


Starting from Scratch?

Lessons Learned From Trying to Create Software as a Service at SAP

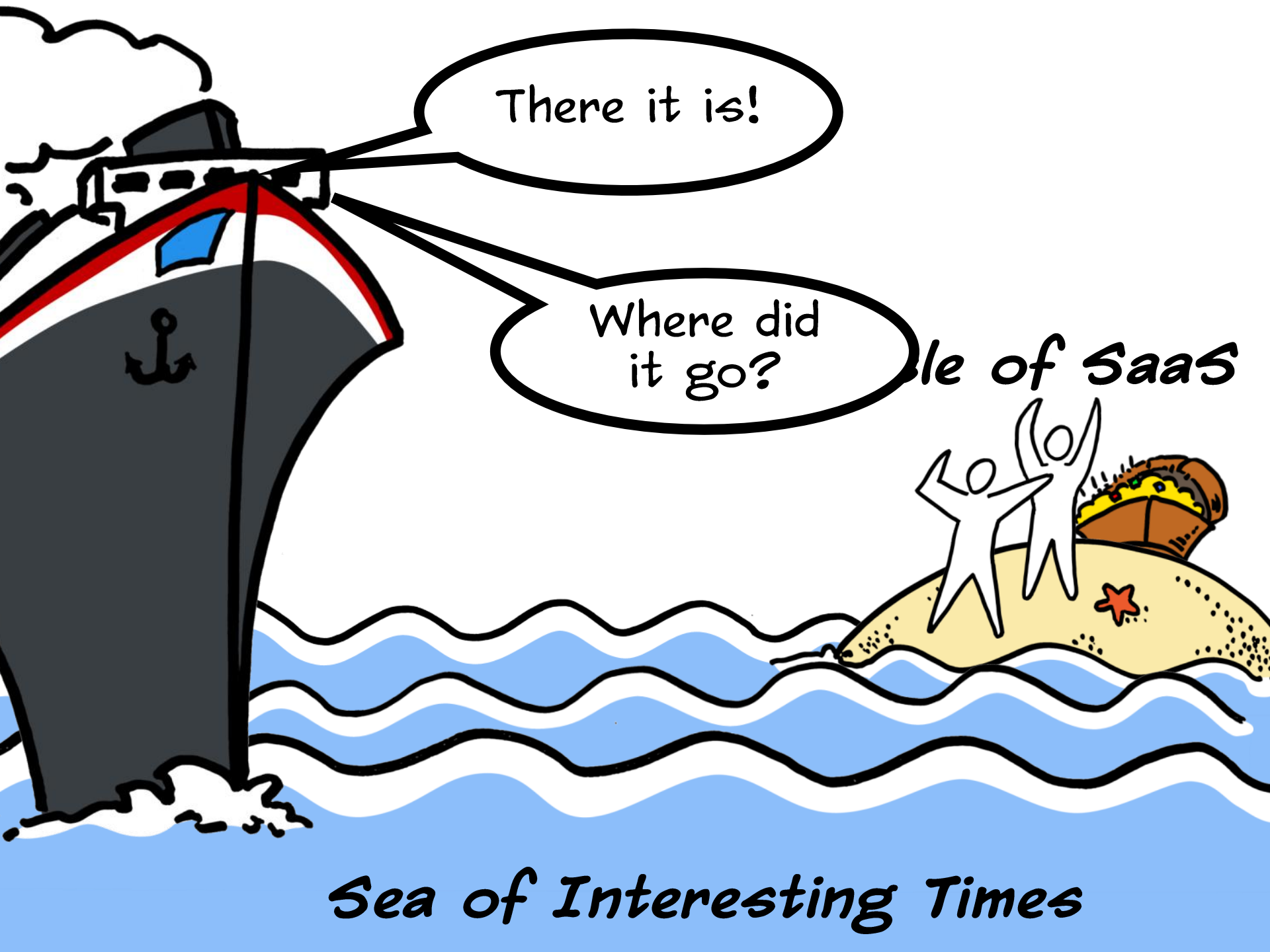
Mike Tschudy

 @MchweD

Designing “People Centric” OnDemand Apps

An Interdisciplinary Effort

Mike Tschudy
March 2011

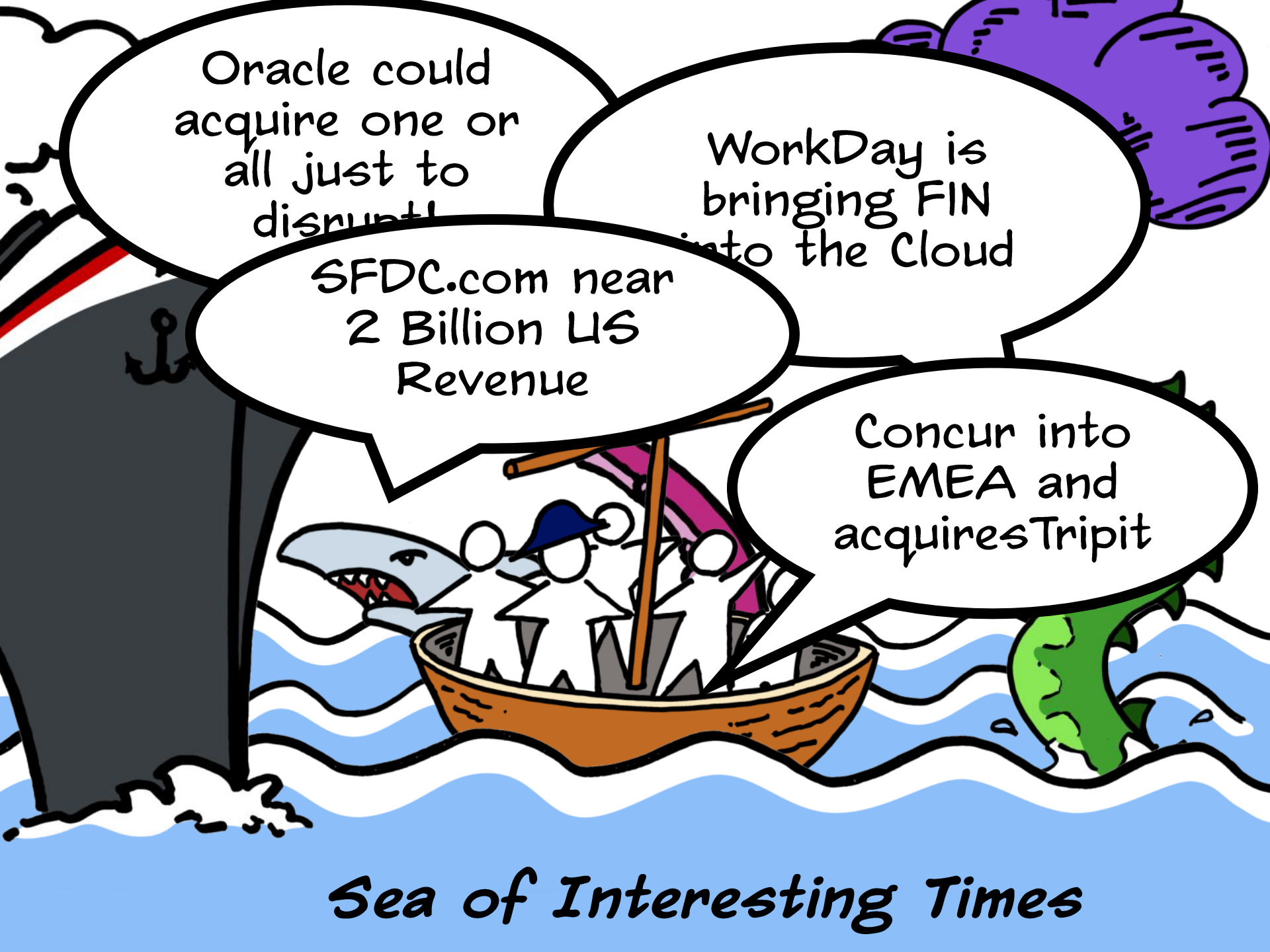


There it is!

Where did
it go?

le of SaaS

Sea of Interesting Times



Oracle could
acquire one or
all just to
disrupt

WorkDay is
bringing FIN
into the Cloud

SFDC.com near
2 Billion US
Revenue

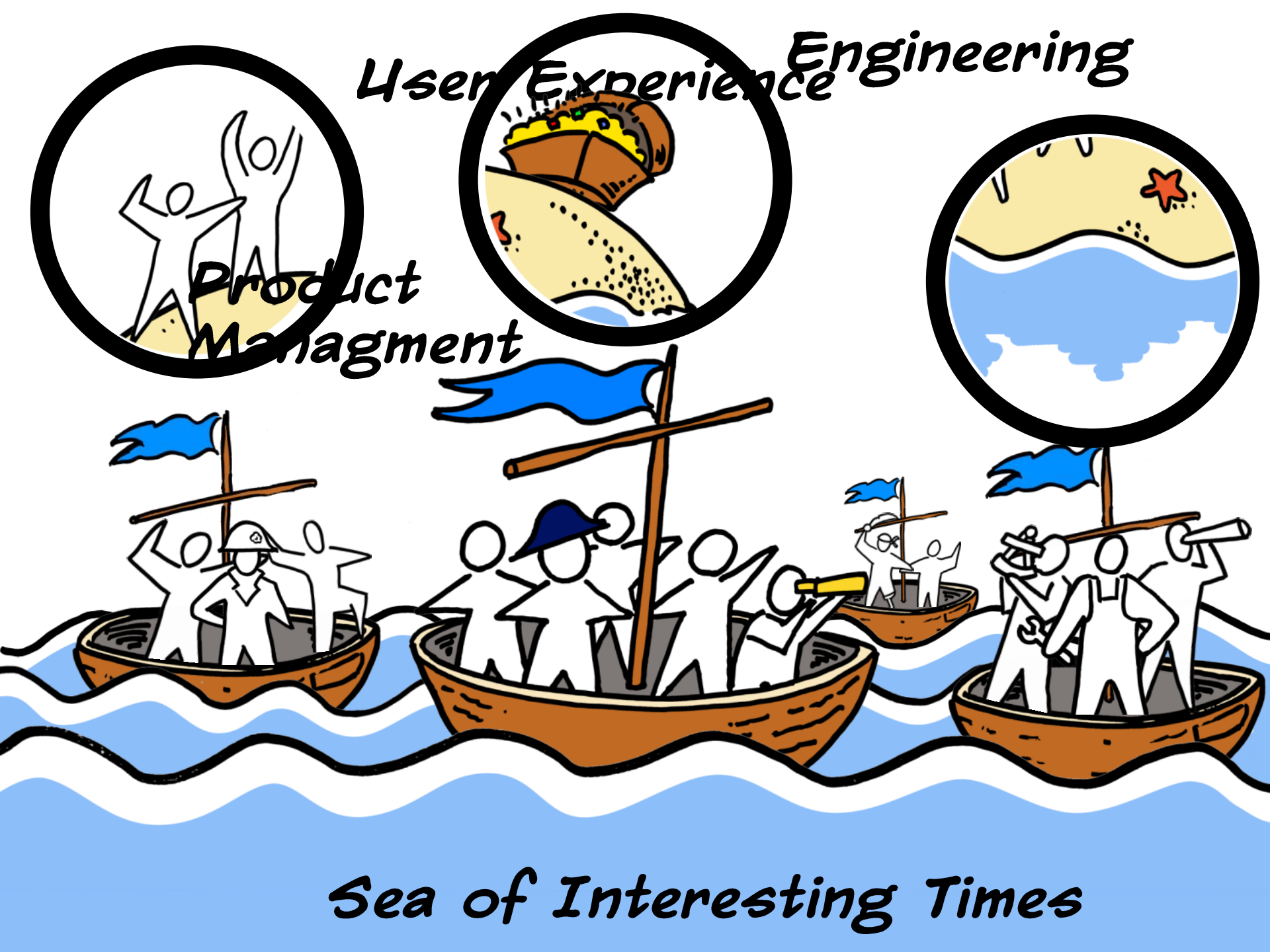
Concur into
EMEA and
acquires Tripit

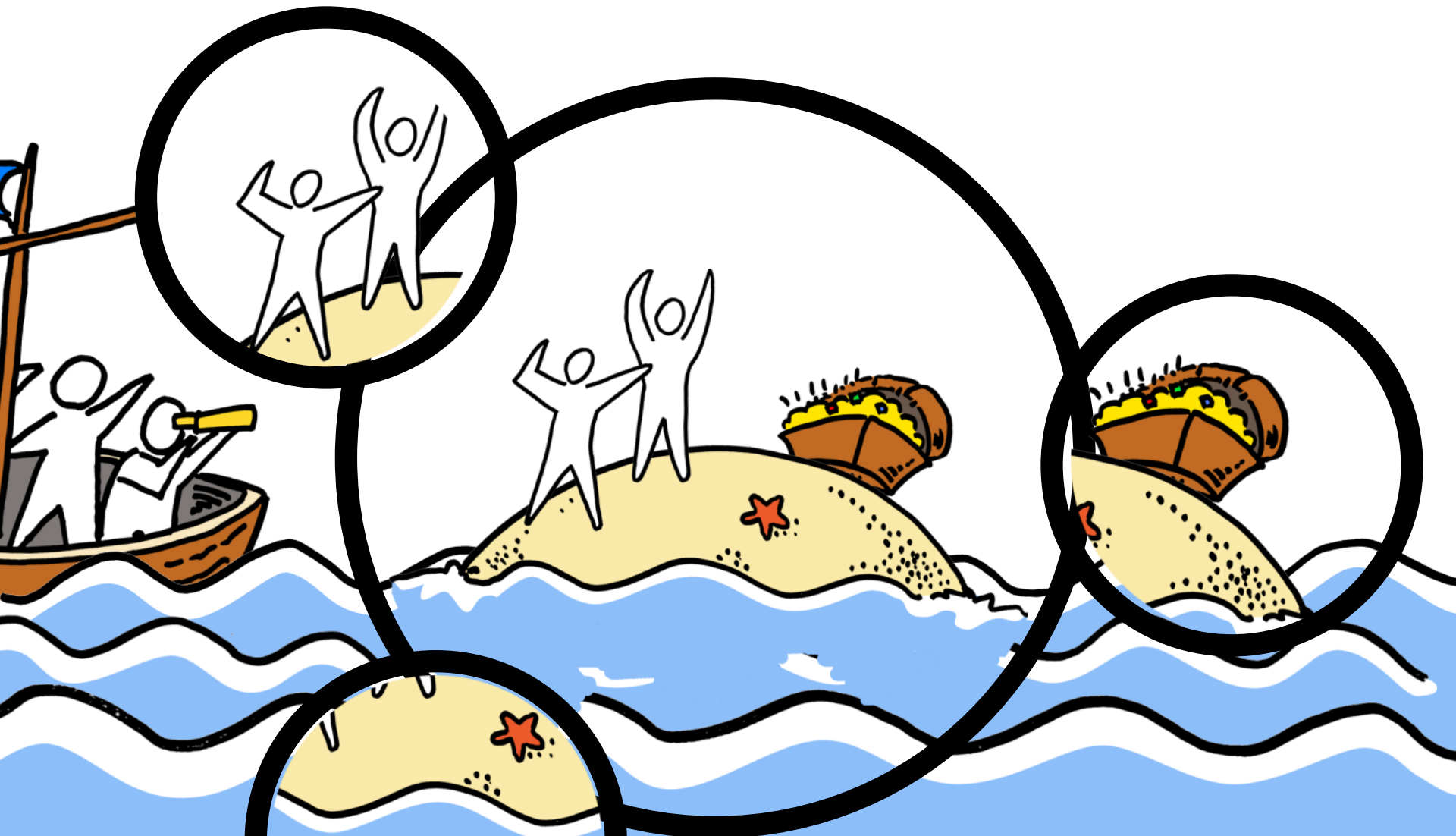
Sea of Interesting Times

User Experience Engineering

Product Management

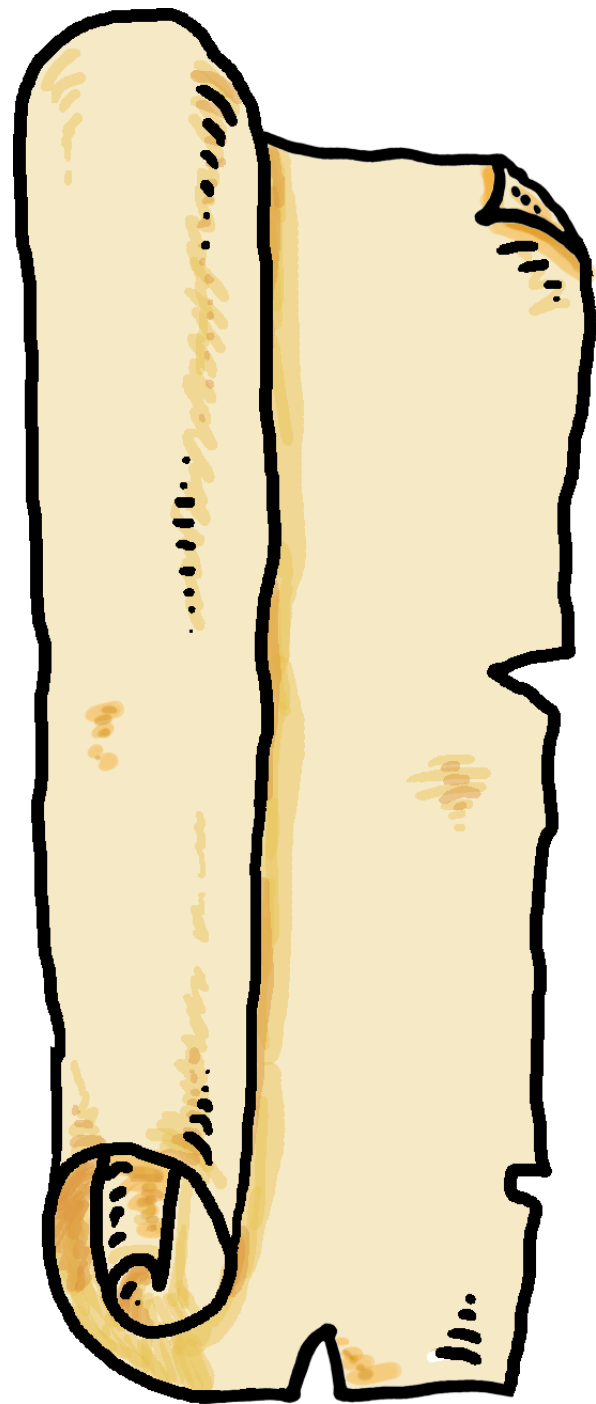
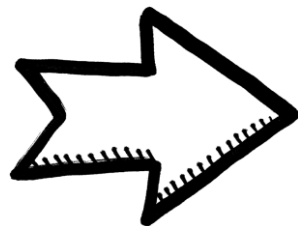
Sea of Interesting Times





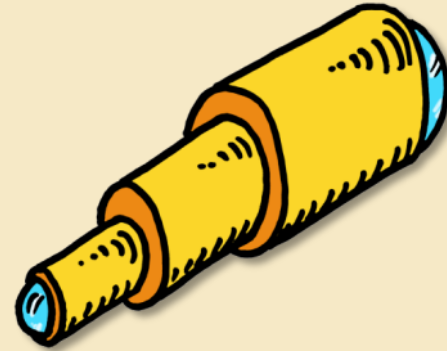
Interdisciplinary teams help us see the whole problem and enable us to build a whole solution

Our “Pirate Code”





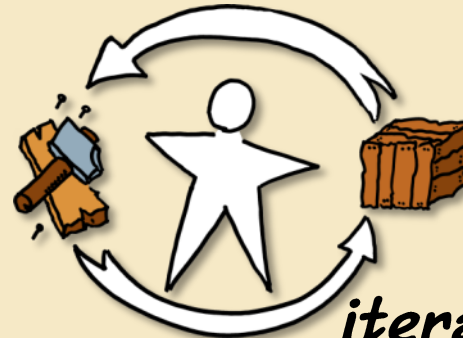
*interdisciplinary
team*



*shared
vision*



*empathy
for people*



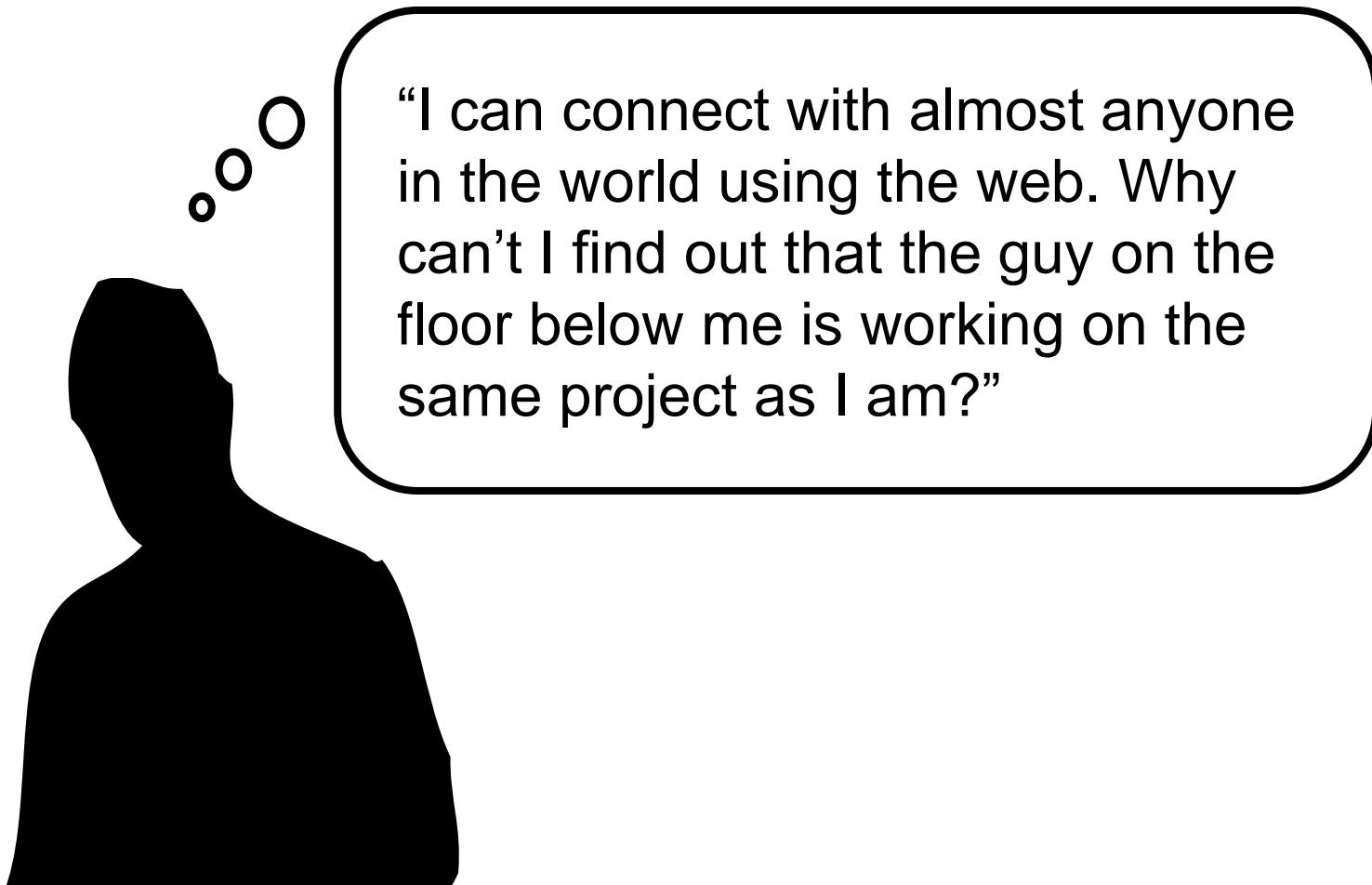
*iterative
build-cycle*



Imparitive

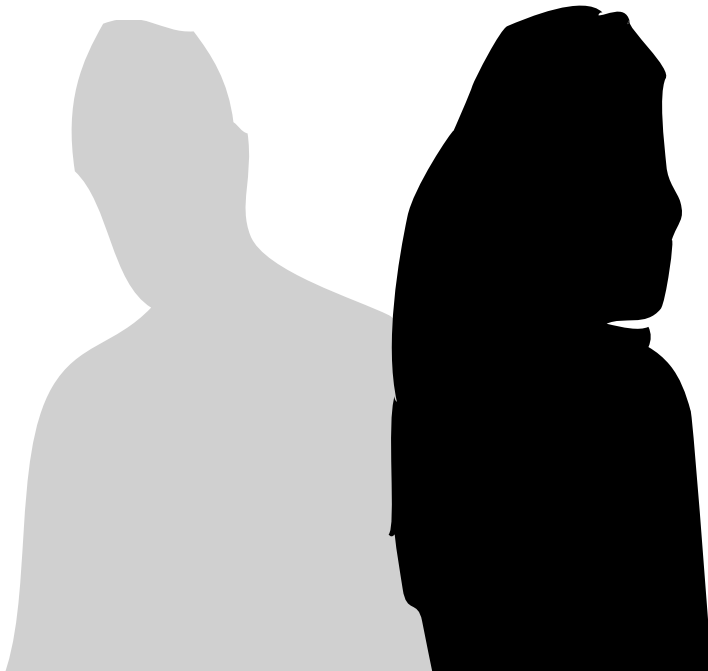
What is going on out there?

Peoples' Changing Needs and Expectations...




Peoples' Changing Needs and Expectations...

“If an app isn’t working for me, I know that there are ten others to chose from to find one that does work.”



Peoples' Changing Needs and Expectations...



"I am used to getting feedback all the time and now you expect me to wait 11 months before you tell me "I met expectations"..."

The illustration shows a person in silhouette on the right, with a thought bubble above their head. To the left of the person is a large speech bubble containing text. In the background, there are faint silhouettes of other people.

Peoples' Changing Needs and Expectations...

“I can find twenty books that I might want to read “if I liked this book...”, read reviews, find an audio version and download it immediately and I can’t even find out if the scissors I ordered from a supplier 3 weeks ago have shipped.”

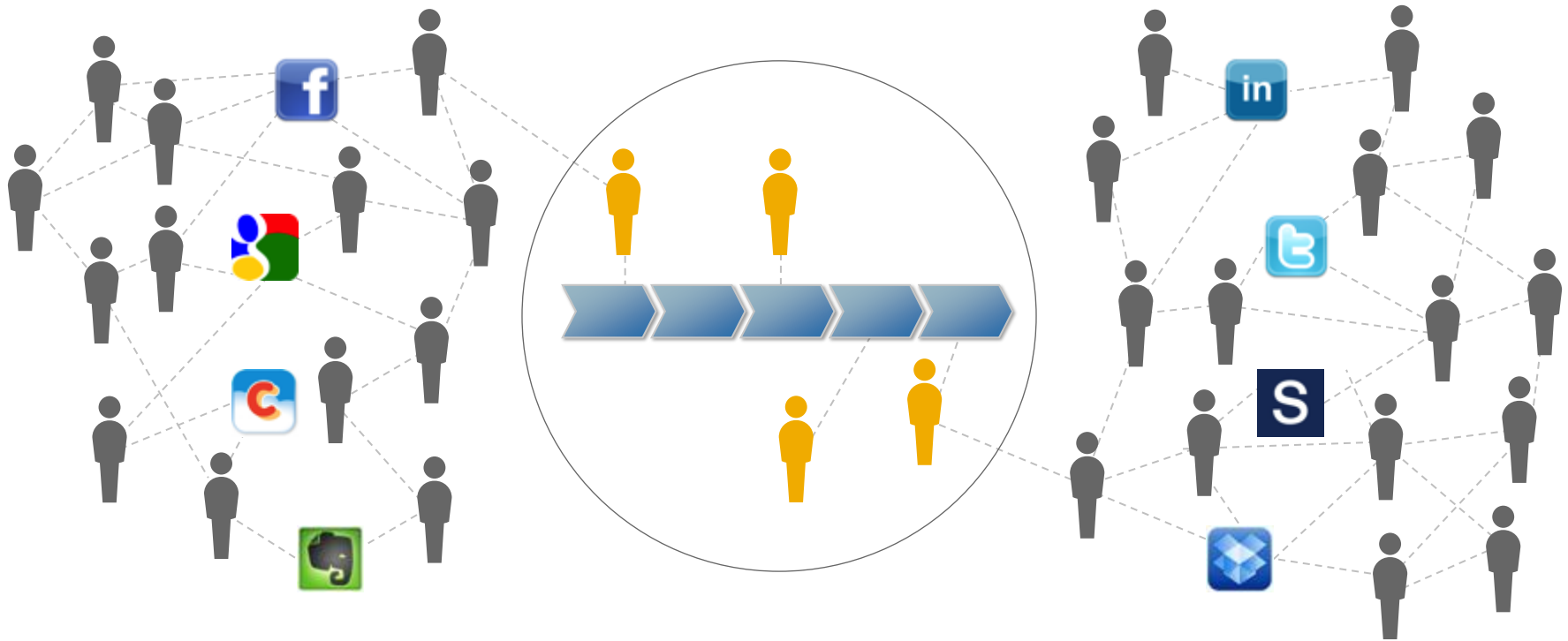


Peoples' Changing Needs and Expectations...

I use my phone, tablet and laptop to connect, share, buy, sell, travel, learn – anywhere, anytime. I need to do this at work as well.



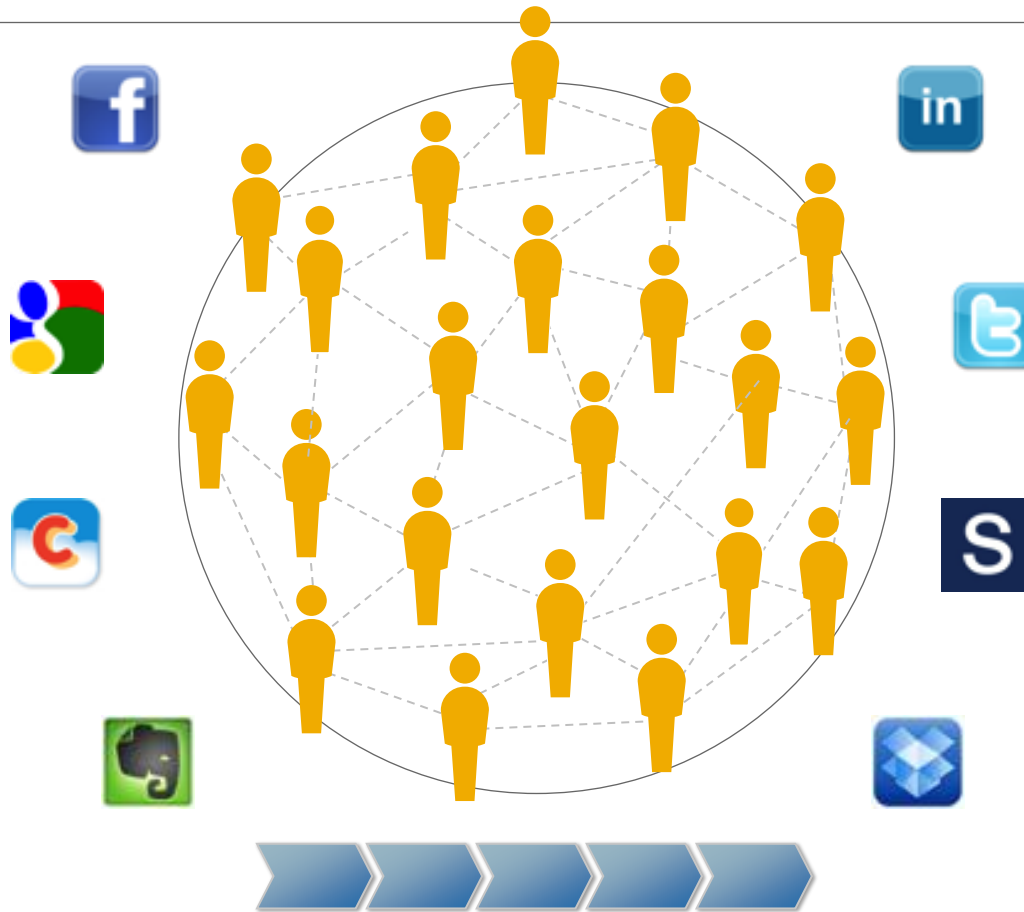
A shift is under way



Enterprise applications are only supporting a fraction of the work people do

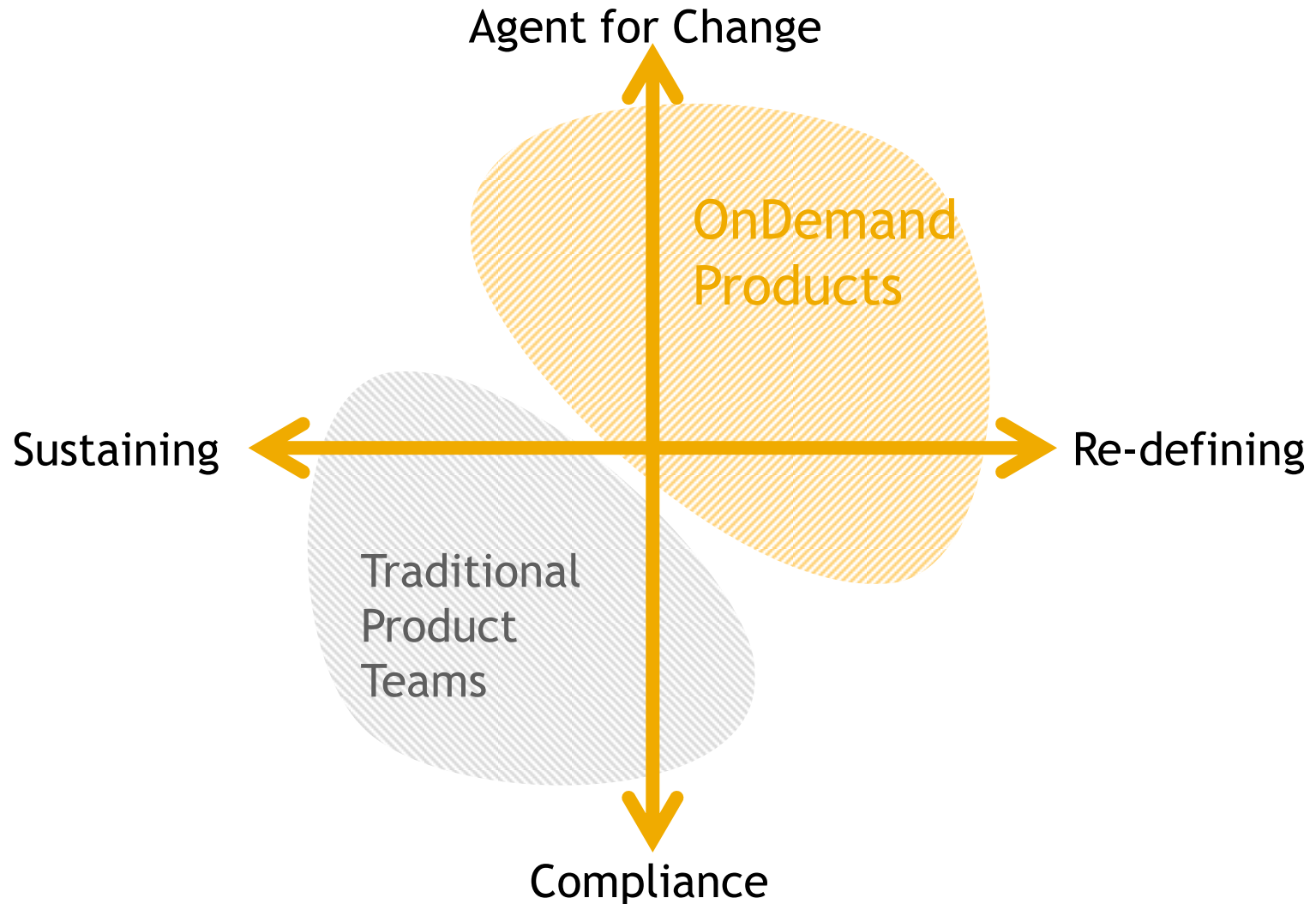
A new generation of workforce is bringing its tools to the office to get the job done
...showing us the way!

People Centric Product Vision



We build applications that help people connect, communicate and get work done in and around business processes

OD Products must be designed and built differently to re-define and change a market... It requires a new “mindset”



SAP Challenges Ahead...

- SAP primary relationship is with IT. SaaS is usually consumed by LoB
- SAP brand message is tuned to IT and its buying model not LoB
- SAP is a 35% margin business; SaaS is not
- SAP contracts have evolved over 40 years of managing risk
- SAP products are engineered for flexibility and customization via a partner ecosystem; SaaS provides a fixed product but customization can be difficult
- SAP must address rapidly maturing SaaS table stakes or change the game
- SAP is about technology and SaaS is about ... Service and uptime

Mindset Challenges

- Individuals on teams often do not have shared values or ownership... They think about role first not product team first.
- There is a lack of shared vision of OD LoB amongst team members regarding “people centric”
- There are too many people assigned to a product resulting in feature creep, make work and end to end scope.
- People are confused on how to move from idea to execution.
- People are afraid of failing and believe that the going all in on the OD LOB apps will be career limiting.

A little bit about me and my team



- **Mike Tschudy** (Area Head)
- **Rebecca Sowards-Emmerd** (Engineering)
- **Yvonne Baur** (Product Management)
- **Loren Woo** (Product Management)
- **Tim Rechin** (Product Design)
- **Shahvir Elabadi** (Engineering)
- **Ruta Srinivasaraju** (Product Design)
- **Daniel Markwig** (Product Design)
- **Jonathan Zaremski** (Product Marketing)
- **Michael Koegel** (Engineering)
- **Christian Geldmacher** (Product Management)
- **Gerd Stumm** (EHS Product Management)

YAHOO!

WebMD
Better information. Better health.

vendavo
Delivering Sustainable Pricing Advantage

Elance

SAP

ebay



CISCO



DAIMLER

GE
imagination at work

ascent
media



People

How do we change the mindset of 600 people who have been quite successful building products for an ERP Suite?

Person-Centric Product Principles – What We Need to Do

Put the Person at the Center

Acknowledge that people are different: their lives, their hopes, their work, their objectives. There is no one size fits all.

Do One Thing Well

Find the unmet need, and build the minimum viable product ... better than anyone else.

Connect People...

... groups, and things to help them discover and share value in unexpected ways.

Create Flow

Help people succeed by making work enjoyable. Let people attain step-by-step goals to give people a series of successes, facilitating the flow of work.

Anywhere, Anytime

Business doesn't begin or end at the office; people are mobile and the service needs to be available regardless of device or location.

We create shared values – How we need to do it

- Interdisciplinary teams
- Empathetic
- Fail early, fail often
- Experiment by building
- Comfort with ambiguity
- Build, test, iterate
- Keep options open
- Holistic

**Human
Desirability**
Design Thinking

Business Viability
*Customer
Development*

Technical Feasibility
Lean/Agile

- Empower the team
- Working software
- Customer collaboration
- Deliver as fast as possible
- Late changes are welcome
- Individuals and interactions
- Everything that does not add value to the customer is waste

- True believers not employees
- Get out of the building
- Don't confuse hypothesis with facts
- Build-Measure-Learn
- Prove it in micro-scale
- Relentless execution
- Focus on the few things that matter
- Late changes are welcome

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Design Thinking

- Empathy for people

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Human Desirability

Design Thinking

Core Values

- Interdisciplinary teams
- Team empowerment
- Get out of the building
- Prototype & validate
- Customer value
- Keep options open

Technical Feasibility

Lean/Agile

Customer Development

- Co-innovation

- True believers not employees
- Get out of the building
- Don't confuse hypothesis with facts
- Build-Measure-Learn
- Prove it in micro-scale
- Relentless execution
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Lean

- Working software

We create a team space – Where we need to do it



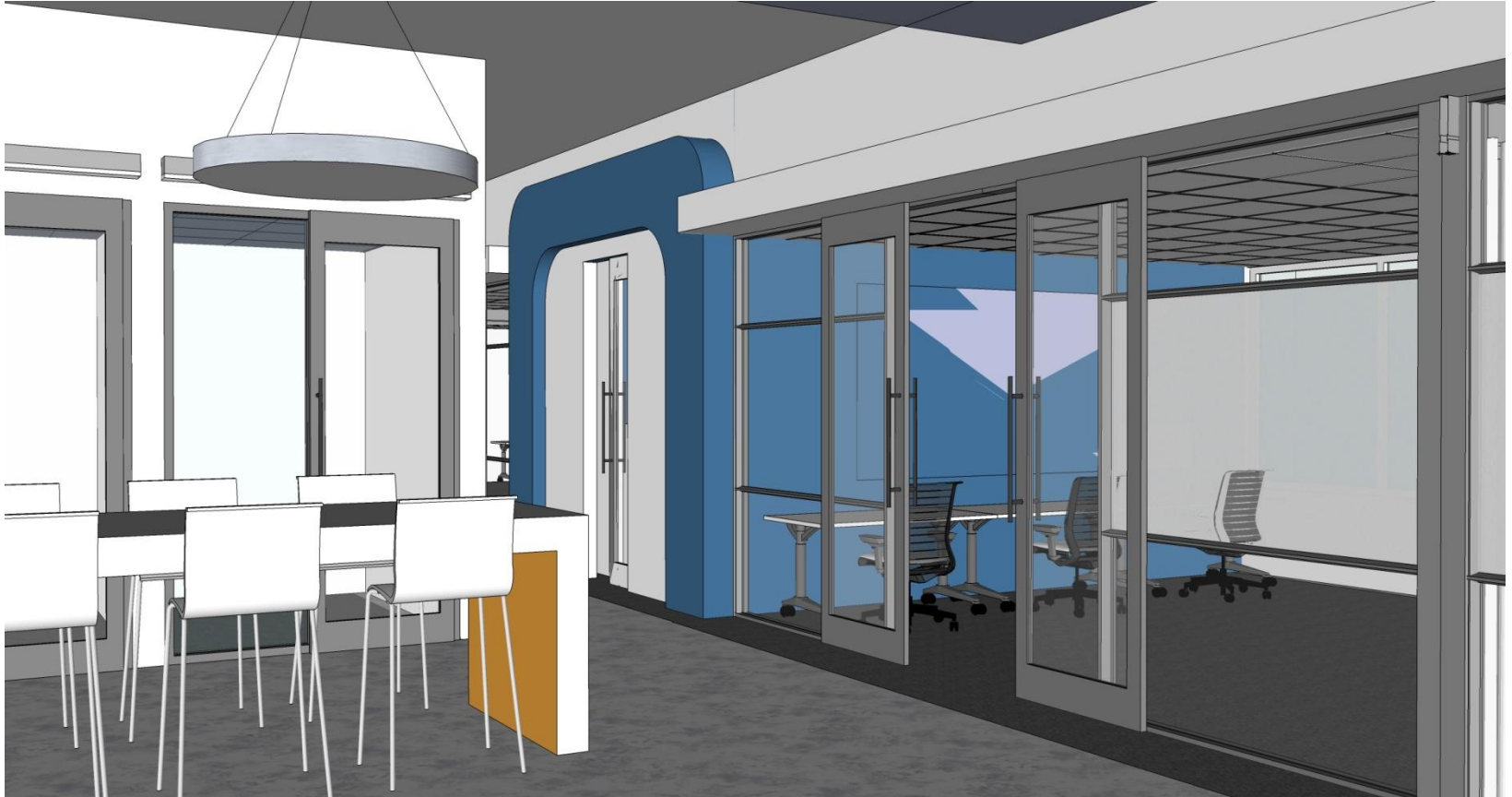
COMMON AREA

We create a team space – Where we need to do it



TEAM ROOMS

We create a team space – Where we need to do it



STUDY HALL

We create a team space – Where we need to do it



EXECUTIVE OFFICES



Process

Too much change is never a good thing even when done with good intentions.

Product Design Group: Design Thinking adds value along the whole product development cycle for OD LoB products

Developing and communication of product vision



product boxes built by TravelOD team during vision workshop

Design sessions



mapping of storyboards to business process in TravelOD

Backlog definition



Mapping of user centric storyboard to backlog items in CareerOD

Help focus on minimal viable scope



Using value drivers, empathy for end users and technical understanding to reduce scope for release 1.0 in CareerOD ("Suggestions" team)

IDEA

PROTOTYPE

DEVELOP



Team building and mindset

Multidisciplinary approach helps build teams and improves collaboration between disciplines in CareerOD

empathy mapping as preparation for value driver definition in CareerOD



Value drivers translate vision into product

Functional proof of concept implemented by PDG for Activities in CareerOD



Prototyping

Help solve problems in detail design of solution; ux design but also technical design! (example taken from Activities in CareerOD)



Detail design

Iteration



DT helps find creative workaround solutions in line with product vision (CareerOD)

PDG PRODUCT VISION FRAMEWORK

GETTING TO THE VISION

Hypothesis

Also referred to as the product pitch. Describes what a product does, for whom and what makes it unique?

Personas

A representation of the goals, mindset and behaviors for a type of user of a product.

Value Drivers

A persona's need or desire that, if fulfilled, delights the users of the service, and /or brings another measureable business benefit.

Product Story

A product narrative told from a human perspective that shows how a person(s) use a product to achieve their goals.

Prototype(s)

A product artifact, often code-based, used to collect real-world feedback

Use Cases

Description of one or more steps a user takes to accomplish a goal.

Backlog

From a software point of view, a collection of more detailed and granular use cases.

ideas

product

PRODUCT VISION

is the direction a product takes to satisfy human, technology and business needs at the same time. The product vision guides all product activities.

PRODUCT DIMENSIONS

are criteria or viewpoints that each product needs to satisfy in order to be successful

HUMAN

Are real and/or unmet needs being met?

TECHNOLOGY

Can we build it at an acceptable cost?

BUSINESS

Is there a market? Will customers buy it?

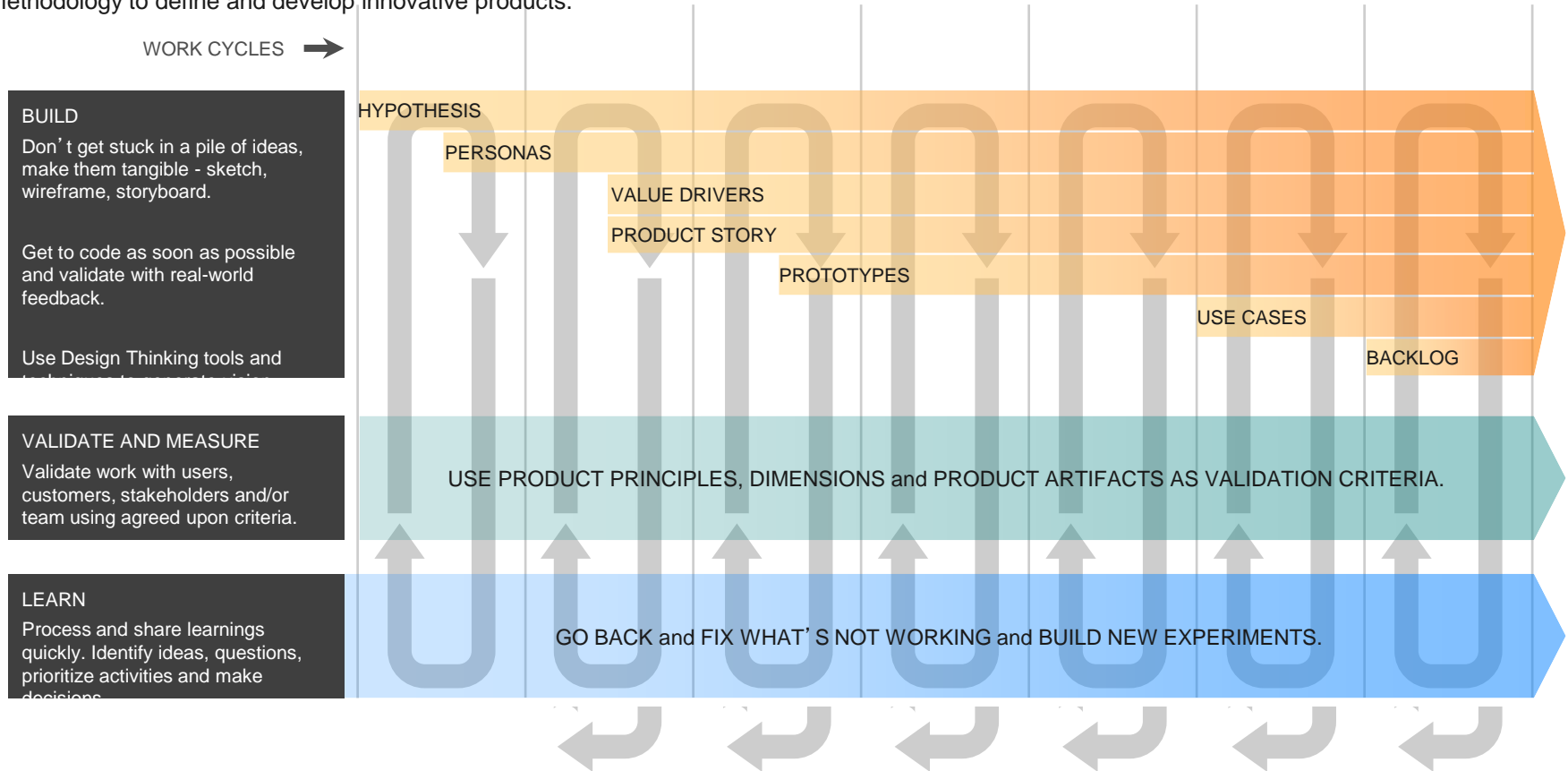
Technology

Business

Human

PDG PRODUCT VISION PROCESS

This diagram shows how we combine Design Thinking and the Lean Startup methodology to define and develop innovative products.



* vision components reflect an inherent hierarchy but do not represent how work is actually organized.



↑ PRODUCT BACKLOG (Detail)

product backlog definition

SPRINT 0



Prepare and get smart.

Understand the project.

Our team grows significantly ... we shared our current knowledge and asked everybody to start desk research.

SPRINT 1



Get started.

Build a team.
Build empathy.
Explore opportunities.

We had a great kick-off. Now it's about getting out to understand the needs of our targeted users. We start building ideas and prototypes, too.

SPRINT 2



Build to learn.

Check feasibility.
Learn and motivate to prototype.

90% of our resources are away ... we planned to have a project break. But in the end Sally came back with a great prototype.

SPRINT 3

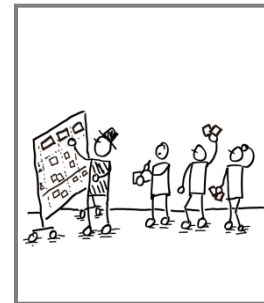


Experience prototype.

Iterate and validate ideas.

We brainstorm and prototyped many ideas. We start building a product story and a first Hypothesis.

SPRINT 4



Iterate and refine.

Visualize, refine, validate.

All our dev resources are on a 2 weeks training. A good opportunity to consolidate our product story and prepare for customer validation.

SPRINT 5



Review and validate.

Re-check viability.

We re-check the business case based on our product story and validate our results with customers.



Product

We may not make it easy on ourselves but great things are beginning to happen

Product Definition

Hypothesis : The Travel OnDemand Travel Assistant

The Travel OnDemand “Travel Assistant” **collects** and **organizes** all expense-related information for the traveler **anywhere** and **on any device** so they can spend wisely, submit their expenses easily, and get paid quickly.

Personas



“I like to plan ahead, get informed, and know what’s coming.” “I don’t like being surprised.”

Frank, the ‘Infrequent Traveler’ - *an IT architect in his late 30ies.*

- Methodical and cautious
- Familiar with technology but not an early adopter
- Likes to plan meticulously, and does not like surprises

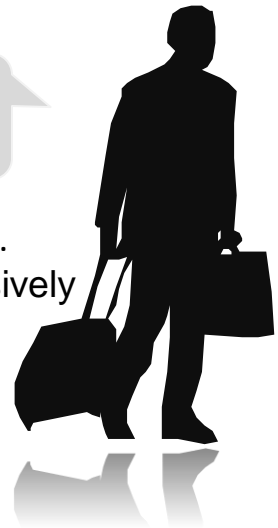
“Travel is not what it used to be; the airlines really squeeze you these days”



“I know how Gary likes to travel”
“I know which expenses go through, and which don’t”

Susan, the ‘Travel Expert’ - *a young executive assistant and mother.*

- Rarely travels herself, mostly supports others.
- Has learned the ins and outs of travel planning and expense reporting
- Takes pride in being an expert on all things travel-related.



Franks Wants and Needs

I want...

- Expenses to be a no-brainer
- To know about my destination
- To know about expenses and policy before I spend money
- To be organized
- To avoid dealing with receipts – scanning, organizing, not losing, matching
- To know the status of my trip, and when I'm getting paid
- To focus on my work

I need...

- To stay within policy and process of my company know about my destination
- To keep track of my receipts and expenses
- To document my complete trip expenses on time

Expectations

- The trip may be fun, but expense reporting is going to be hard and painful.
- Some expenses may be lost or forgotten
- Organizing receipts is a challenge
- Travel policy is out of touch with real life
- The system can't be trusted, everything has to be double-checked
- I won't know what I get reimbursed for until the end

Emotions*

- "Travel makes work more stressful; things keep piling up while I'm gone"
- I am worried I will forget something"
- "I want to follow policy, but I don't know what it is" "Expenses (laughs), that's a different story –
- I'm just not very organized"
- I write everything down, and then I enter it into the system" - just to make sure



*Quotes from traveler interviews

Value Drivers



Travel smarter

- I want to know about my destination
- “I want to follow policy, but I don’t know what it is”

Take the pain out of expense reporting

- I want expenses to be a no-brainer
- I don’t want to deal with receipts—scanning, organizing, not losing, matching
- I want to know the status of my trip, and when I’m getting paid
- The trip may be fun, but expense reporting is going to be hard and painful
- Some expenses may be lost or forgotten
- Organizing receipts is a challenge
- Travel policy is out of touch with real life
- The system can’t be trusted, everything has to be double checked
- I won’t know what I get reimbursed for until the end

Spend money wisely

- I need to stay within policy and process of my company
- I want to know about expenses and policy before I spend Money
- “I want to follow policy, but I don’t know what it is”

Focus on the business goals

- I want to focus on my work

How might we realize those value drivers

Travel smarter

- Bring together the essential information needed for the trip
- Tap into the company's business traveler community for destination tips and tricks

Spend money wisely

- Show policy and other information when and where the traveler needs them
- Help people make good spending decisions

Painless expense reporting

- Reduce the number of steps and effort spent on each step in expense reporting
- Keep the traveler informed where his trip stands, including when he is getting paid

Manage spend proactively

- Expose and anticipate spending trends
- Help travelers do the "right thing" when booking and on the trip

Focus on the business goals

- Minimize the disruption from travel planning and expense reporting
- Tie business goals and employee goals to the employees' trips



Product Story

Frank travels to a sales event in New York

Frank, the 'Infrequent Traveler' - *an IT architect in his late 30ies.*

- Methodical and cautious
- Familiar with technology but not an early adopter
- Likes to plan meticulously, and does not like surprises

Frank travels to a sales event in New York

Helping an account executive present to a large prospect

Before Trip



On Trip



After Trip



Part 1: Before the trip, Frank has a lot of questions

He has never been to the US, and spends a lot of time planning



1. Frank learns about his destination
2. Frank learns about the relevant travel policies without searching
3. Frank learns about other employees in New York at the same time

Franks plans the trip – his first ever trip to the US

Frank has booked his flight with the help of an agent, but he still has a lot of questions...

Passport? Visa?

How do I get to the airport, and to the hotel?

Should I get a rental car?

Do I need US Dollars in cash?

Is hotel too expensive?
I'll have to ask Linda...



contact@newcotravel.com
New York Trip, March 23rd - March 29th 2011
21 March, 2011, 9:42:57 AM PDT
frank@newcotravel.com
Signed (1826843)

Howdy Frank,

Please click on the button below to review your New York trip travel details for March 29th, 2011.

Travel Package

Know your booking info, travel recommendation, top 10 policy info and more.

Bon Voyage!
NewCo Travel
contact@newcotravel.com
800-555-5555

Learn how you can start expensing on your trip


Email your expenses, receipts, photos or voice messages to john@newcotravel.com on your phone. We will organize it for you.

[Save the Vcard](#)

Download our iPhone or Blackberry mobile application and update your expense on the go.

[Download Application](#)

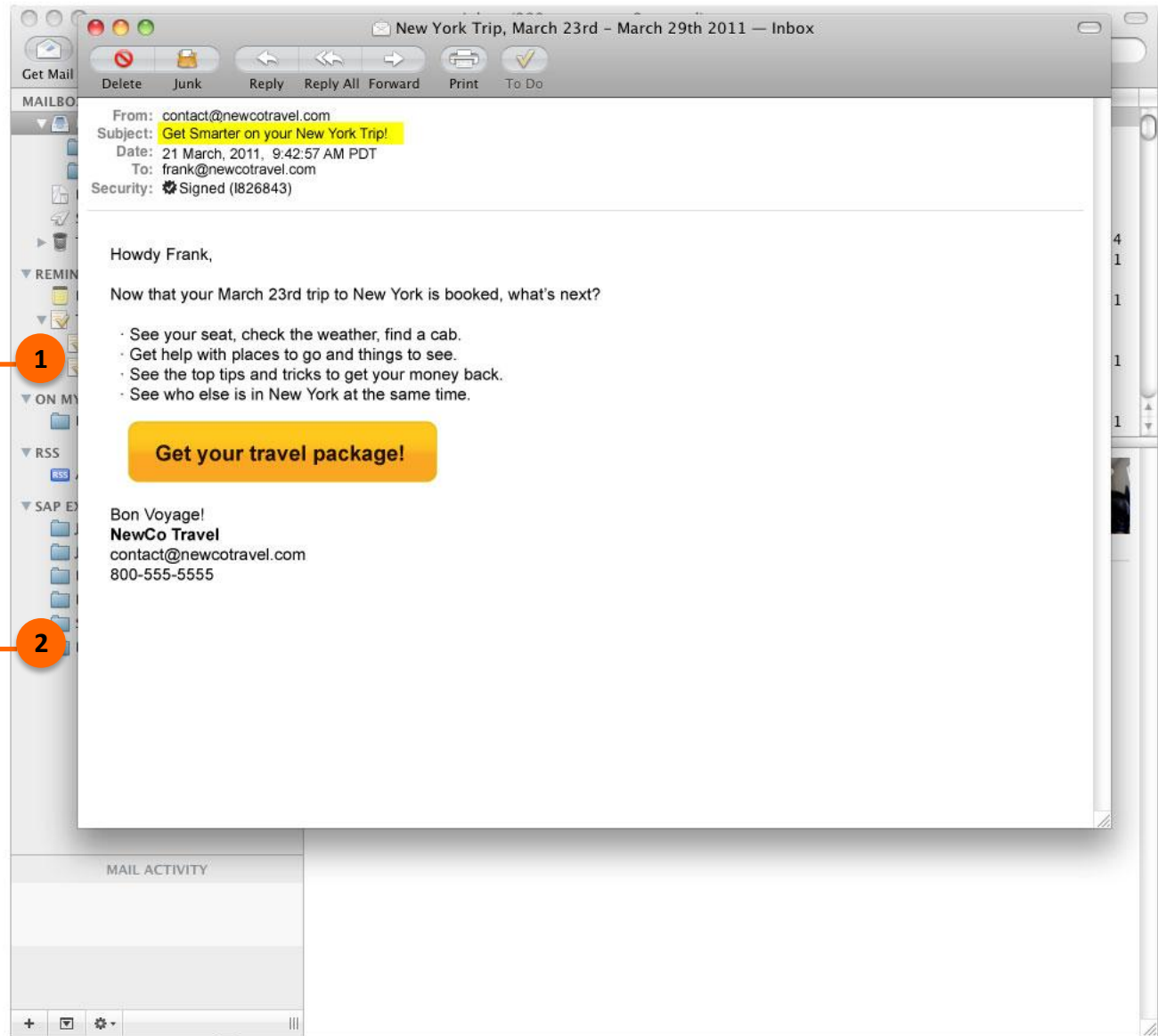
Just then, Frank gets an email from Travel OD...



Frank looks at the email and clicks...

No need to search
for information
Travel smarter
*Provide immediate
value*

Preparing for
expensing in many
different ways
*Painless expense
reporting*



List of use cases

| No. | Name | Value Drivers/Prod. Principles | Comments |
|-----|---|---|---|
| 1 | Create and send trip information (System) | Travel smarter | This includes automatically creating a trip if none exists on Travel OnDemand yet |
| 2 | Get notified of a trip (Traveler) | Travel smarter | |
| 3 | Review travel itinerary (Traveler) | Travel smarter, immediate value | |
| 3a | Review changed itinerary (Traveler) | Travel smarter, immediate value | Travel OD needs to ensure that the traveler stays current on their travel information. |
| 4 | Review trip tips & tricks (Traveler) | Travel smarter, spend money wisely | Prepares the traveler for the upcoming trip |
| 5 | View fellow travelers (Traveler) | Connect people, travel smarter | |
| 6 | Find and evaluate places to visit (Traveler) | Travel smarter, immediate value | |
| 7 | Search for a place to eat (Traveler) | Anytime, anywhere; spend money wisely | Helping the traveler find a place that is within policy, and 'tried and tested' by fellow biz travelers |
| 8 | Log expenses on the road (Traveler) | Anywhere, anytime; painless expense reporting | |
| 8b | Log expenses on the road while offline (Traveler) | Anywhere, anytime; painless expense reporting | |
| 9 | Check trip information (Traveler) | Anywhere, anytime; Travel smarter | |

List of use cases

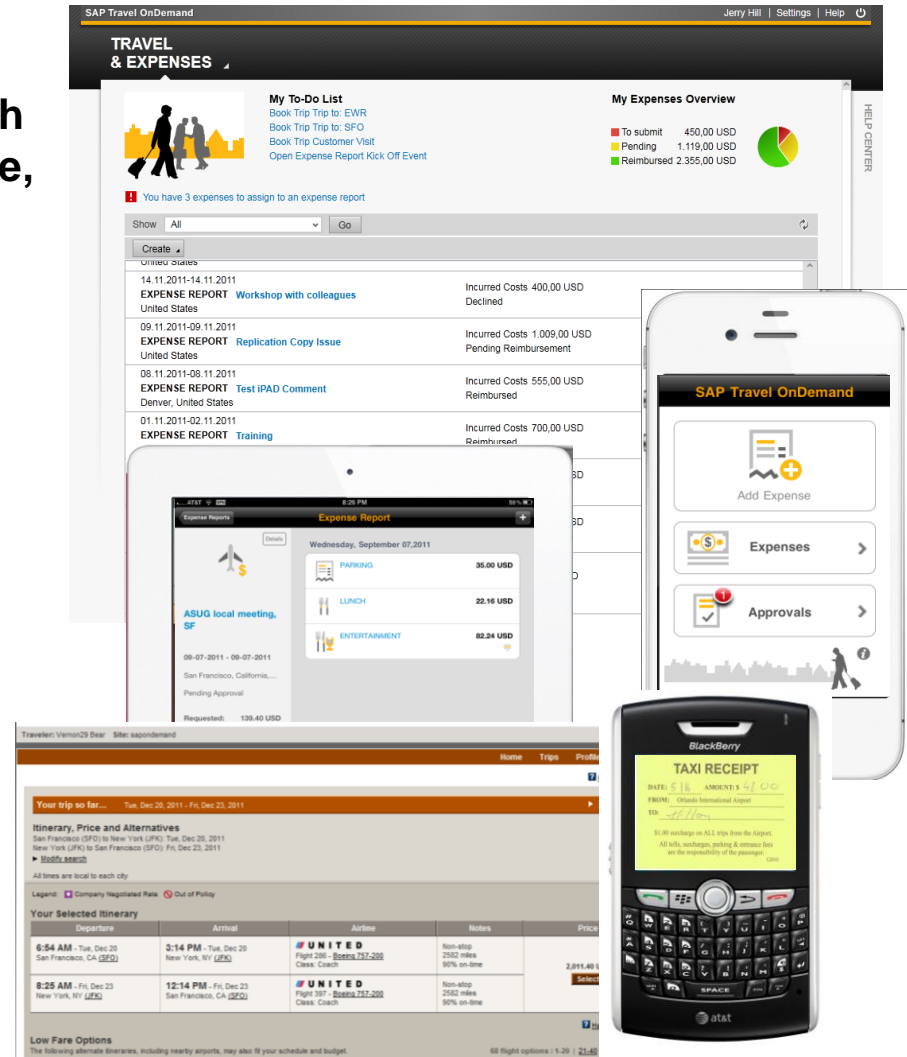
| No. | Name | Value Drivers/Prod. Principles | Comments |
|-----|---|---|---|
| 10 | Show expenses sorted by day (system) | | |
| 11 | Automatically add airfare to trip expenses (system) | Painless expense reporting; immediate value | Information is known from trip itinerary |
| 12 | Automatically add relevant credit card items to expenses (system) | Painless expense reporting; immediate value | |
| 13 | Automatically add applicable per diems to expenses (system) | Painless expense reporting; immediate value | Wherever travelers receive per diems instead of submitting meal expenses, e.g. Germany, US gov sector |
| 14 | Remind traveler of missing expenses (system) | Painless expense reporting; immediate value | |
| 15 | Add hotel expenses (system/traveler) | Painless expense reporting; immediate value | Uses use case # 12 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Travel Smarter

Control your travel with an intuitive experience to manage your entire trip

Control your travel from planning through expense reimbursements with an intuitive, consumer-grade experience

- Get up-and-running quickly with an intuitive travel solution
- Leverage a consistent experience of managing travel from end to end
- Reduce the administrative effort of managing travel and expenses

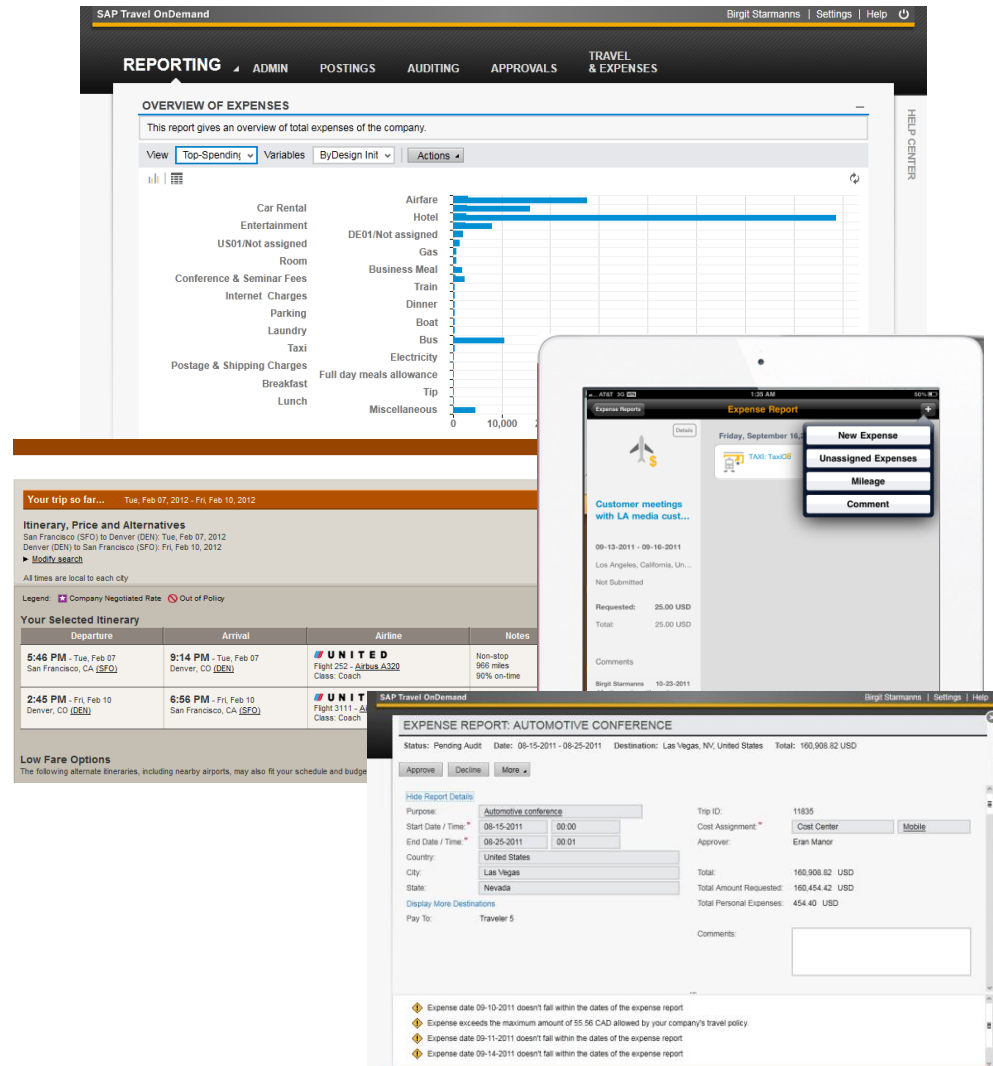


Spend Better

Stay within your travel guidelines for trips and expenses

Understand the corporate and legal guidelines to stay within your travel guidelines for trips and expenses

- Stay within your travel policy
- Get reimbursed quickly
- Get real-time visibility about the status of your trip and expenses

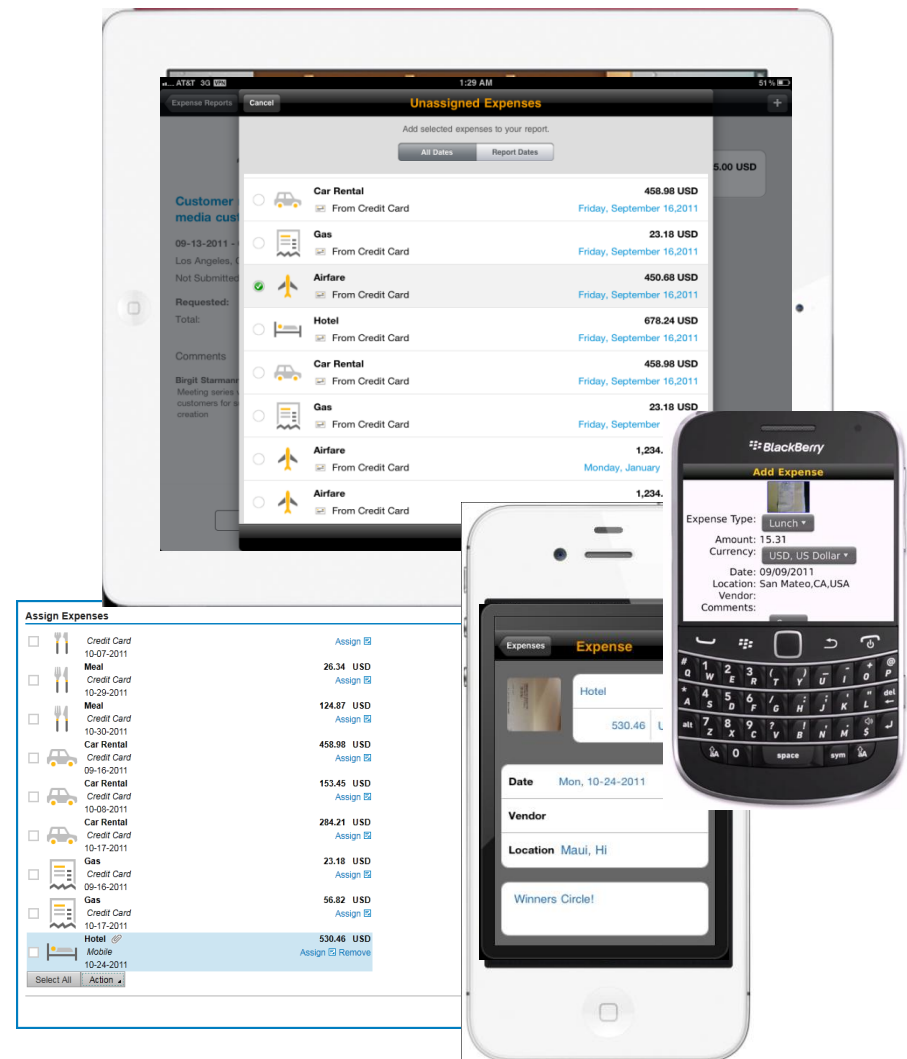


Get Reimbursed Faster

Enter and submit receipts and expense reports anytime, anywhere

Enter and submit receipts and expense reports anytime, anywhere on the mobile device that you have with you when you travel

- Manage your travel anytime, anywhere with your mobile device
- Capture travel receipts effortlessly
- Complete expense reports faster



Mindset learning...

No employees, only true believers Clearly state what the product values are and how they will influence decisions. People with full buy-in need to be hand picked.

Start small... Keep the team size minimal. Work on specific products or cross-topics with dedicated teams of ten (max. 2)

Team is everything... Break the role SLA and get people to share their talents and competencies openly, then decide on role responsibilities

Buy in... Clearly line out our approach at the beginning of a project and get buy in from the stakeholders. No shortcuts!

Common MBOs... Everyone needs to know what they are working for. Its bureaucratic but it makes a difference

Pre Mortem... Get out on the table everyone's worst fears about failure and then manage those issues

Get out of the building and validate... This builds confidence and reduces ambiguity

SAP is learning...

- We are finding a balance between IT and LoB buyers
- SAP is being incentivized to sell SaaS
- Delight and operational efficiency are BOTH essential to adoption and volume
- You need to have freedom to get to market any way possible
- Terms need to change to support a new business model and buyer
- Integration is SAP unfair advantage but we must think differently about it
- Delight, operate, learn, fix and then platform
- Innovation can serve many purposes in large/mid enterprise
- Sometimes you need to buy your way in to close the gap and accelerate

Thanks!