



SURROUND TECHNOLOGIES

[Creating Software Users Love. Developers by day, Software Super Heroes by Night.]

Creating Software Your Users Will Love

The Top 8 Keys to a Productive UX on
Windows, Web and Mobile



Presented by: Lee Paul
Surround Technologies



Today's Speaker



Presented By: **Lee Paul**

[CEO / Accelerated Software Development Evangelist]

lpaul@surroundtech.com | www.surroundtech.com

Socialize:



[linkedin.com/company/128638](https://www.linkedin.com/company/128638)



tweet me @SurroundTech



[facebook.com/surroundtech](https://www.facebook.com/surroundtech)



SURROUND TECHNOLOGIES™

Creating Software People Love

We are
**Software Development
& Modernization**

SUPERHEROS





SURROUND TECHNOLOGIES™

Creating Software People Love



with

The Right Strategies

The Right People

The Right Processes

The Right Tools



SURROUND TECHNOLOGIES™

Creating Software People Love

**To Accelerate the Development
of Software People Love!**

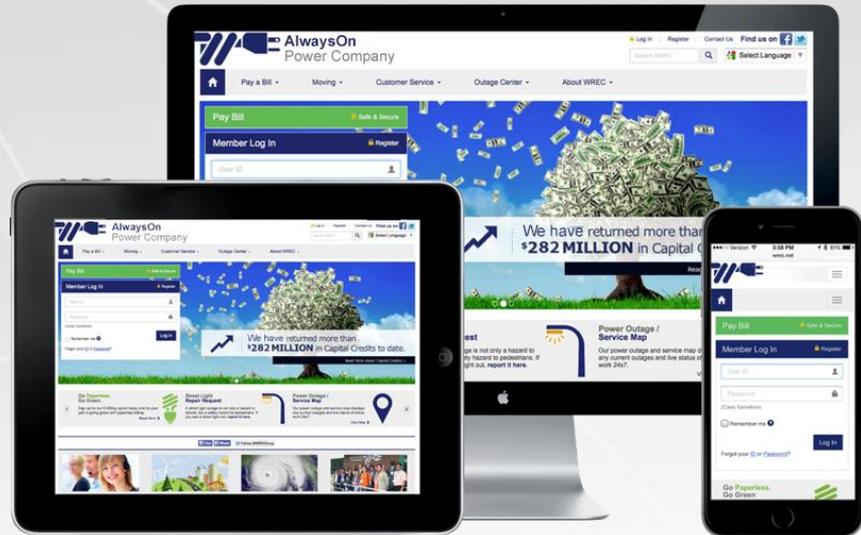




SURROUND TECHNOLOGIES™

Creating Software People Love

**Mobile
Web
Windows
Integration**



Surround's Mission

Develop Faster
Develop Better
Develop More
Develop Smarter



Software At The Speed of Business



TODAY'S SESSION:

Creating Software Your Users Will Love

TOP 8 Keys to a Productive UX



4 Tenets of Software

The ***4 Tenets of Software*** are design principles that denote what it takes to create a great software application.

- Holistic View
- Puts Users into Consideration
- Best Practices
- Maximum Quality and Return

The 4 Tenets of Software

The First Tenet is: *Useful*

- *It's the foundation of a users satisfaction.*
- *Software should provide some **useful***
- *It should perform the function(s) necessary to complete the tasks*
- *It should be superior to any other*
- *The more useful it is the more it will be used*

Don't Reinvent the Wheel...



The 4 Tenets of Software

The Second Tenet is: **USABLE**

- *More than just Visual*
- *Users need to be able to gain productivity*
- *Perform tasks with minimal effort*
- *Performs the expected function perfectly*



Don't Make Me Think...



The 4 Tenets of Software

The Third Tenet is: *Desirable*

- *Users should choose it over alternative products available to them.*
- *Find it appealing*
- *Helps them, makes life/work better*
- *More likely to dismiss deficiencies if the overall experience is acceptable.*
- *“Software that people proclaim they love”*



The 4 Tenets of Software

*The Fourth Tenet is: **Feasible***

- Time
- Cost
- Technical skills
- Available Technology
- All the above must be taken into account and weighed against the return that is gained.
- If a software is not feasible, it should not be created.



In this Session

Tenet #2

Usable



Make me happy



Why are we here today?

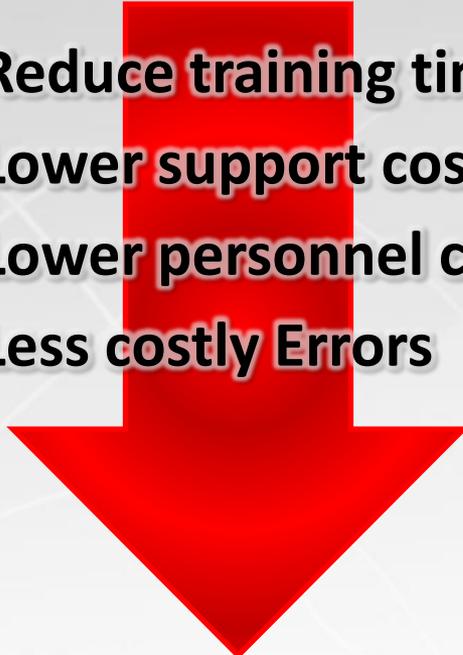


Business software development is always about the ROI and nowhere can this be better achieved than in lasting, daily end-user productivity.

Productive UX Yields Daily Higher ROI

Software that is easy, intuitive and productive to use will

- 
- Accelerate adoption
 - Increase production
 - Better service
 - Improve customer satisfaction
 - Boost Revenue

- 
- Reduce training time
 - Lower support costs
 - Lower personnel costs
 - Less costly Errors



Creating Software Your Users Will Love

DEFINING THE PROBLEM





Why do we have software?

[Open question for the room. Let me hear your thoughts.]

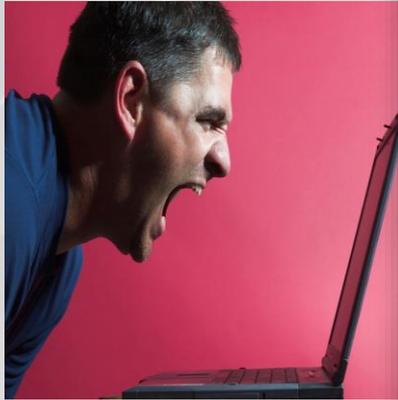
Software Solves A Problem.

It's that ***simple.***

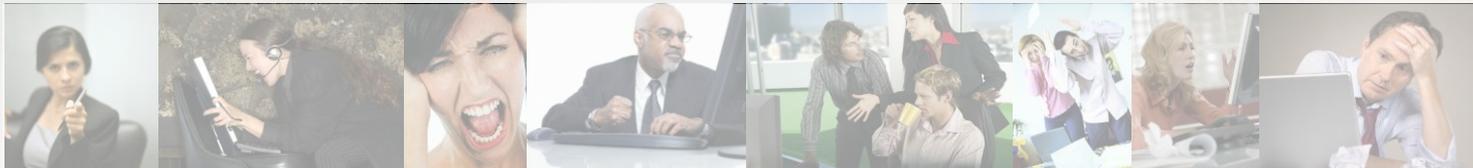
Period.



Users are a part of that problem!



User expectations vary and some reactions become... *interesting*....



Software UX: The Origin Story

Software began as mainly mechanical and textual interfaces limited by the technology supporting them. As technology evolved, so did the interfaces that defined them.



In the beginning

- Computers systems were all about the Business
- They were built to solve discreet tasks.
- They served the business.
- Developers did the bidding of the business based on the limited capabilities of the platforms
- User interfaces were limited



Then Developers Ruled

- Software driven by needs and demands of the business
- IT departments wielded “Command and Control”
- Developers separated from the rest of IT.
- Systems did the bidding of the developers.
- Developers told the Users what they would get and where.



The Dawn of the User

- Software driven by needs and demands of the business.
- Developers in charge of delivering the software.
- Power has shifted dramatically to the individual worker.
- Users choose the tools they need and where they use them.
- Whether or not users are productive and happy is a measure of software quality.
- *In social media, the user is the business.*



Users Then and Now

What's Different?



Expectations!

Software is EVERYWHERE, ALL THE TIME

- Phones
- Watches
- Eyeglasses
- TVs
- Thermostats
- Home Controls
- Appliances
- Cars
- On the streets
- Restaurants
- Airplanes
- Cruise Ships

Users Then and now



Simple



• ERP • CRM • ESD • BI •

• Google •

• Amazon •

• iTunes •

Users Now

- Want *instant response*
- Ability achieve their objectives *quickly and effortlessly*.
- Software so intuitive and effective it becomes almost *“invisible”*.
- Ability to share and collaborate



As Developers

- How do you provide that?
- How do you measure your success?





Creating Software Your Users Will Love

DEFINING THE REQUIREMENT



What is Usability

As defined by International Standards Association:

Usability is the **effectiveness, efficiency** and **satisfaction** with which a specified set of users can achieve a specified set of tasks in a particular environment.

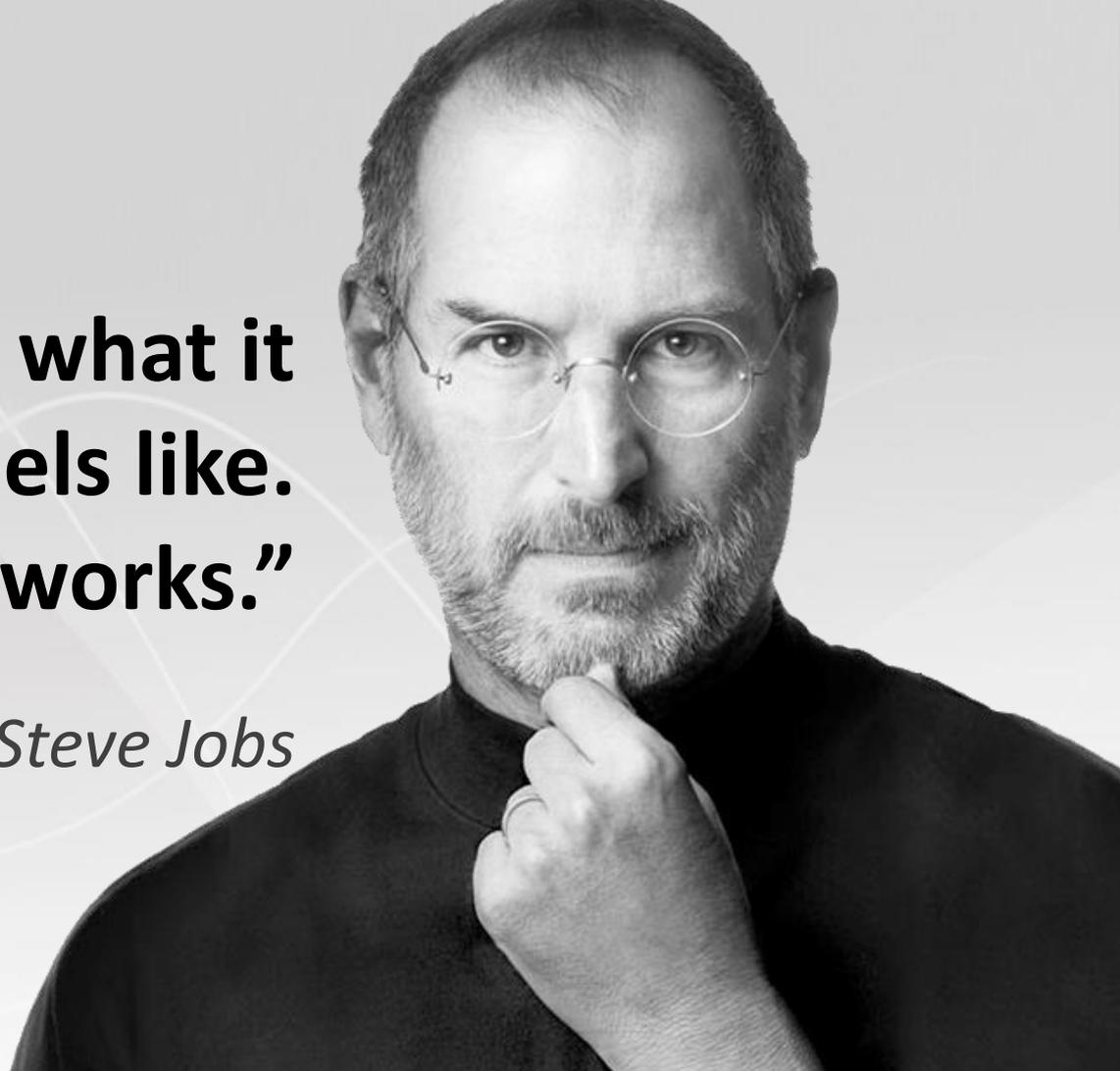


via [iso.org](https://www.iso.org)

International Standards Association

**“Design is not just what it
looks like and feels like.
Design is how it works.”**

Steve Jobs



A Usable Product

- Is easy to learn
- Hard to forget
- Minimizes burden
- Reduces workload
- Anticipates and forgives mistakes
- Does what the user wants, when the user wants it
- Always provides feedback
- Is satisfying and perhaps fun to use.
- Supports users at all skill levels and motivates them to advance



With a Usable product, User can ...

- Find what they need
- Discover what else is there
- Use the tool to its fullest
- Make quick and accurate decisions
- Do it without help from others
- See their progress and success
- Leave feeling their time was well spent



With a Usable Product, Users are Happy!



Happy Users means Happy Customers & Happy Bosses.... *Happy Users mean more productivity!!!*



Creating Software Your Users Will Love

ADOPTING A STRATEGY



8 Keys to a Productive UX



Eight is Great:

8 Keys to a Productive UX

1. Learnability
2. Memorability
3. Findability
4. Discoverability
5. Efficiency (Time on Task)
6. Accuracy (Task Completion)
7. Multi-Tasking
8. Subjective User Satisfaction

8 Keys to a Productive UX

1. Learnability

How easy is the system to learn?



UX Key 1: Learnability

- Most software, especially new software requires some amount of learning.
- Learning does not happen in an instant.
- Time and effort to get proficient, to “Get up to speed”
- Looking at how efficiency changes over time



UX Key 1: Learnability

- Leverage peoples past experiences
- Maintain Consistency
- Provide context sensitive assistance
- Be forgiving
- KISS
- Gamification



8 Keys to a Productive UX

2. Memorability

*Can you remember how to do your job
after you've been gone?*



UX Key 2: Memorability

- Do the thinking for the user
- Relate to peoples past experiences
- Set up logical processes
- Keep tasks focused
- KISS
- Gamification



8 Keys to a Productive UX

3. Findability
Find what you need fast.



UX Key 3: Findability

- Provide various ways of finding information based on the task at hand
- Search and explorers
- Drill down
- Drop Downs
- Quick finds
- History, Favorites, Folders, Categories



8 Keys to a Productive UX



4. Discoverability
Get anywhere from anywhere

UX Key 4: Discoverability

- Provide ability to get other relevant information
- Relevant information may not always have direct database relationships
 - Documents, workflow, remarks, ...
- Allow user to create relationships



UX Key 4: Discoverability

- Provide ability to get other relevant information
- Relevant information may not always have direct database relationships
 - Documents, workflow, remarks, ...
- Allow user to create relationships

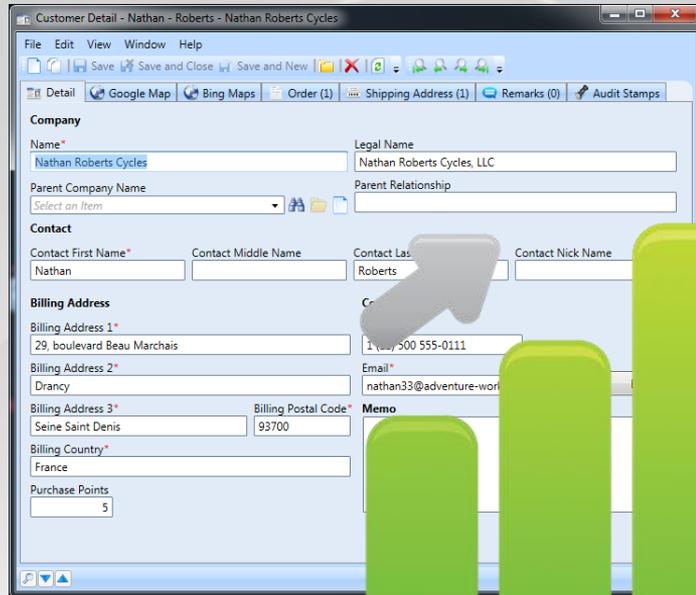


8 Keys to a Productive UX



5. Efficiency / Time-to-Task
Ready. Set. GO!

UX Key 5: Efficiency (Time-to-Task)



The screenshot shows a web application window titled "Customer Detail - Nathan - Roberts - Nathan Roberts Cycles". The form contains the following fields:

Company			
Name*	Legal Name		
Nathan Roberts Cycles	Nathan Roberts Cycles, LLC		
Parent Company Name	Parent Relationship		
Select an Item			
Contact			
Contact First Name*	Contact Middle Name	Contact Last Name*	Contact Nick Name
Nathan		Roberts	
Billing Address			
Billing Address 1*	Contact Phone		
29, boulevard Beau Marchais	1 443 500 555-0111		
Billing Address 2*	Email*		
Drancy	nathan33@adventure-work		
Billing Address 3*	Billing Postal Code*	Memo	
Seine Saint Denis	93700		
Billing Country*			
France			
Purchase Points			
5			

Overlaid on the form is a 3D bar chart with three green bars of increasing height from left to right. A grey arrow points from the top of the first bar towards the "Contact Last Name" field.

Efficiency

The application needs to contribute to the user's efficiency in a meaningful way. It's a measure of how long it takes a user to do a particular task or function.

UX Key 5: Efficiency (Time-to-Task)



- Reduce # of actions / clicks
- Reduce cognitive thinking
- Minimize distraction and keep users focused on the primary task from beginning to end

UX Key 6: Accuracy

- Provide active feedback as errors occur
- Forgiveness – Allow users to correct errors as they occur.
- Consistent logical processes
- Walk users through complex processes
- Keep interface simple through progressive disclosure
- Provide positive feedback for successful completion



8 Keys to a Productive UX



7. Multitasking *Do more. Wait less.*

UX Key 7: Multitasking

- The human brain does not multitask
- Enable users to jump without losing where they were or what they were doing.
- Make it easy for them to get interrupted and pick up where they left off without wasted time or thinking.
- Off load long running or on-hold tasks to the background

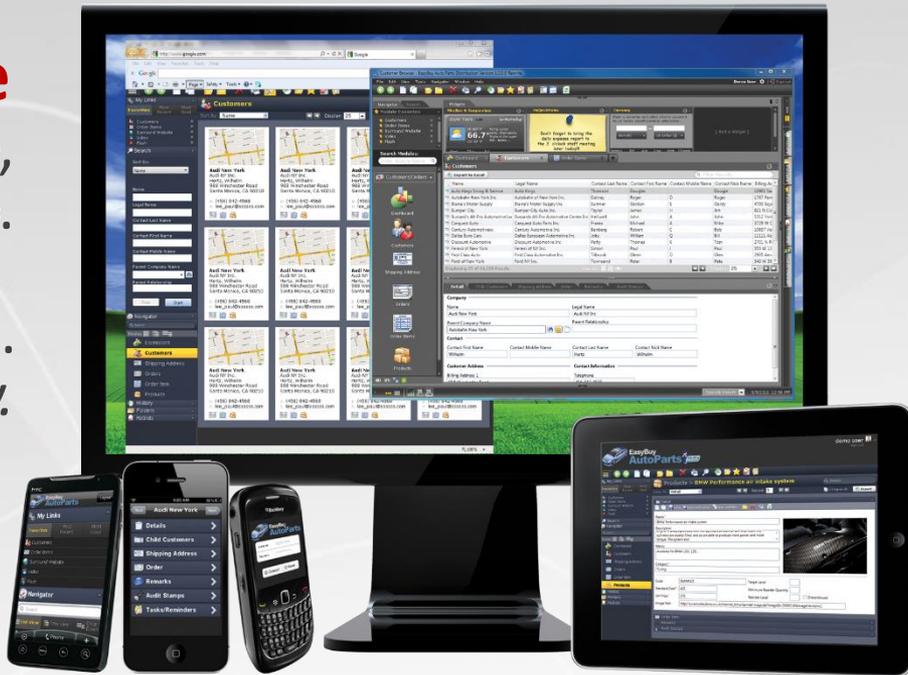


UX Key 7: Multi-tasking

Windows / Web / Mobile

Use them side-by-side. Edit in one, open in another. Edit on the go.

The modern user has a busy life...
don't get in the way.





8. Subjective User Happiness

A happy user is a happy business, and a happy business is a happy developer.

[And one less urgent email]



UX Key 8: Subjective End User Satisfaction



- Allow the user to have some control over how the software will function.
- Make sure it is aesthetically pleasing
- Use non-technical positive feedback
- Provide Encouragement
- Accessibility considerations
- Cater to various skill levels

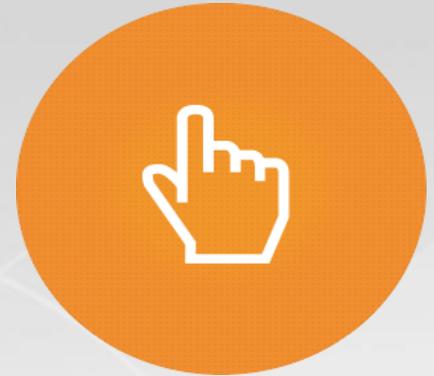
Creating Software Your Users Will Love

PUTTING IT TO PRACTICE



Value of a UX feature

- Each software feature has costs
 - Development Costs
 - Testing Costs
 - Maintenance costs
- The costs should have a relative return
 - Measure the return based on how they impact UX



Everyday UX that's *great*

- How do the 8 keys apply to these
 - The Facebook Like Button (old vs new)
 - Captcha Security Checks
 - Nest Thermostat
 - Win 8 Tiles
 - ???



Everyday UX that's *great*

- What about these?
 - Samsung Smart TV
 - Flappy Bird Game
 - Apple CarPlay & AndroidAuto
- Can you think of others?



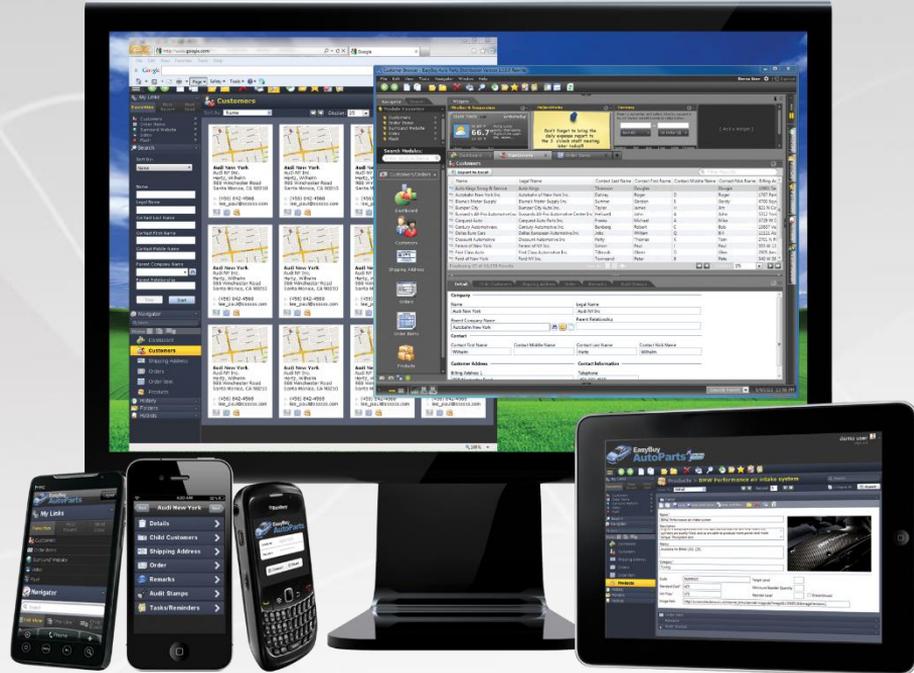
Skins and Themes



1. Learnability
2. Memorability
3. Findability
4. Discoverability
5. Efficiency (Time on Task)
6. Accuracy (Task Completion)
7. Multi-Tasking
8. Subjective User Satisfaction

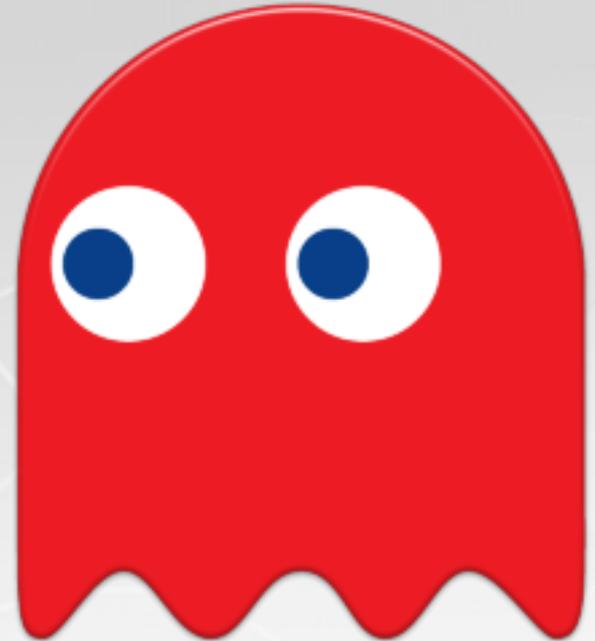
Navigation

Mobile Web Windows



Gamification

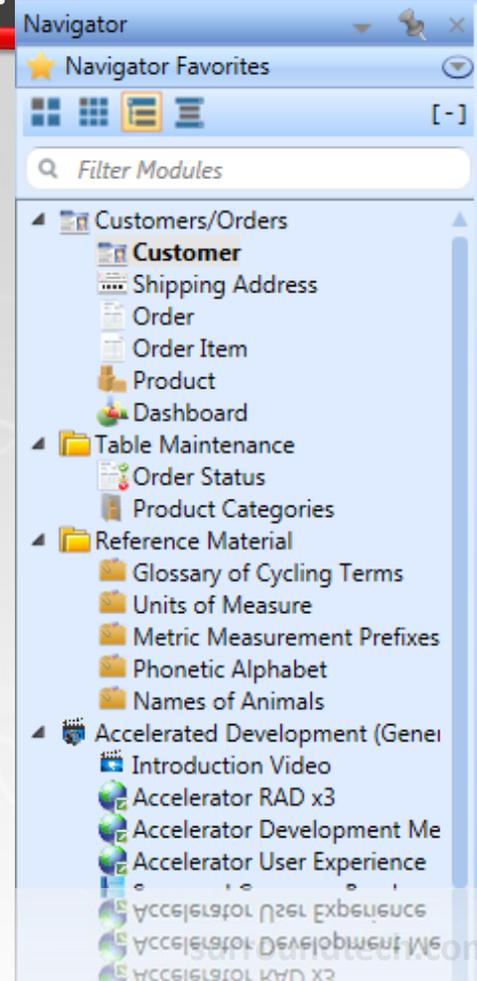
- Advancing Skills
- Increasing Productivity
- Deeper learning of the system
- Greater focus on Business Objectives



UX Key 2: Memorability

Well thought out structures work.

Do the thinking for the user, so they don't have to. When designing out a system consider grouping your modules into applications that correlate to one another.



Content / Preview Area

*Place things where they belong
and users won't have to
wonder where to look.*

The screenshot displays a web application interface for 'EasyBuy Cycles'. The main area shows a list of customers with columns for Name, Legal Name, Contact Full Name, Billing Address, Telephone, and Email. Below the list, a detailed view for a selected customer is shown, including fields for Company, Contact, Billing Address, and Contact Information.

Name	Legal Name	Contact Full Name	Billing Address	Telephone	Email
Jésus Navarro Cycles	Jésus Navarro Cycles, LLC	Simon L Navarro	244, rue de la Centenaire, Paris La Defense, Hauts de Seine, 92081, France	1 (11) 500 555-0141	jésus9@ad
Clayton Zhang Cycles	Clayton Zhang Cycles, LLC	Clayton Zhang	1080, quai de Grenelle, Saint Ouen, Charente-Maritime, 17490, France	1 (11) 500 555-0137	clayton@
Ivan Sun Cycles	Ivan Sun Cycles, LLC	Ivan Sun	Knaackstr. 4, Hof, Bayern, 95010, Germany	1 (11) 500 555-0144	ivan@adv
Nina Raji Cycles	Nina Raji Cycles, LLC	Nina W Raji	9 Katherine Drive, London, England, SW19 3RU, United Kingdom	1 (11) 500 555-0146	nina21@ac
Tommy Tang Cycles	Tommy Tang Cycles, LLC	Tommy L Tang	111, rue Maillard, Versailles, Yveline, 78000, France	1 (11) 500 555-0136	tommy2@
Darren Carlson Cycles	Darren Carlson Cycles, LLC	Darren D Carlson	5240 Premier Pl, Stoke-on-Trent, England, AS23, United Kingdom	1 (11) 500 555-0132	darren41@
Neil Ruiz Cycles	Neil Ruiz Cycles, LLC	Neil N Ruiz	P.O. Box 9178, London, England, W10 6BL, United Kingdom	1 (11) 500 555-0114	neil3@adv
Elizabeth Bradley Cycles	Elizabeth Bradley Cycles, LLC	Elizabeth Bradley	Nonnendamm 2, Hamburg, Hamburg, 20354, Germany	1 (11) 500 555-0177	elizabeth@
Jared Ward Cycles	Jared Ward Cycles, LLC	Jared A Ward	Ertzplatz 876, Hamburg, Hamburg, 20354, Germany	1 (11) 500 555-0135	jared@ad
Jaime Raje Cycles	Jaime Raje Cycles, LLC	Jaime B Raje	Potsdamer Straße 646, Saarbrücken, Saarland, 66001, Germany	1 (11) 500 555-0174	jaime@b@
Carmen Subram Cycles	Carmen Subram Cycles, LLC	Carmen J Subram	6467 Buena Vista, Oxford, England, OX1, United Kingdom	1 (11) 500 555-0129	carmen1@
Lacey Sharma Cycles	Lacey Sharma Cycles, LLC	Lacey M Sharma	21, avenue Reille, Paris, Seine (Paris), 75003, France	1 (11) 500 555-0178	lacey44@
Dana Ortega Cycles	Dana Ortega Cycles, LLC	Dana Ortega	80, rue de Fontfroide, Dunkerque, Nord, 59140, France	1 (11) 500 555-0148	dana15@
Nathan Roberts Cycles	Nathan Roberts Cycles, LLC	Nathan Roberts	29, boulevard Beau Marchais, Drancy, Seine Saint Denis, 93700, France	1 (11) 500 555-0111	nathan33@

Items Loaded: 25 of 18494

Detail | Google Map | Bing Maps | Order (1) | Shipping Address (1) | Remarks (0) | Audit Stamps

Company

Name: Jésus Navarro Cycles Legal Name: Jésus Navarro Cycles, LLC
Parent Company Name: Parent Relationship:

Contact

Contact First Name: Simon Contact Middle Name: L Contact Last Name: Navarro Contact Nick Name:

Billing Address

Billing Address 1: 244, rue de la Centenaire Telephone: 1 (11) 500 555-0141
Billing Address 2: Paris La Defense Email: jésus9@adventure-works.com Email
Billing Address 3: Billino Postal Code: Memo:

Task Panes

Task Panes
Use supporting tools but be cautious of over complicating.

The screenshot displays a web application interface for a customer browser. The main content area shows a list of customers with columns for Name, Legal Name, Contact Full Name, and Billing Address. Below this list, there are several task panes: 'Customer', 'Shipping Address', 'Order', 'Order Item', 'Customers/Orders', 'Table Maintenance', and 'Advanced Queries'. The 'Advanced Queries' pane is currently active, showing a table of saved queries.

Name	Description	Module Name	Query Access Type	User Name	Locked to User	Last Run User	Last Run Datetime	Execution Count	Create User	Create Datetime
Customers that ordered product 712	Customers that ordered product 712	Customer	Shared	Derek	<input type="checkbox"/>	derek	9/21/2014 3:37:33 PM	7	derek	9/3/2014 4:22:52 PM
Customers with shipping address in 90210	Customers with shipping address in 90210	Customer	Shared	Derek	<input type="checkbox"/>	derek	9/21/2014 3:30:49 PM	18	Derek	9/3/2014 10:39:57 AM

Task Pane Example: History

History + Recents

Make it easy for users to get back where they came from. Elephants never forget. We do.

The screenshot shows a web application window titled "Customer Browser - EasyBuy Cycles". The interface includes a menu bar (File, Edit, View, Tools, Navigator, Window, Help), a search bar, and a "Navigator" pane on the left. The main content area displays a table of customer records with columns for Name, Legal Name, Contact Full Name, and Billing Address. Below the table, there are tabs for "Detail", "Google Map", "Bing Maps", "Order (1)", "Shipping Address (1)", "Remarks (0)", and "Audit Stamps". The "Detail" tab is active, showing a form for customer information, including Company, Contact, Billing Address, and Contact Information.

Name	Legal Name	Contact Full Name	Billing Address
Jésus Navarro Cycles	Jésus Navarro Cycles, LLC	Simon L Navarro	244, rue de la Centenaire, Paris La Defense, Hauts de
Clayton Zhang Cycles	Clayton Zhang Cycles, LLC	Clayton Zhang	1080, rue de Gentaene, Saint Ouen, Charente-Marit
Ivan Suri Cycles	Ivan Suri Cycles, LLC	Ivan Suri	Knaackstr 4, Hof, Bayern, 95010, Germany
Nina Raji Cycles	Nina Raji Cycles, LLC	Nina W Raji	9 Katherine Drive, London, England, SW19 3RU, Unit
Tommy Tang Cycles	Tommy Tang Cycles, LLC	Tommy L Tang	111, rue Mallard, Versailles, Yveline, 78000, France
Darren Carlson Cycles	Darren Carlson Cycles, LLC	Darren D Carlson	5240 Premier Pl, Stoke-on-Trent, England, ST3, Livi
Neil Ruiz Cycles	Neil Ruiz Cycles, LLC	Neil N Ruiz	P.O. Box 9178, London, England, W10 6BL, United Ki
Elizabeth Bradley Cycles	Elizabeth Bradley Cycles, LLC	Elizabeth Bradley	Nonnendamm 2, Hamburg, Hamburg, 20354, Germa
Jared Ward Cycles	Jared Ward Cycles, LLC	Jared A Ward	Ertplatz 876, Hamburg, Hamburg, 20354, Germany
Jaime Raje Cycles	Jaime Raje Cycles, LLC	Jaime B Raje	Postdammer StraÙe 646, Saarbrücken, Saarland, 66001
Carmen Subram Cycles	Carmen Subram Cycles, LLC	Carmen J Subram	6487 Buena Vista, Oxford, England, OX1, United King
Lacey Sharma Cycles	Lacey Sharma Cycles, LLC	Lacey M Sharma	21, avenue Reille, Paris, Seine (Paris), 75003, France
Dana Ortega Cycles	Dana Ortega Cycles, LLC	Dana Ortega	80, rue de Fontfroide, Dunkerque, Nord, 59140, Fran
Nathan Roberts Cycles	Nathan Roberts Cycles, LLC	Nathan Roberts	29, boulevard Beau Marchais, Drancy, Seine Saint De

Items Loaded: 25 of 18484

Company

Name: Jésus Navarro Cycles
Legal Name: Jésus Navarro Cycles, LLC

Parent Company Name: _____
Parent Relationship: _____

Contact

Contact First Name: Simon
Contact Middle Name: L
Contact Last Name: Navarro
Contact Nick Name: _____

Billing Address

Billing Address 1: 244, rue de la Centenaire
Billing Address 2: Paris La Defense
Billing Address 3: _____
Billing Postal Code: _____

Contact Information

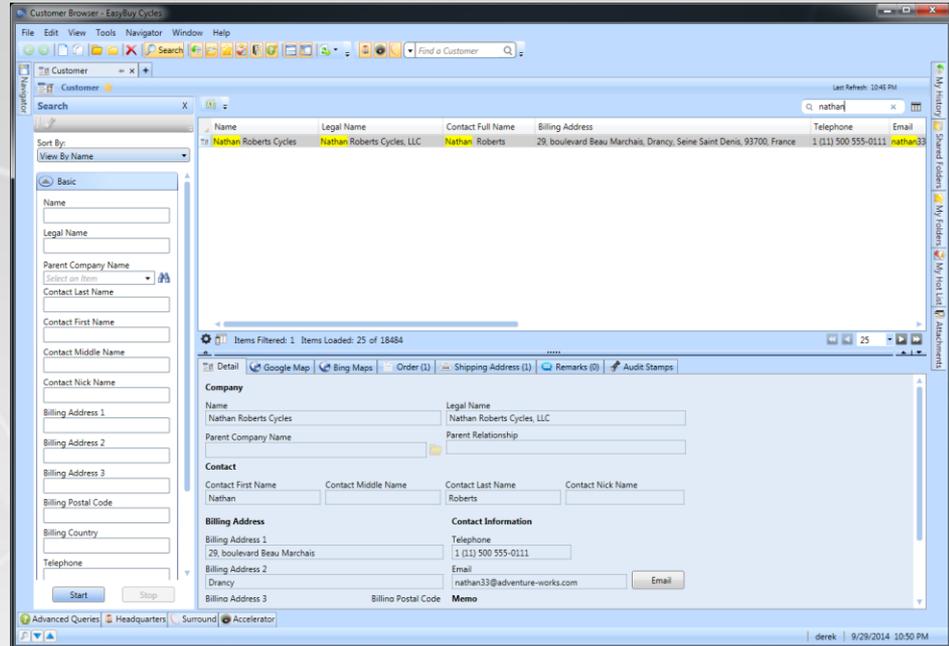
Telephone: 1 (11) 500 555-0141
Email: jesus9@adventure-works.com

Advanced Queries | Headquarters | Surround | Accelerator

derek | 9/29/2014 10:48 PM

Search and Filter

Make sure standard expectations are met, well. Filter and Search are part of any well designed system. Get granular so users can too.



Document Management

Not everything can be digital as much as we try, but you can still keep it organized together.



Wizards

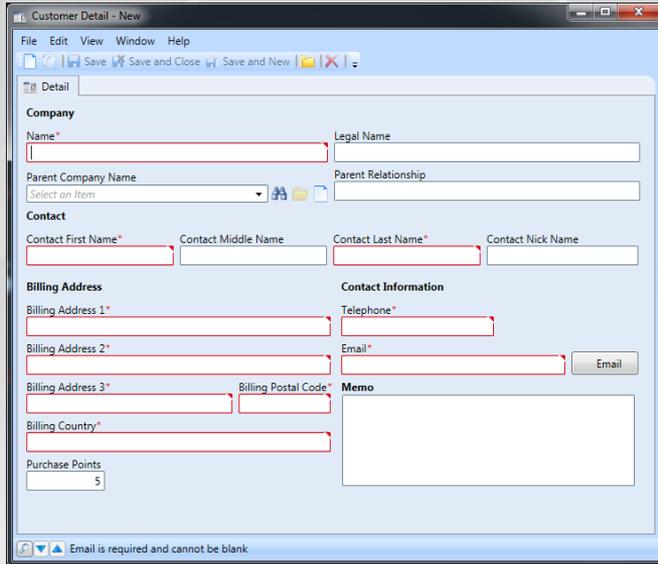


Dashboards

- Operation Management
- Business Intelligence



Instant Visual feedback



The screenshot shows a web form titled "Customer Detail - New" with a menu bar (File, Edit, View, Window, Help) and a toolbar (Save, Save and Close, Save and New). The form is divided into several sections:

- Company:** Includes fields for "Name*" (with a red border), "Legal Name", "Parent Company Name" (dropdown), and "Parent Relationship".
- Contact:** Includes fields for "Contact First Name*" (red border), "Contact Middle Name", "Contact Last Name*" (red border), and "Contact Nick Name".
- Billing Address:** Includes fields for "Billing Address 1*" (red border), "Billing Address 2*" (red border), "Billing Address 3*" (red border), "Billing Postal Code*" (red border), and "Billing Country*" (red border).
- Contact Information:** Includes fields for "Telephone*" (red border), "Email*" (red border), and a "Memo" text area.
- Purchase Points:** A field containing the number "5".

Red lines highlight the required fields that are currently empty. A status bar at the bottom left reads "Email is required and cannot be blank".

Validation

If components are where they are supposed to be then accuracy will follow. Minimize errors and provide active feedback so your users can know they are doing the right thing, or correct them before moving on.

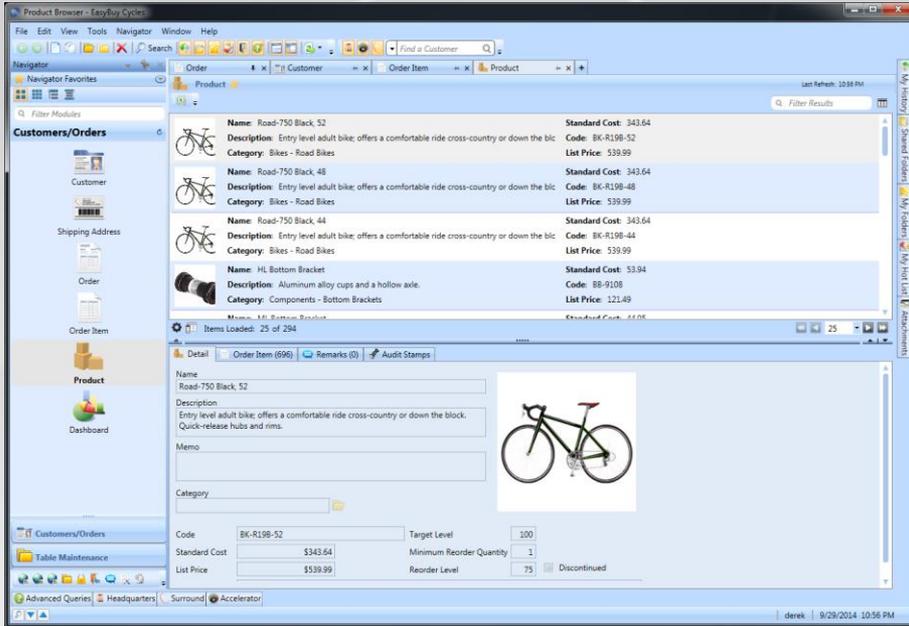
Screen Data integrity



Screen Data Integrity

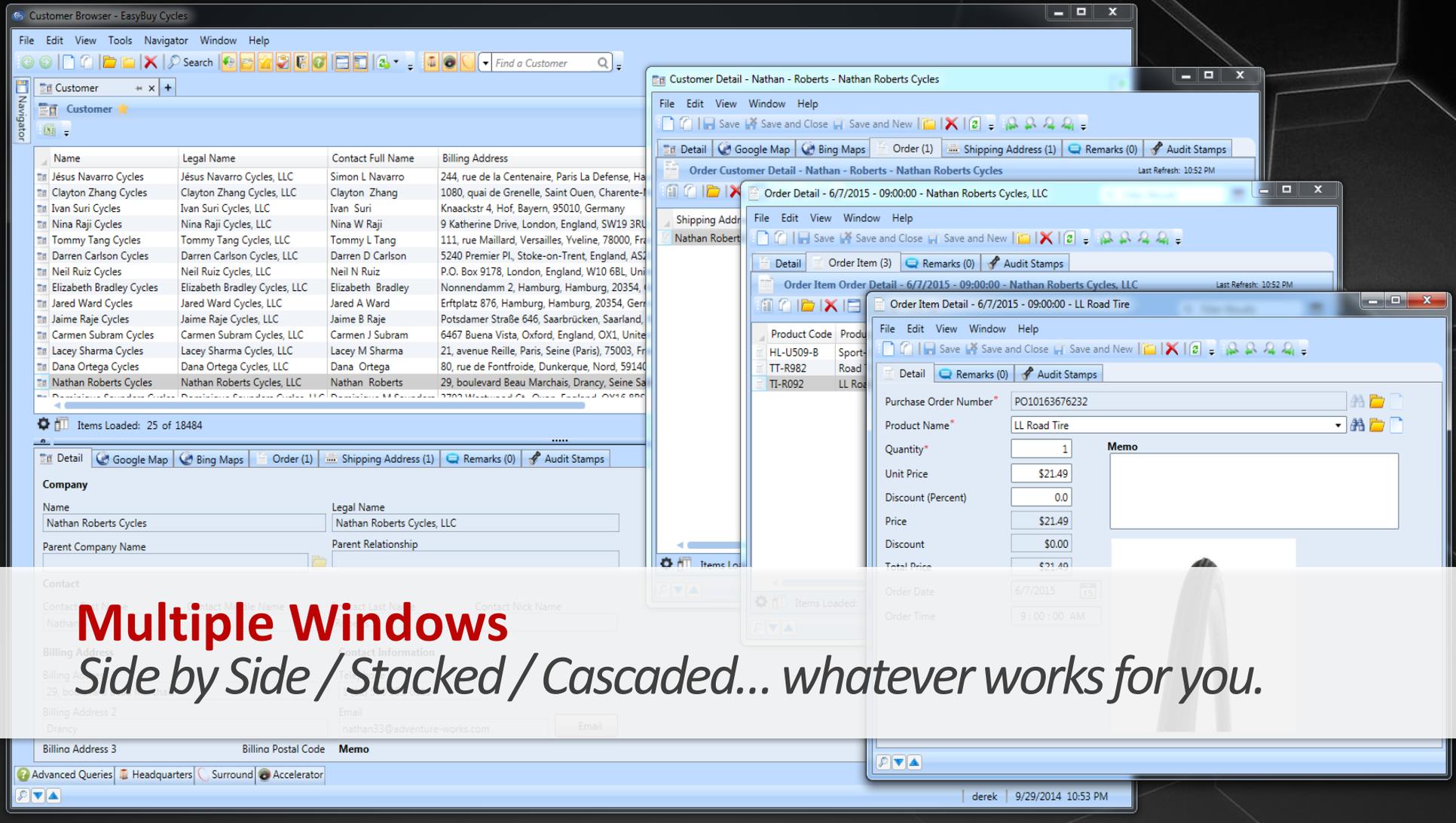
Changes instantly take effect everywhere.

Tabbed Windows



Tabs

Tabs enable users to start and jump between multiple tasks without losing where they were or what they were doing. They make it easy for them to get interrupted and pick up where they left off without wasted time. Pinned tabs save on exit + act as a great navigation resource too.



Multiple Windows

Side by Side / Stacked / Cascaded... whatever works for you.

Why invest in all these keys?

Why should you put so much thought into UX+UI?

If it matters it should just be part of a framework already shouldn't it?





Creating Software Your Users Will Love

MEASURING SUCCESS

Usability Metrics

Usage Metrics (LOB Software)



- **Completion Rates** – Are users able to complete the tasks
- **Time on task** – How long does it take to complete?
- **Time off task** – How much time is spent on non-task related functionality?
- **Efficiency** – How many actions or steps does it take to complete the tasks?
- **Errors** – The number and severity of errors per task.
- **Transition** – How effectively (time and steps) can the user switch between tasks.

Usability Metrics

Usage Metrics (LOB Software)



- **Usage** – How often is the software used?
- **Process / Continuity** – How much is the user jumping around the application vs. following a regular process.
- **Burden** – The number and severity of complaints/support requests
- **Completeness** – What more are the users asking for?
- **Satisfaction** – How does the user rate the system? Would they tell others to use it?

Software People Want to Champion

Support	Users agree the software is useful, needed, and effective
Advocate	Users vocally talk about the value of the software to the business and encourages other to adopt it.
Sponsor	Someone who allocates their time and or resources to prioritize the use of the software.
Champion	Demonstrates accountability for the use of the software.

In this Session

Tenet #2 ***Usable***



Make me happy





This is where the art meets the science and where simple things can often make large lasting impressions. A productive user experience is elegant and engaging. It is familiar, comfortable and pleasant to use for people of all skill levels. The application helps users achieve their immediate goals and motivates them to advance their skills and become even more efficient.

Food for thought



A GREAT UX
is hard to find
and even **harder**
to lose.

Create Software Users Will Love



SURROUND TECHNOLOGIES

Believes that **you can be a software superhero** by creating software your users will love, and your business will see value and return.



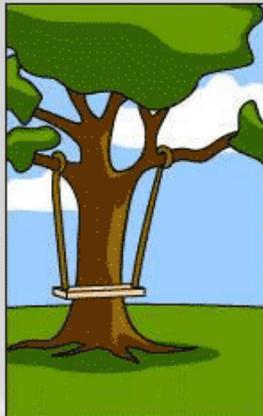
**I ❤️ MY
SOFTWARE
DEVELOPER**



Q&A



How the customer explained it



How the Project Leader understood it



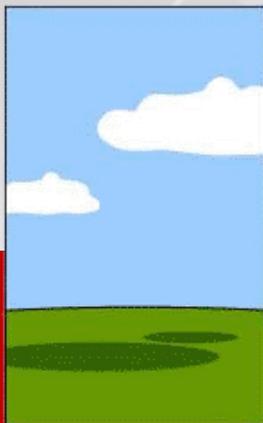
How the Analyst designed it



How each developer integrated with others



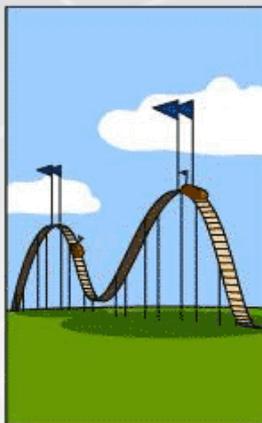
How QA got the 1st, 2nd, and 3rd build



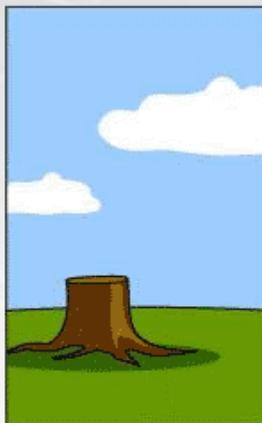
How the project was documented



How the Business Consultant described it



How the customer was billed



How it was supported



What the customer really needed

Thanks for listening



Presented By: **Lee Paul**

[CEO / Accelerated Software Development Evangelist]

lpaul@surroundtech.com | www.surroundtech.com

Socialize:

 [linkedin.com/company/128638](https://www.linkedin.com/company/128638)

 tweet me @SurroundTech

 [facebook.com/surroundtech](https://www.facebook.com/surroundtech)