **Answers to your questions**





What's an estimate?



What's an estimate?

“Estimation is the calculated approximation of a result which is usable even if input data may be incomplete or uncertain.”

– *Wikipedia*



What's an estimate?

Burning questions

What's in an estimate?



What advice can you give me?



What's an estimate?

"How to bake a pie"

11

- ✓ Requirements clarification
- ✓ Use cases
- ✓ UI refinement

- ✓ Theming
- ✓ Development/config

- ✓ Automated testmaking
- ✓ Testing
- ✓ Bugfixing

- ✓ Training/doc

- ✓ Deployment

- ✓ Project management time



- ✓ Requirements clarification
- ✓ Use cases
- ✓ UI refinement

Story

Focuses on needs and describe functionality in a way the shows its application and business value.

- Role
- Need
- Sequence of events
- How to demo

Case

Focus on behavior and interaction, eliminates ambiguity and provides the developer with the information he/she needs.

- Summary
- Rationale
- Users
- Preconditions
- Default events
- Alternative sequence

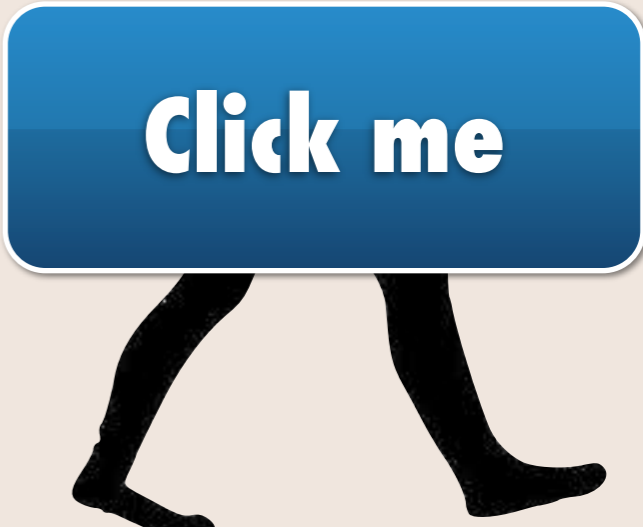


<http://www.stellman-greene.com/2009/05/03/requirements-101-user-stories-vs-use-cases/>



- ✓ Requirements clarification
- ✓ Use cases
- ✓ UI refinement

Requirements evolve and are clarified over the course of a project, and they're often provided as UI designs.





- ✓ Theming
- ✓ Development/config

<html>

<?php

The "real" work?

hook_form_alter()

.tpl.php

CCK

Views

Panels

<aside>

Rules

\$(function() {...})



- ✓ Automated testmaking
- ✓ Testing
- ✓ Bugfixing

- Test more, build more
- Automated testing saves time over the course of a project
- Tests helps identify and manage ambiguous requirements





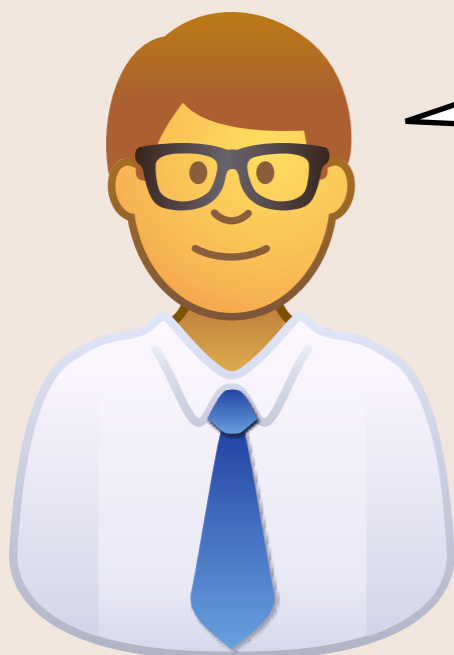
✓ Training/doc

✓ Deployment

HOMEWORK (DON'T FORGET!):

- Creating content
- Editing menus

Drupal rules, ok?



What's this?
PM? Project baloney!
We don't need a PM.
We got our own PM
team.

Yes but
who's gonna tell
the nodes where
to go?



✓ Project management time



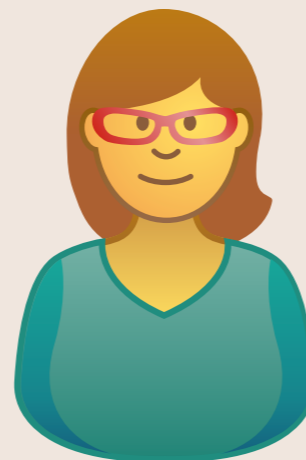
**Why do we need
them?**



Why do we need them?

Burning questions

How does an estimate help me plan the project?



What does an estimate communicate?

How does an estimate help me budget?



Why do we need them?

Estimates help us



Plan



Budget



Communicate



Why do we need them?



Plan

**Practical
Example!**



Why do we need them?

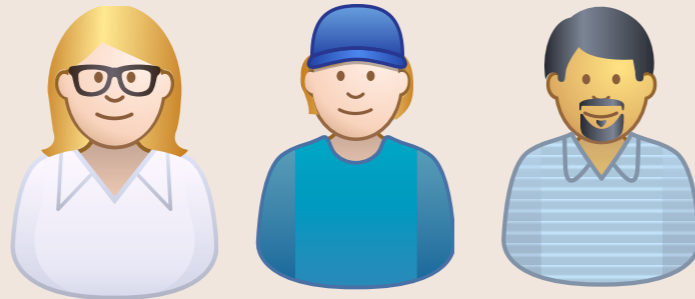


Plan

Practical Example!

21

120 hrs



$$32 \text{ hrs} \times 3 = 96 \text{ hrs}$$



$$96 \text{ hrs} \times 0.25 = 24 \text{ hrs}$$

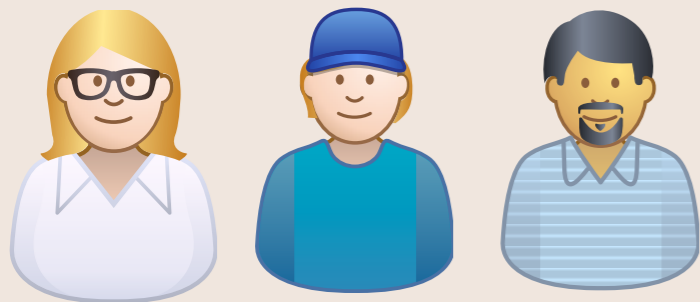


Why do we need them?



Plan

When will it be done?



$$6.4 \times 3 = 19.2 \text{ hrs per day}$$



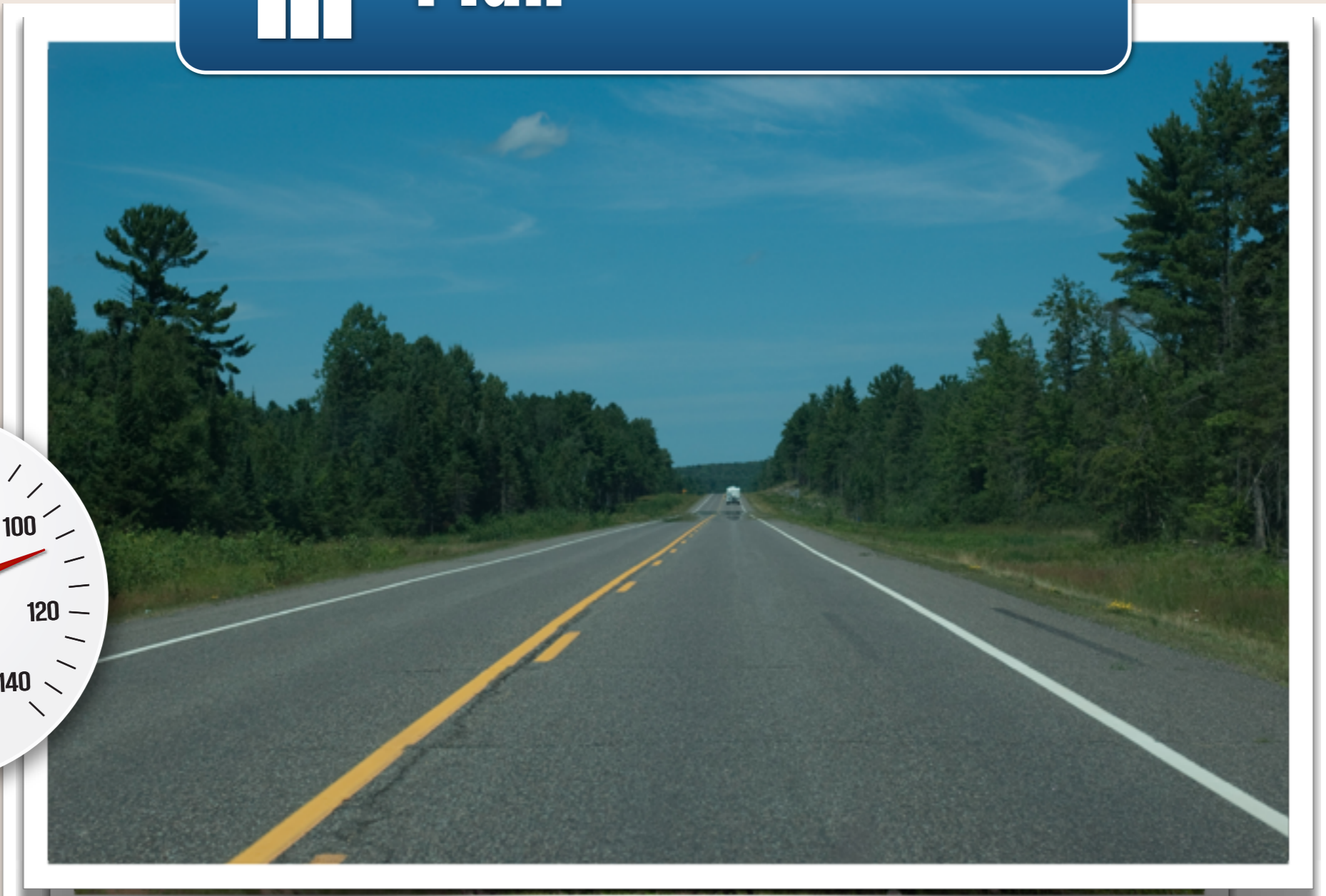
$$96 / 19.2 = 5 \text{ days}$$



Why do we need them?



Plan

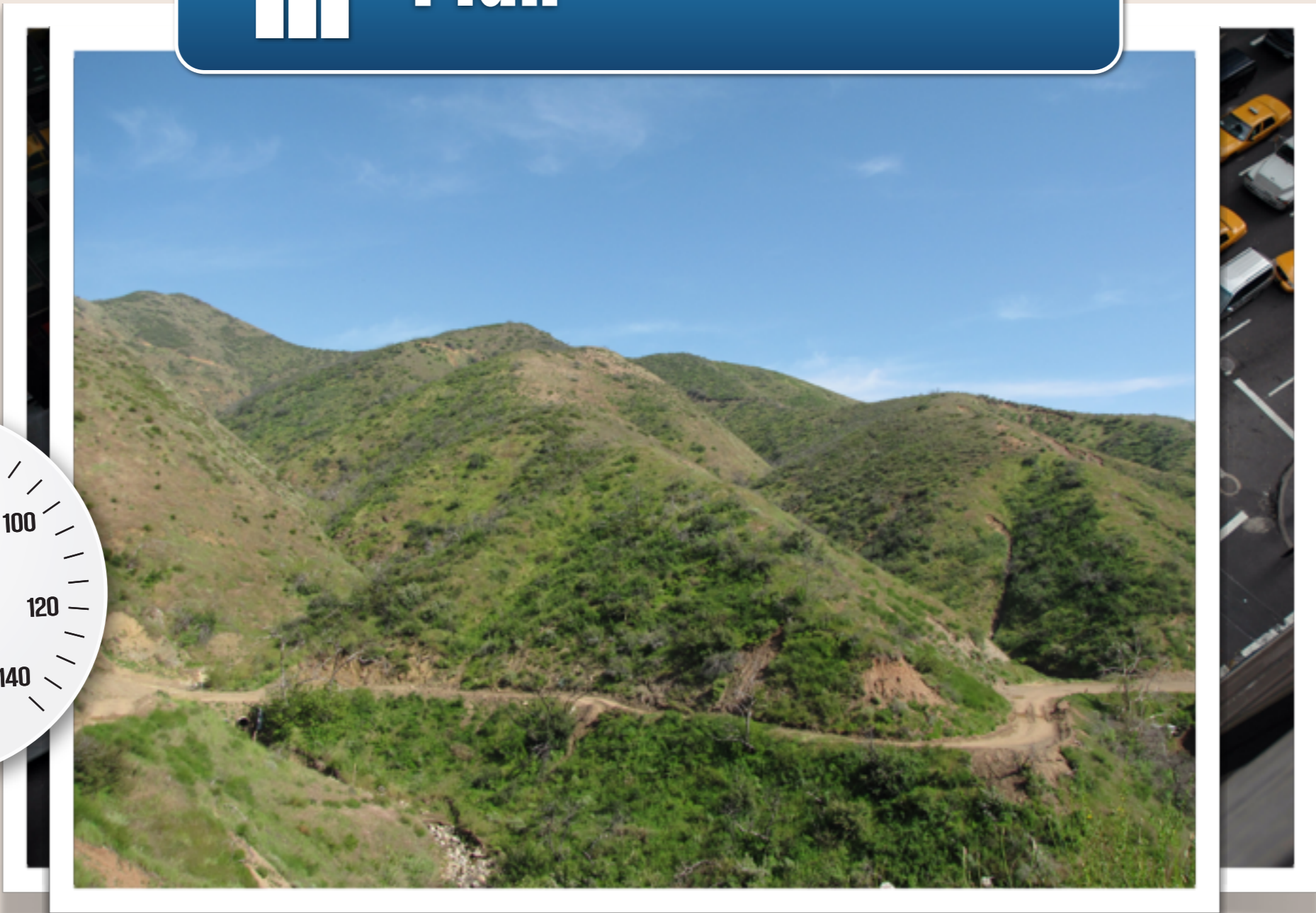




Why do we need them?



Plan

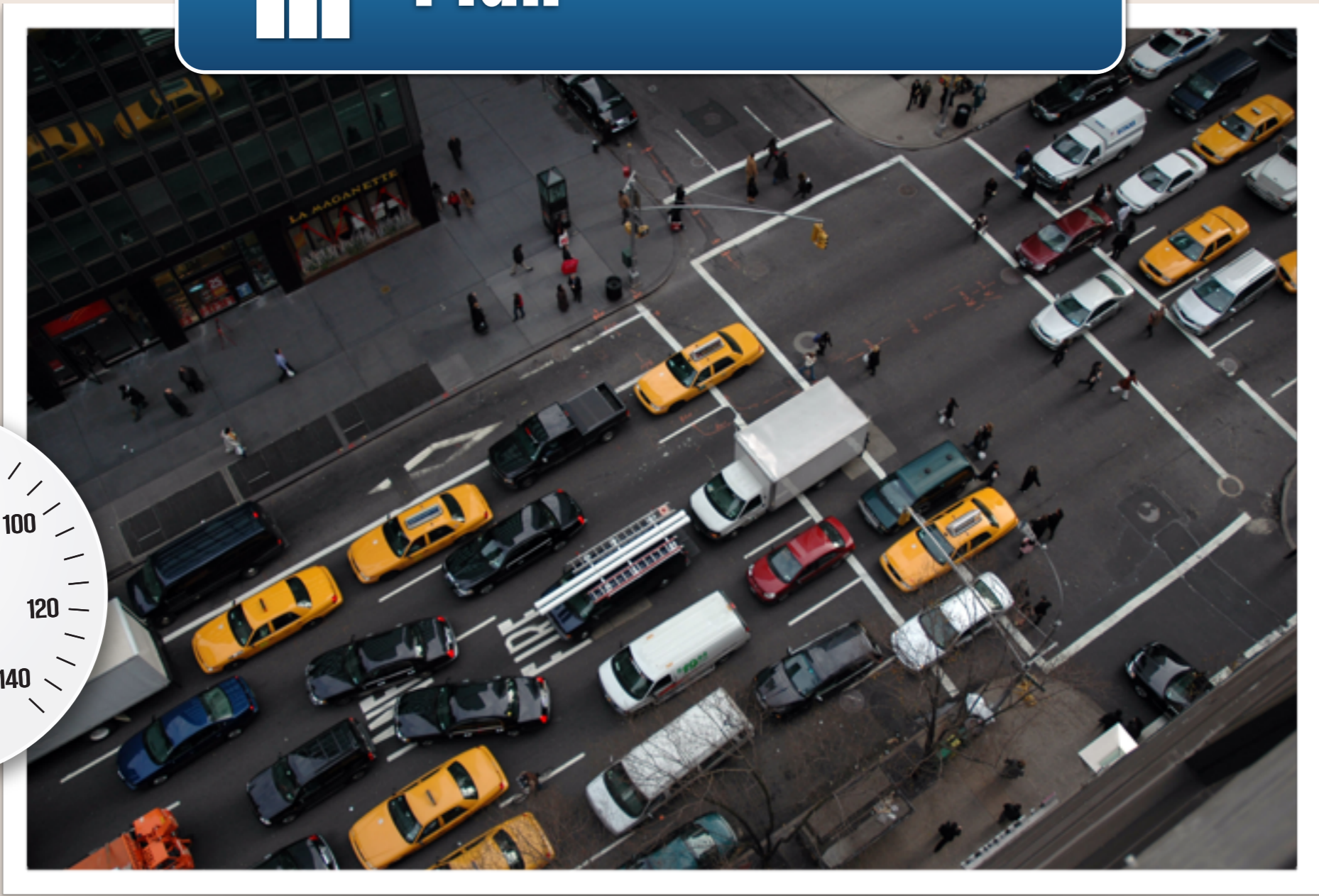




Why do we need them?



Plan





Why do we need them?

Plan



| April | | | | | | | | | | | | | | | May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

"We need a few extra adjustments"

"BUG! Fix ASAP!"

"We're going to have to work the weekend to fix this!" :(



Why do we need them?



Plan





Why do we need them?

**Practical
Example!**

\$€ Budget



Why do we need them?

**Practical
Example!**

\$€ Budget



Why do we need them?

\$€ Budget

What can I
get for my money?

And why is
that?



What gets me
the most bang for
the buck?

...



Why do we need them?

\$€ Budget



"stuff customer wants"

"customer's budget"

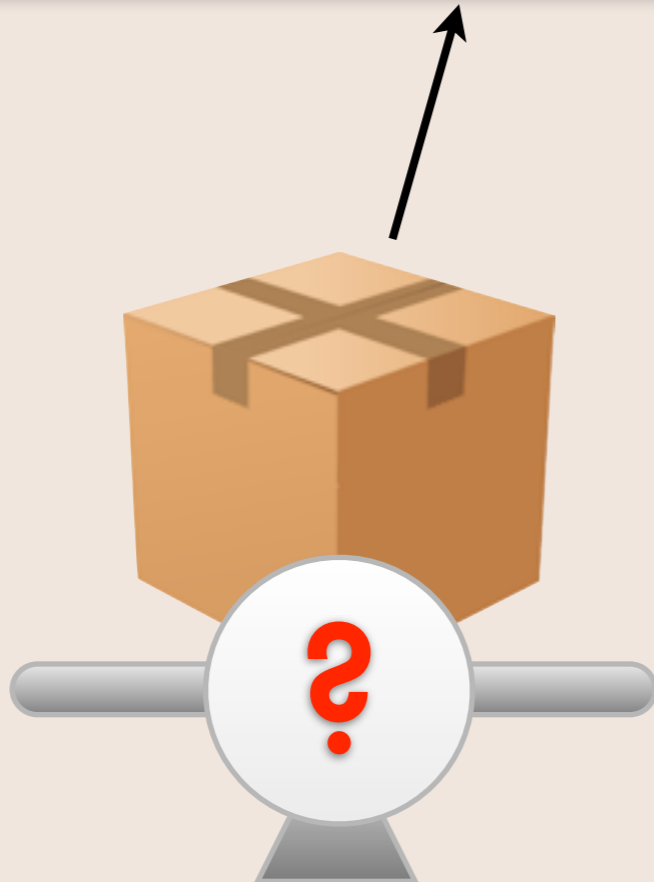
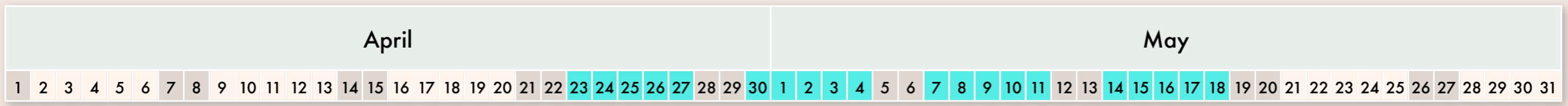
Is this slide about COST vs VALUE?

Maybe we should have those 2 words appear on here?



Why do we need them?

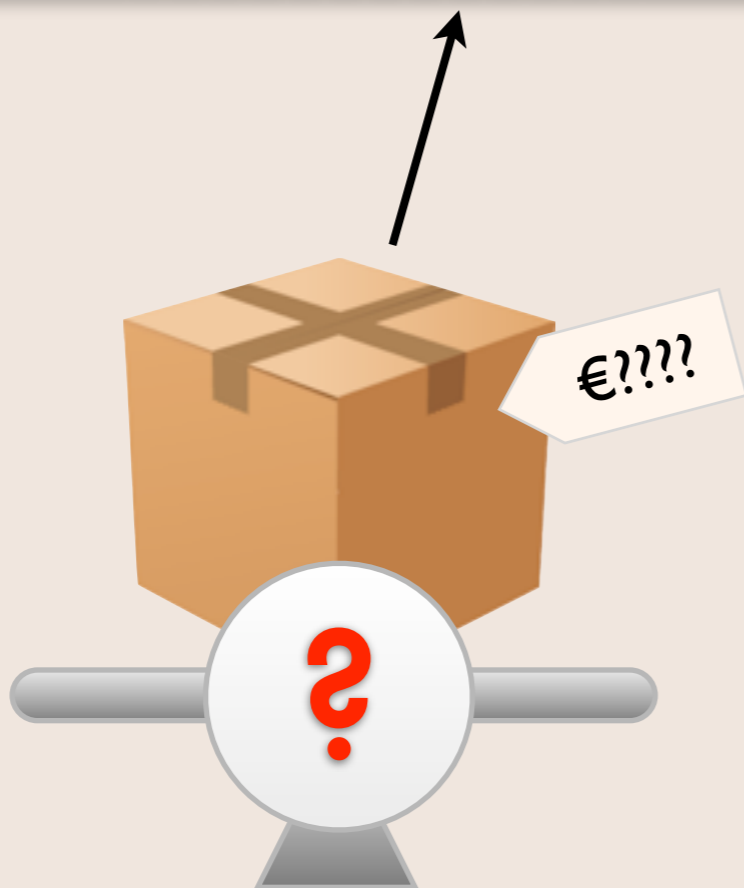
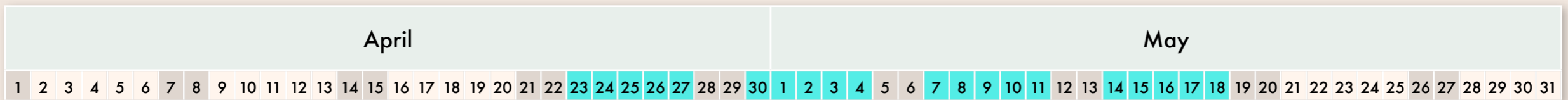
\$€ Budget





Why do we need them?

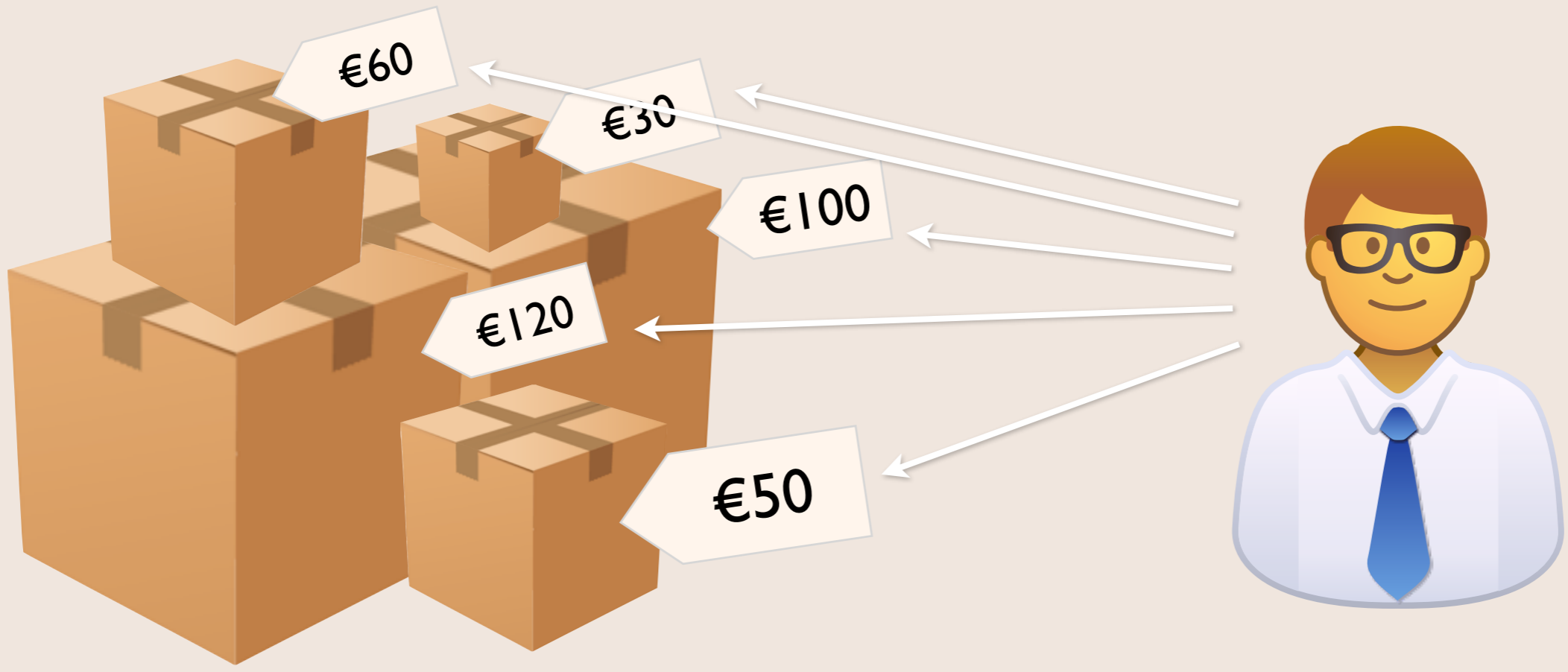
\$€ Budget





Why do we need them?

\$€ Budget





Why do we need them?

\$€ Budget

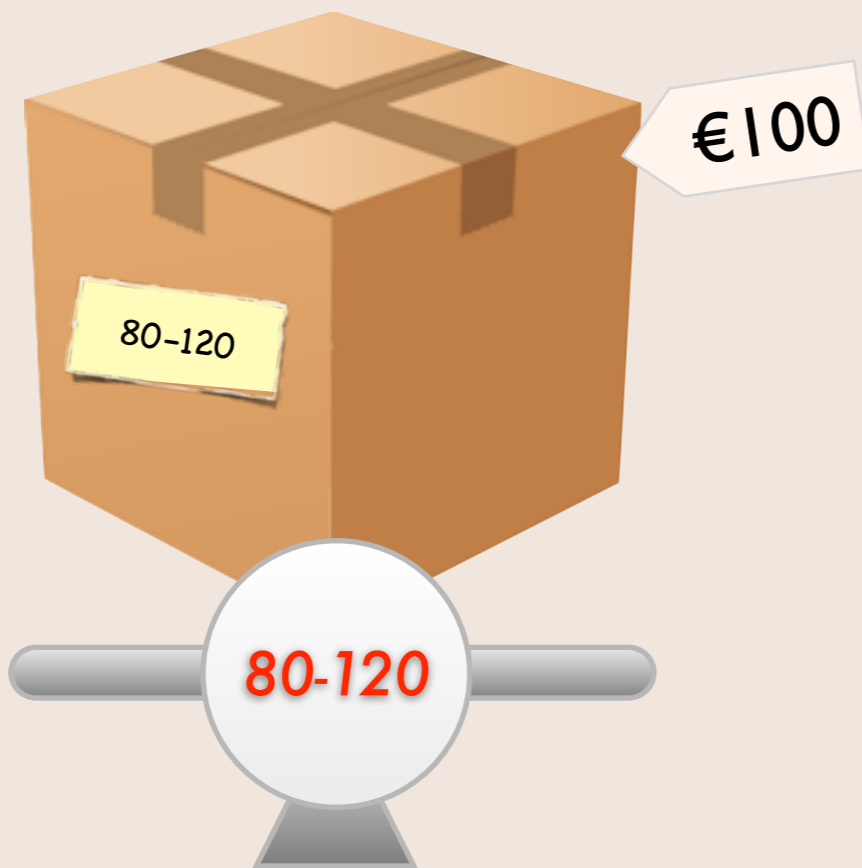
31





Why do we need them?

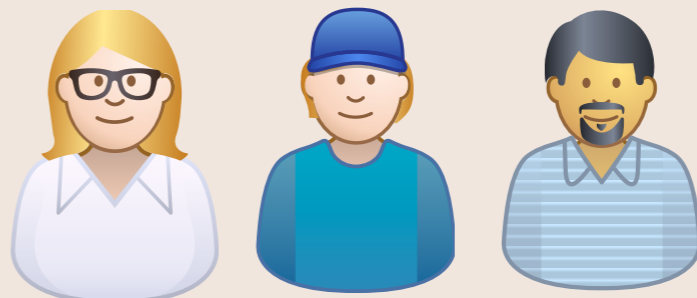
\$€ Budget



Complexity

Familiarity

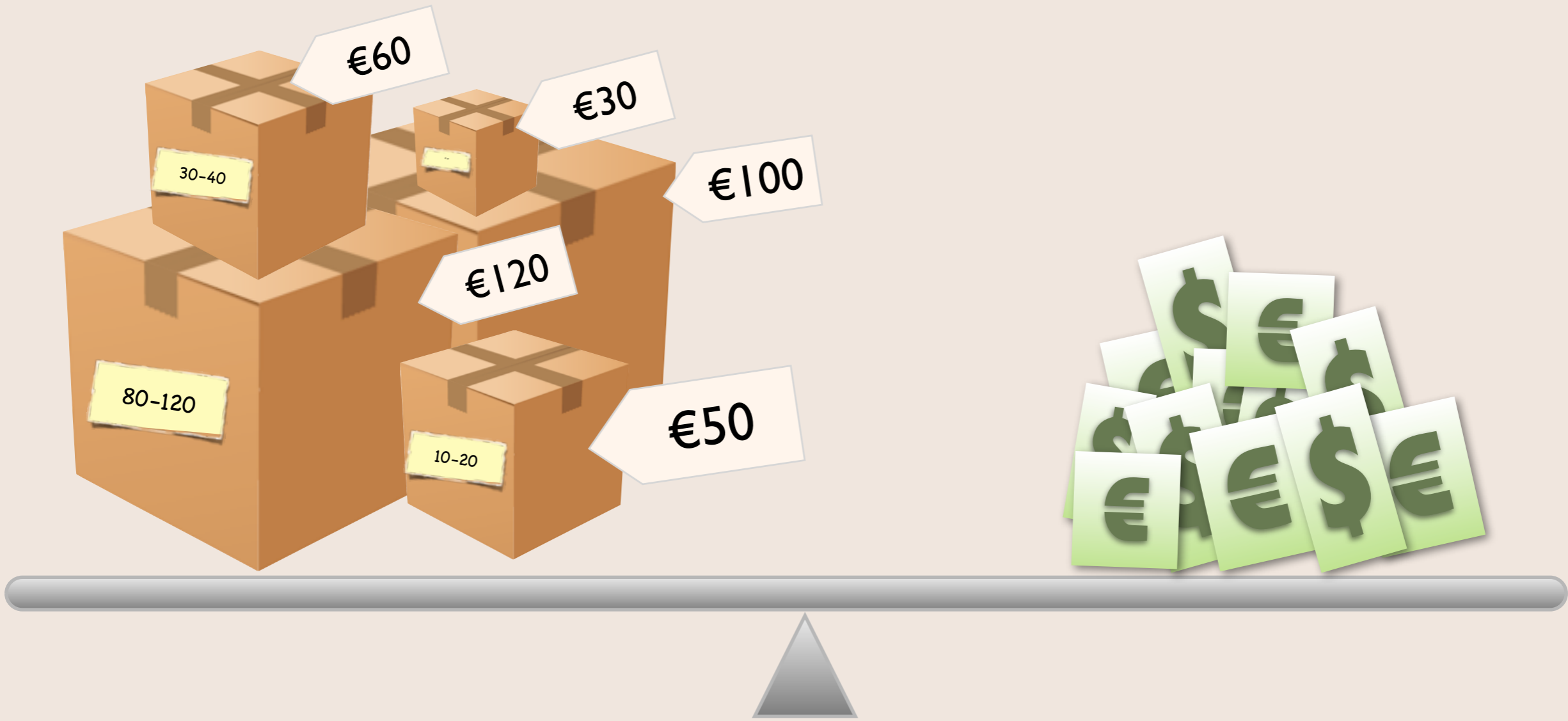
Dependency





Why do we need them?

\$€ Budget





Why do we need them?

\$€ Budget





Why do we need them?

\$€ Budget



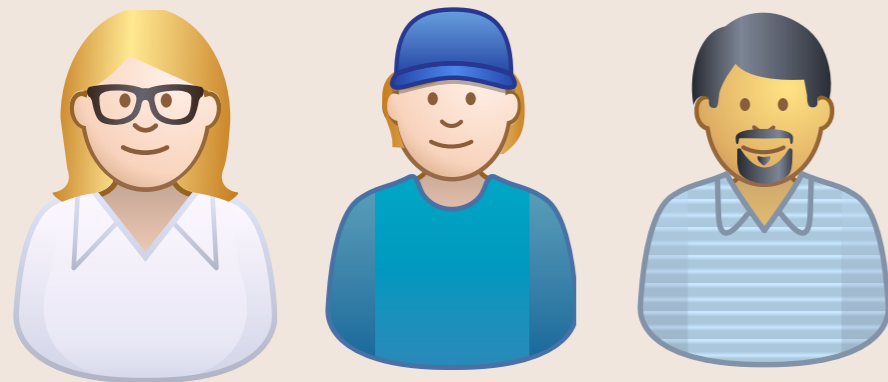


Why do we need them?

\$€ Budget

We *think* this is accurate...

I'm sure!



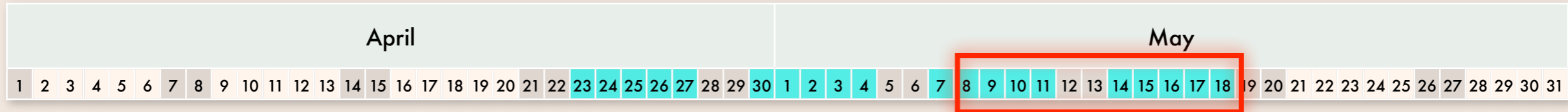
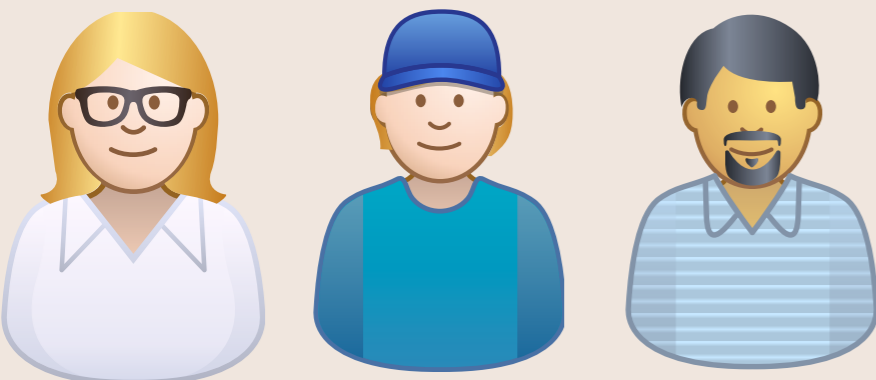


Why do we need them?

\$€ Budget

We *think* this is accurate...

I'm sure!



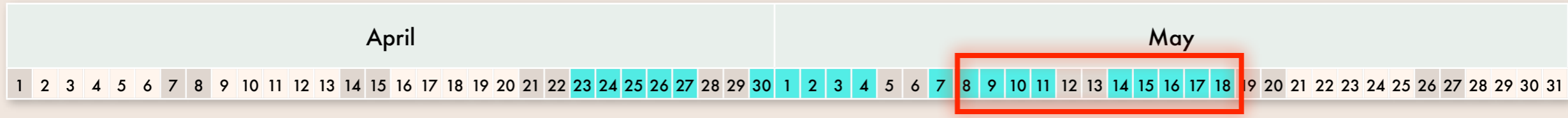
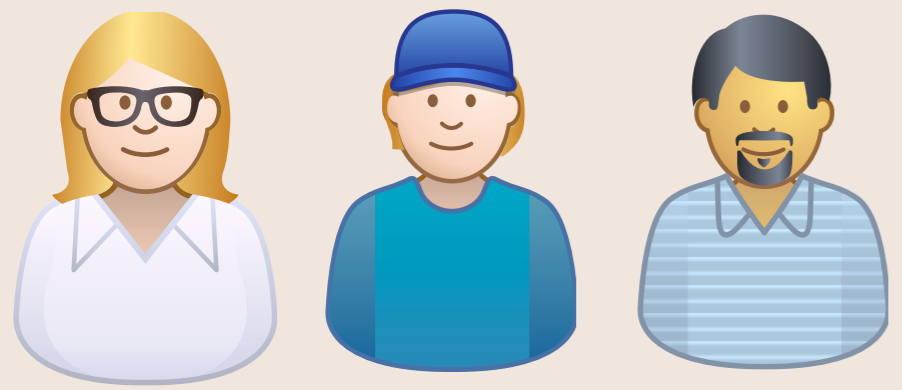


Why do we need them?

\$€ Budget

We *know* this is accurate...

I'm sure!





Why do we need them?



Communicate

**Practical
Example!**



Why do we need them?



Communicate

**Practical
Example!**



Why do we need them?



Communicate

Do they understand how complex this design is?



Do they understand what we're trying to achieve?





Why do we need them?



Communicate

4,500 - 5,500

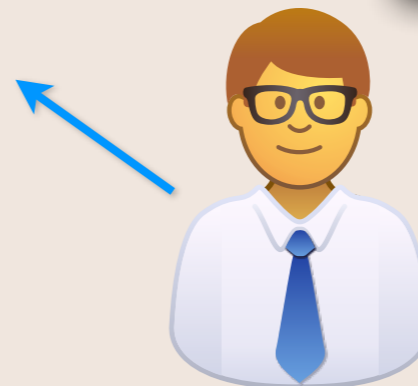
2,500 - 3,500

2,500???

Do they really understand the risks and complexities?

RFP

6,500 - 7,000





Why do we need them?



Communicate





Why do we need them?



Communicate





What affects estimations?



**What affects
estimations?**

RISK



What affects estimation?



“When the map and the territory don’t agree, always believe the territory.”

– *Saying from the Swedish Army*



What affects estimation?



Burning questions

Why should I care about risk so early on?



Are there common risks with Drupal?

How do I manage & communicate risk?

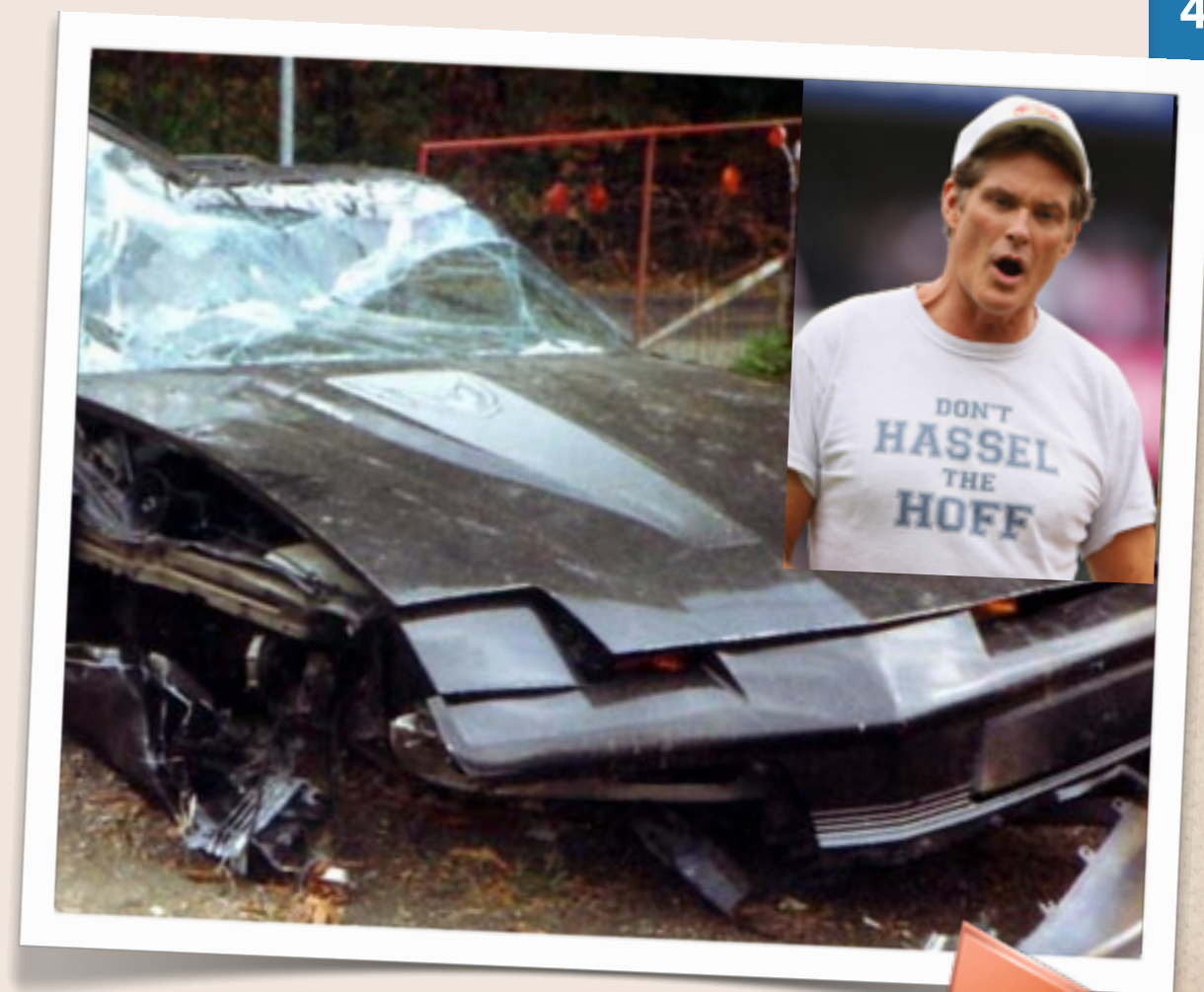


What affects estimation?



What's the point of all these questions?

To help you assess risks to your estimation, and align the numbers to manage that risk.



Avoid car wrecks





What affects estimation?



Risk analysis



Identification



Assessment



Mitigation



What affects estimation?



Identification





What affects estimation?



Assessment

Composite Risk Rating

Impact



Probability



= 8

It's an opportunity to evaluate risk in order to decide how to treat it.




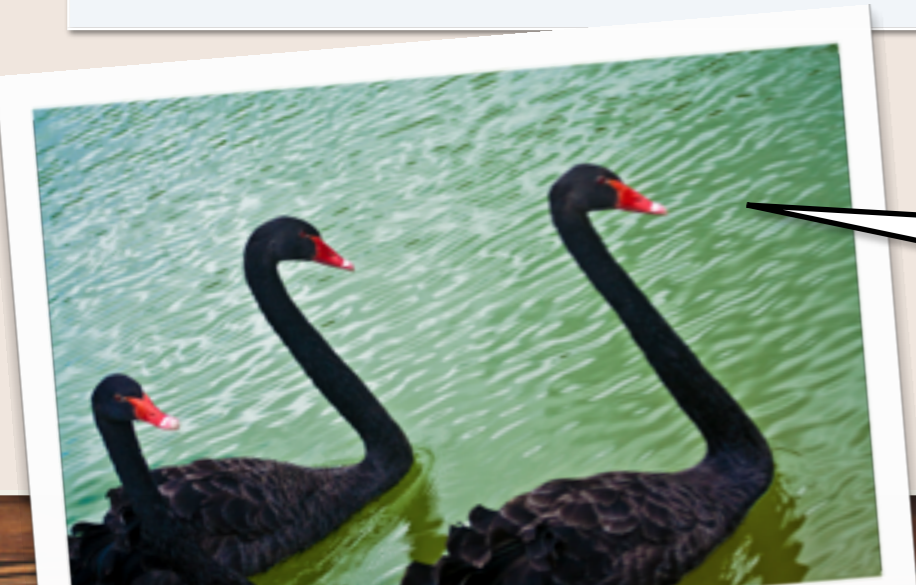
What affects estimation?



Assessment

50

| RISK | IMPACT | PROBABILITY | RATING |
|----------------------------|---------------------|--------------|---|
| Video component | 5 | 5 | 25 |
| Integration online booking | 4 | 4 | 16 |
| Migration legacy system | 2 | 4 | 8 |
| Asteroid hitting the Earth | $1 \times 10^{+21}$ | 0.0000000001 |  |



Hey! Don't forget about us!



What affects estimation?



Assessment

51

Overall risk assessment: **Low** 1-8, **Medium** 9-16 or **High** 17-25

| LOW | | | | | | | | MEDIUM | | | | | | | | HIGH | | | | | | | | |
|--------|---|---|---|---|---|---|---|-----------|----|----|----|---------|----|----|----|--------|----|----|-------|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| IGNORE | | | | | | | | QUARTERLY | | | | MONTHLY | | | | WEEKLY | | | DAILY | | | | | |

Overall risk monitoring, a continual process.



Assessment

| Impact | | Meh | Meh seriously | Dude, seriously | DUDE, SERIOUSLY | WTF? SERIOUSLY? |
|--------|---|----------|---------------|-----------------|-------------------|-----------------|
| | 5 | ASTEROID | | | the api is stable | VIDEO COMPONENT |
| | 4 | | | | INTEGRATION | |
| | 3 | | | | | |
| | 2 | | | | MIGRATION | |
| | 1 | | | | | |
| | | 1 | 2 | 3 | 4 | 5 |

Probability

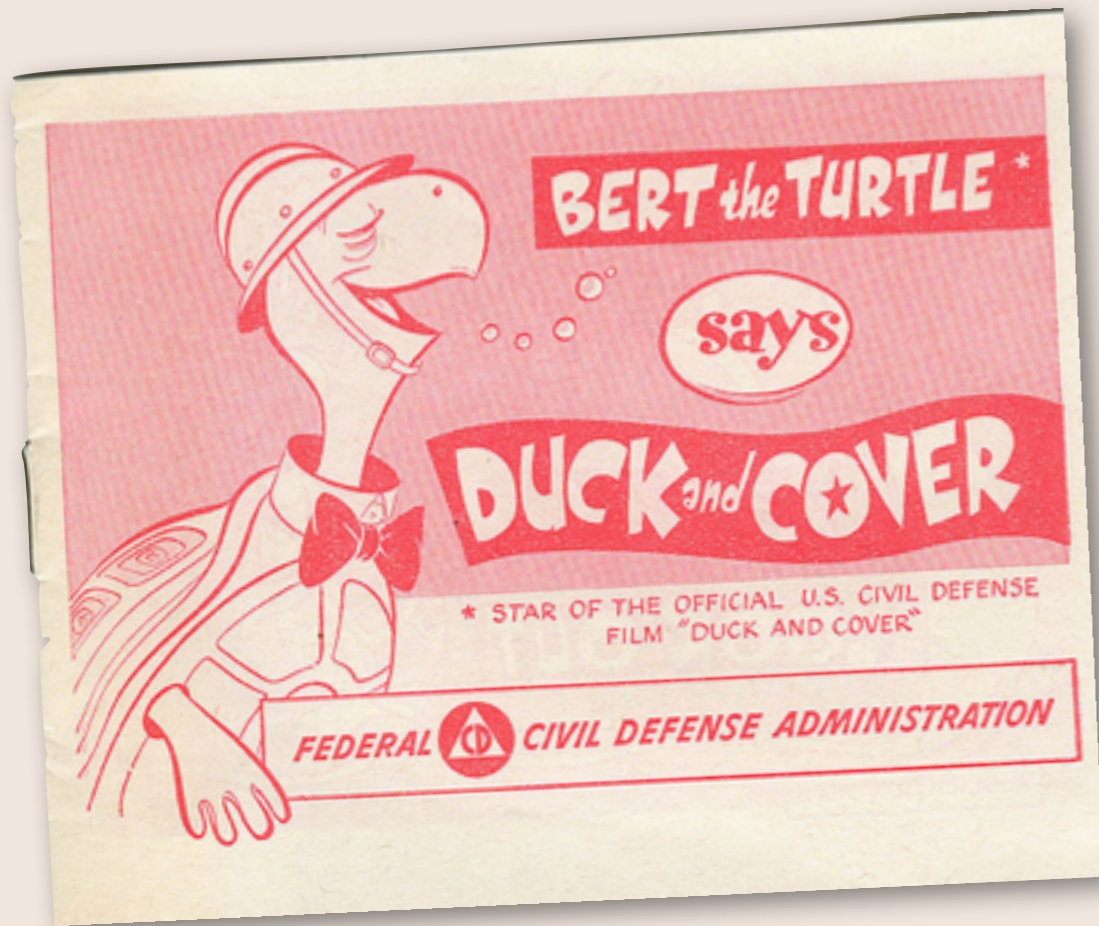


What affects estimation?



Mitigation

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Accept risk - no action

Eliminate risk

Limit risk

Share risk



What affects estimation?

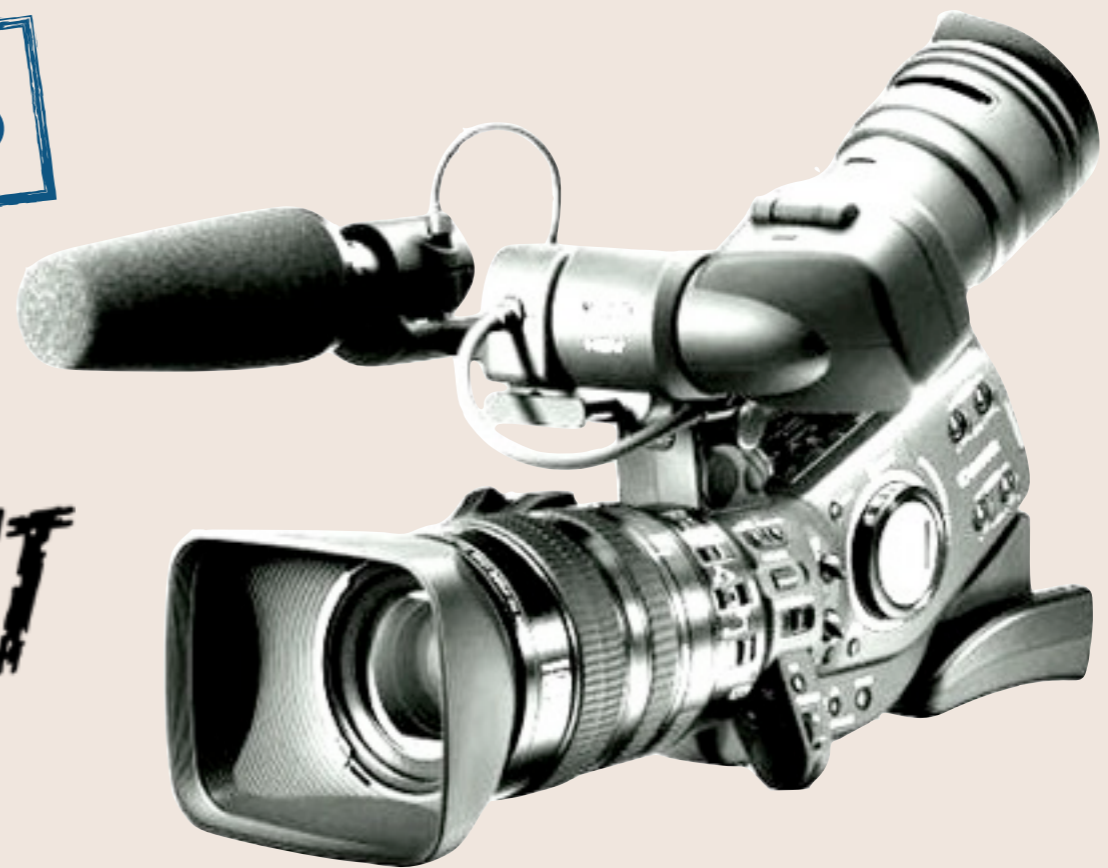


Mitigation

FROM THE FRONT LINES

THE VIDEO COMPONENT

A TRUE RISK MITIGATION STORY

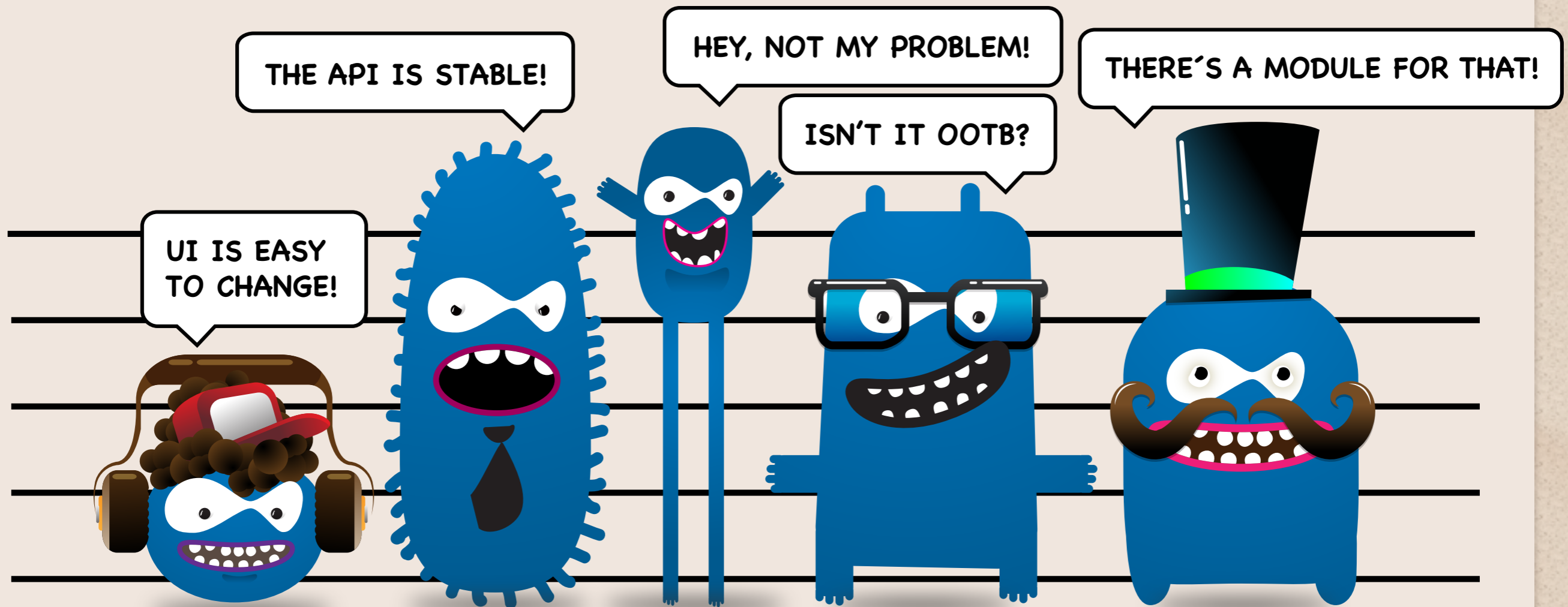




What affects estimation?



THE USUAL SUSPECTS





Drupal Estimation Techniques





Drupal Estimation Techniques



Burning questions

What techniques should I use?



When should I use what?

How do they work?



Drupal Estimation Techniques



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“Estimation is like a walking stick for a blind man. It won’t miraculously give you sight, but it might help you avoid walking into a wall.”

- Old Chinese proverb says



Drupal Estimation Techniques



3 Example Techniques



Ball Park Top-Down



Weighted Estimate



Delphi Methods



Drupal Estimation Techniques



Ball Park Top-Down

Requirements

- As a user I want to be able to create blog posts
- As a user I want to be able to edit blog posts
- As a user I want to be able to un/publish blog posts



Poll: how many use this?
How many new it was called this?

0

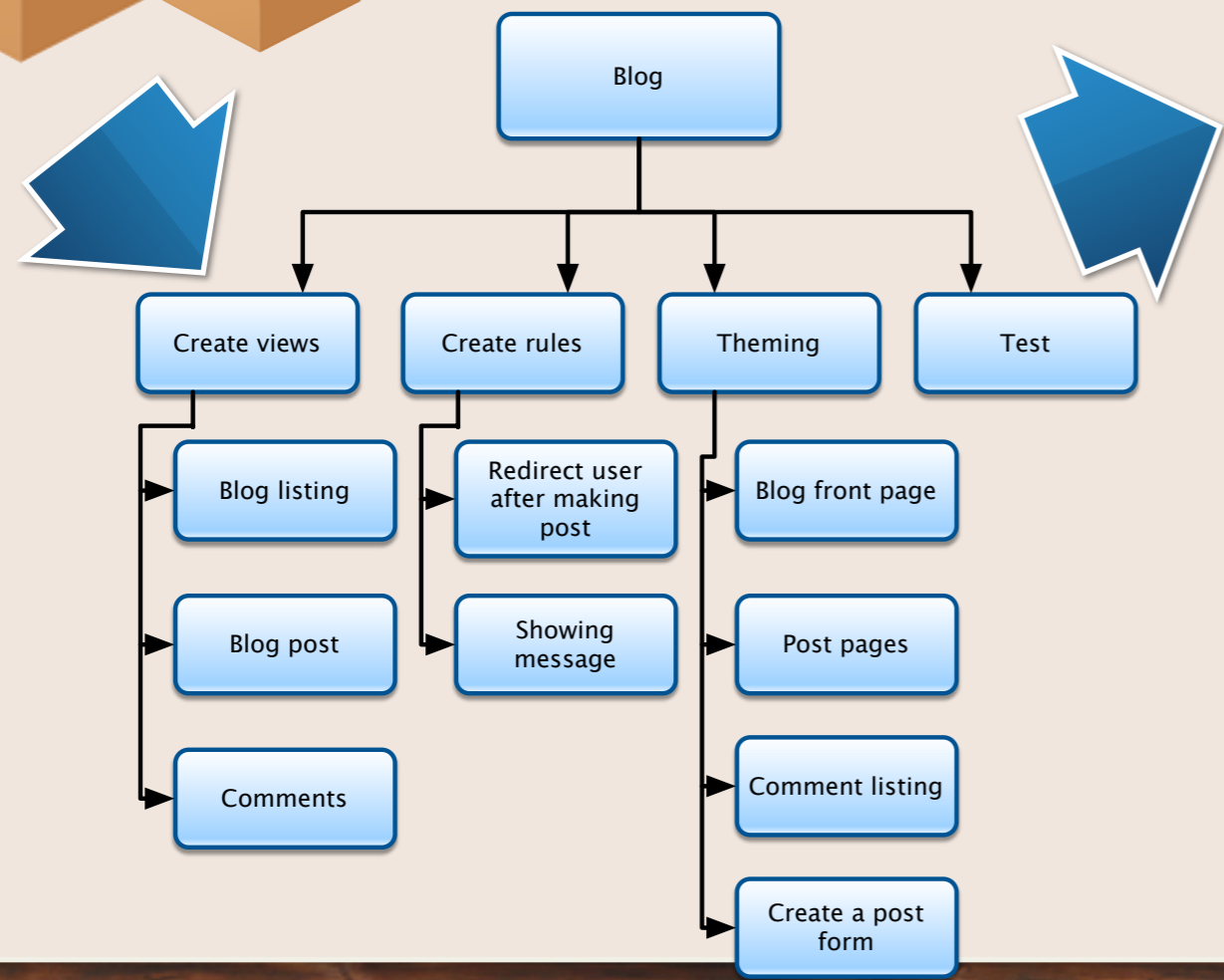


Drupal Estimation Techniques



Poll: how many use this?
 How many knew it was called this?

Weighted Estimate



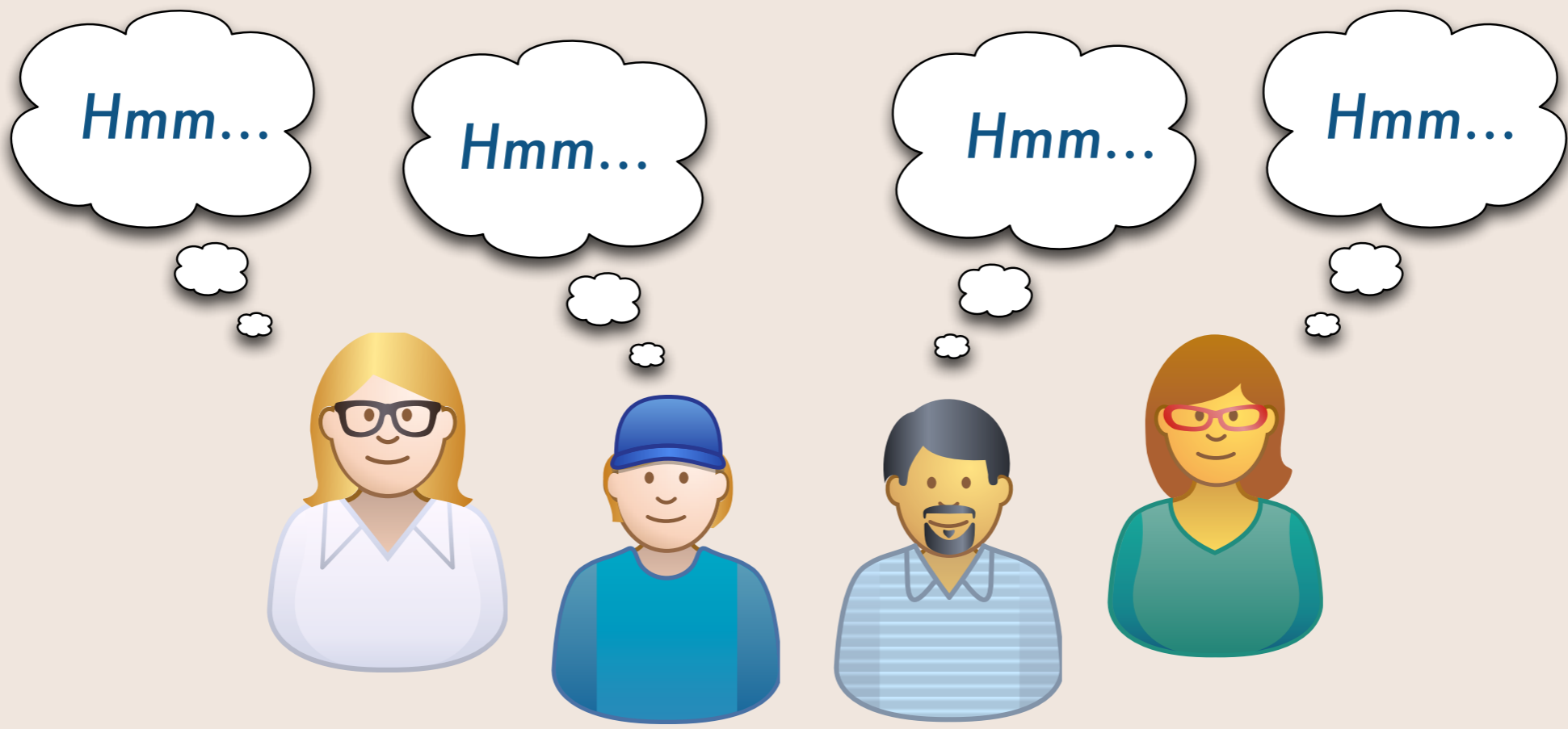
| Task | Est | Conf | Low - Hi |
|-------------------|-----|------|-----------|
| Blog listing view | 1 | 4 | 0.7 - 1.5 |
| Blog post | 1 | 4 | 0.7 - 1.5 |
| Comments | 1 | 4 | 0.7 - 1.5 |
| Redirect user | 2 | 3 | 1 - 4 |
| Show message | 2 | 3 | 1 - 4 |
| ... | | | |
| | | | 300 - 450 |



Drupal Estimation Techniques

✕
Poll: how many use this?
How many knew it was called this?

Delphi Methods





Drupal Estimation Techniques



When should I use what?

Ball Park Top-Down

Delphi

Weighted Estimation

When

General Strategy
Decisions > Accuracy

Specific Features
Several Experts

Estimate Ranges

Why

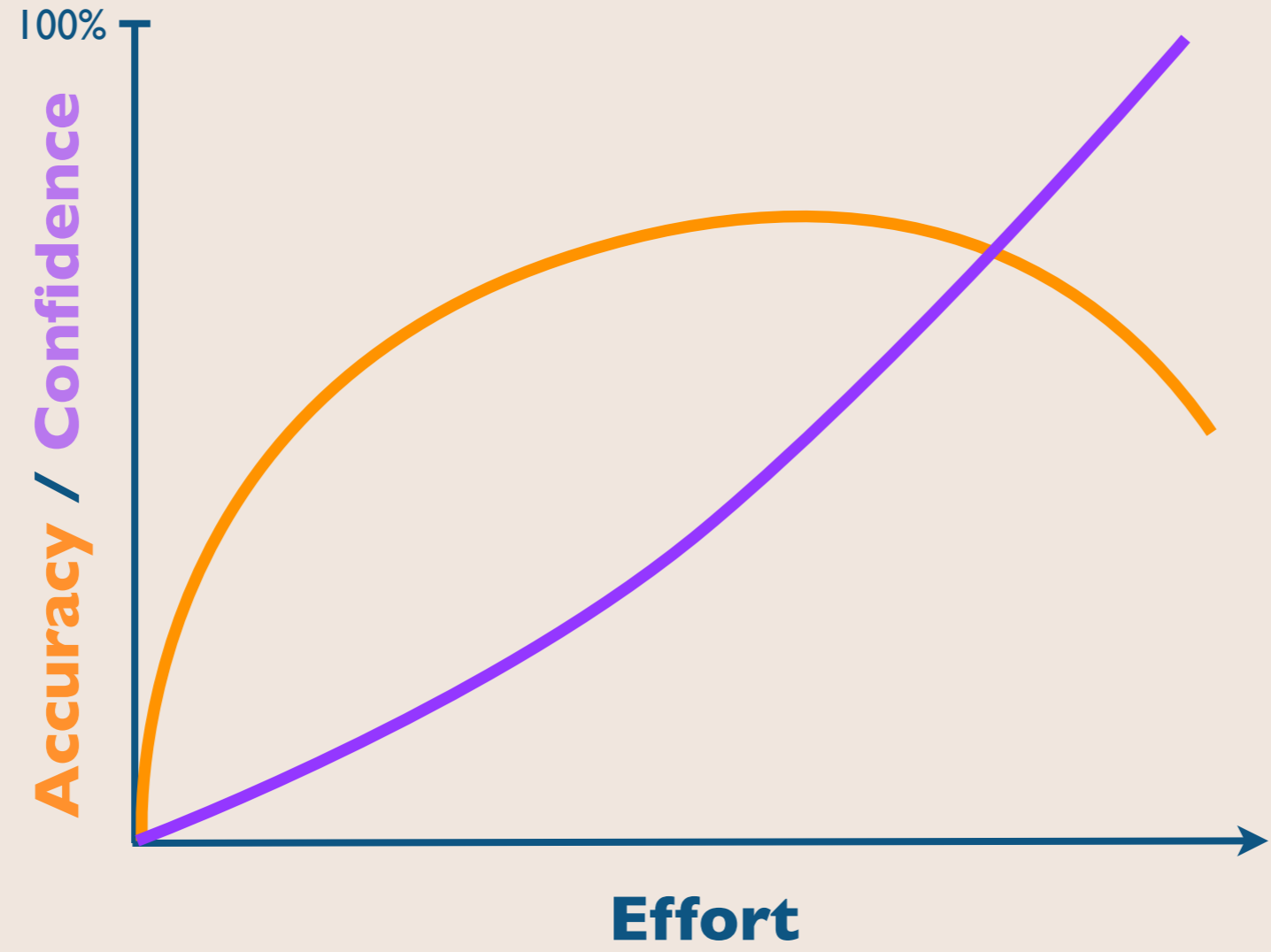
Pros: Easy/Fast
Cons: Short-term
Helps for decision making

Pros: Smarter/Accurate
Cons: Feature Specific
Helps validate theories

Pros: Variance Range
Cons: Takes time
Helps level-set expectations



Drupal Estimation Techniques





Beware

The don'ts

- Don't the blame game
- Don't estimate what you cannot know – requirements are like icebergs
- Don't in a vacuum





Take Aways

We want you to remember:

- Management by estimate == bad idea
- Estimates should include much more than just development
- Estimates are more than just numbers
- Use risk management to avoid problems you can identify





Opinions welcome

Thanks everyone!

Please review:

<http://bit.ly/IYEGEB>

Note: You need to be logged in to the DrupalCon website to rate and review sessions.





Ask away

Who's got Questions?!





Talk to us



Shannon Vettes

Twitter: **@svettes**

shannonvettes@gmail.com



Jakob Persson

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jakob.persson@gmail.com



Mattias Axelsson

Twitter: **@mattiasaxelsson**

mattias.axelsson@happiness.se

**Wait, there's
more!**

Meet us tomorrow at the
"Drupal PM lunch date" BoF
at *11.45 to 13.00* in *Athen*.

You're welcome to bring food/
lunch.