Visual Studio LIVE!
EXPERT SOLUTIONS FOR ENTERPRISE DEVELOPERS
AUSTIN
UX design in a virtual world
Speaker Name
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Agent Provocateur
Next Version Systems
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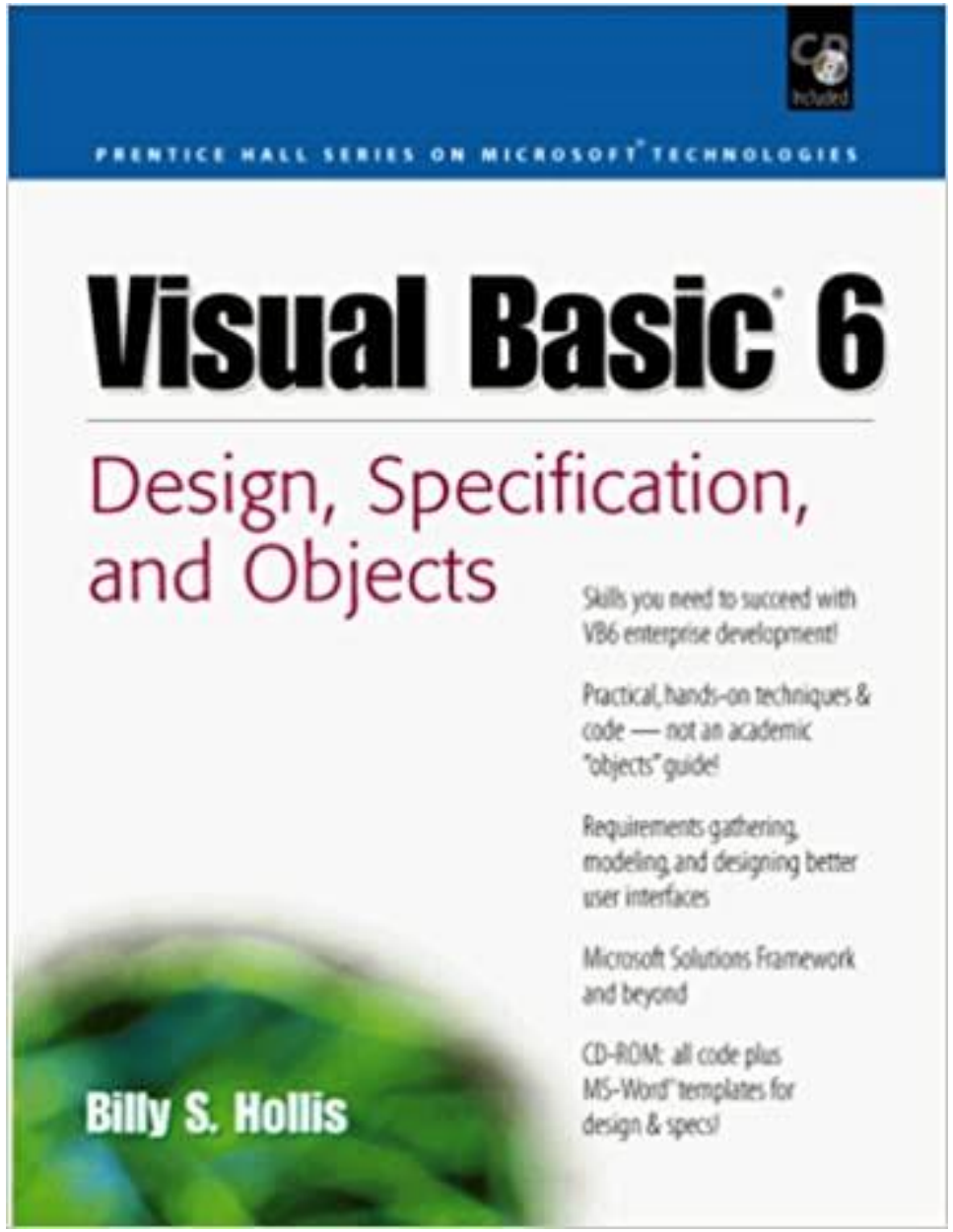
Level: Beginner, Intermediate.
#VSLIVE
NO CODE LIMITS

1999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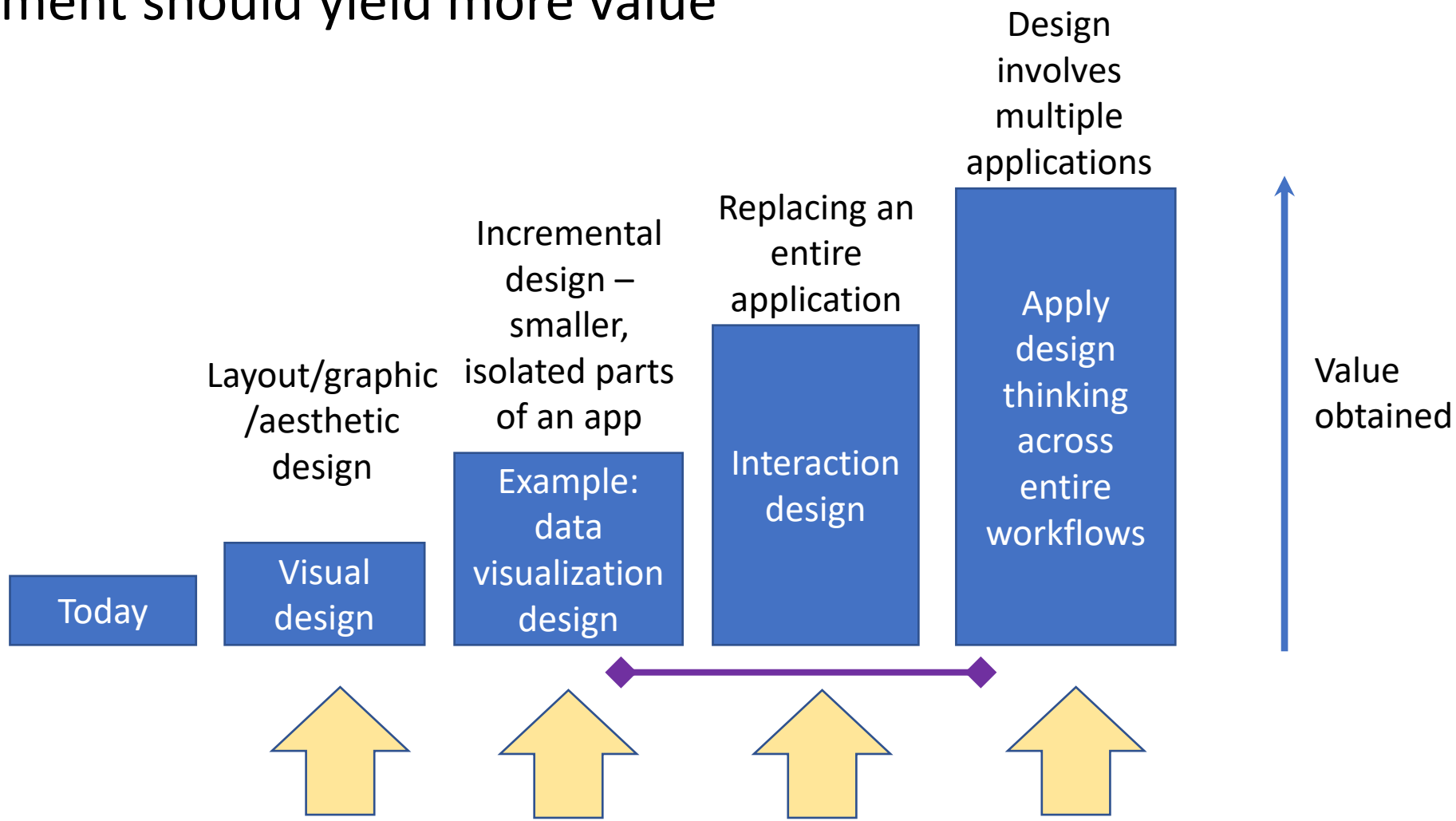
Billy S. Hollis

Agenda

- Brief review of types of design projects
  - Thiis session covers the most common type – designing a new or replacement application
- Review of traditional, non-virtual UX design process, with discussion of how each step has to change for a totally virtual design project
- A recommended hybrid design process combining the best of both types

Different levels of design effort

Design effort should match importance of the desired results, and more investment should yield more value



Anything past visual design needs a design team

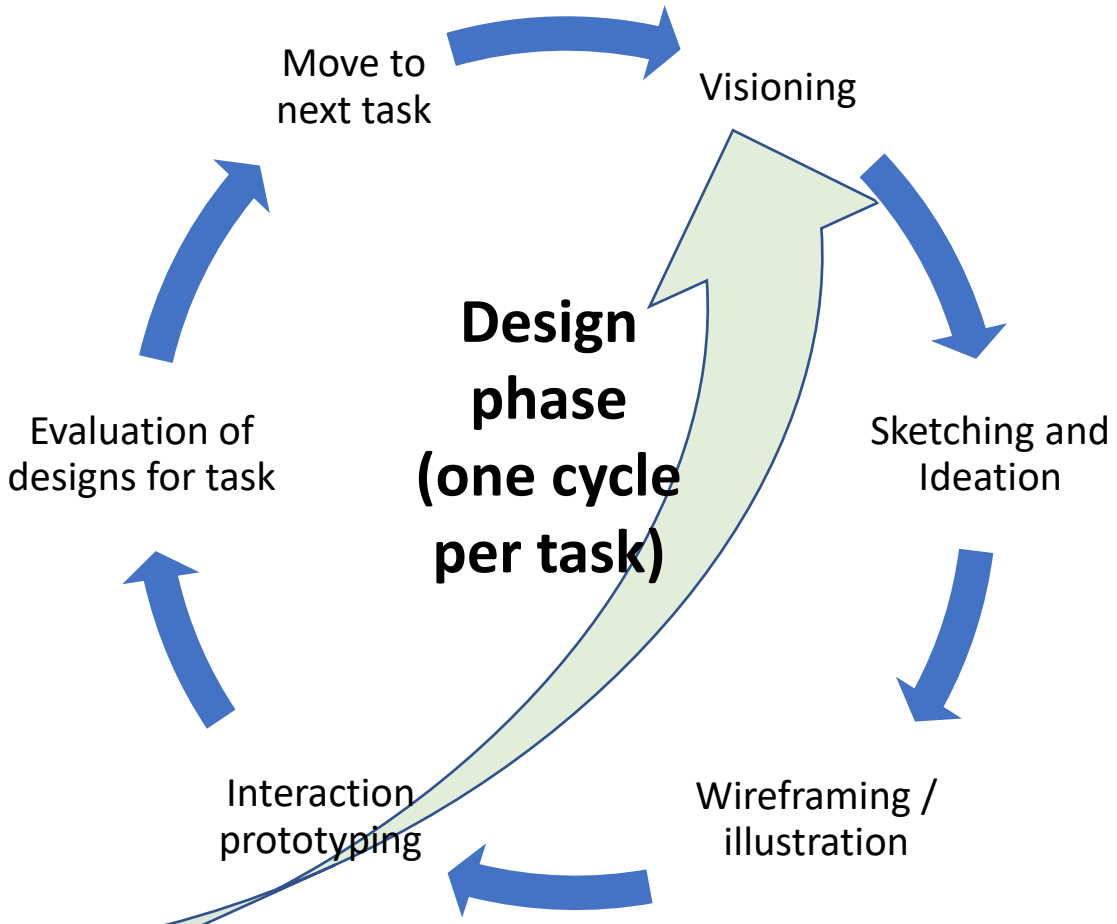
- Developers who will develop the front end
- Analysts, managers, possibly visual designers
- For larger design efforts, outside design expertise

- Important to have a moderator / team leader
  - Some design experience is helpful but not essential
  - This should typically not be an executive
  - It might be a product manager
- Typical size – four to eight total members
  - Incremental design efforts might only have 2-3

Typical steps in a traditional UX design process

Understanding phase
• Business needs • **User observation in the field** • **Analyzing user observations** • Creating work models • Listing and prioritizing design tasks
Design cycles (one cycle for each design task)
• Visioning • **Storyboarding** • **Wireframing / Illustration / paper mock-up** • Interaction prototyping • Design evaluation

Understanding phase
Business needs and UX strategy
Observation of users in the field
Analysis of observations to gain insights and form work models
Listing and prioritizing design tasks based on that analysis
(Initial output is list of design tasks) - Task 1 - Task 2 - Task 3 - Etc.



In the pre-COVID past, most of the phases involving the whole team were done in person

- Major parts of UX design are inherently collaborative
- If outside design expertise involved, UX design project typically compressed into two to four weeks, done more-or-less full time

We’ve moved to virtual work – and we’re not going back to primarily in-person work

- We have the technologies to do work remotely
- Lower cost for everyone involved
- Flexible, adaptable scheduling

- But… some of the in-person aspects are lost if all collaboration is virtual

One consistent variation in pure virtual design projects

- Calendar time is stretched
- Design team doesn’t work full-time for most of the project
- We ended up working in half-day blocks, as a standard time each week
  - Assignments would come out of these sessions, with results discussed in next session
- Stretched calendar time about 3x, but total work hours spent was about the same

Let’s look at a generic UX design process from two viewpoints – virtual vs. in-person

- For each stage, I’ll first discuss how it has traditionally been done, with focus on in-person work
- Then, I’ll look at how this changes when the project is forced to be entirely virtual
  - Drawbacks
  - Advantages

Major sub-phase 1: Business needs

- Why is a new system required?
  - Where does the old system fall short in business needs?
  - What has changed in the business that must be accommodated in a new system?
- What are the platform and environment requirements?
  - What technologies are available?
  - What older applications must the new system work with?
- What are the priorities for this design project

The $100 Exercise

The $100 Exercise

In this exercise, you are given a hypothetical $100, which represents the total amount of investment resources you can apply in designing and developing a new or replacement application.

Name of application: _____

You should divide your $100 among the following categories:

Category	Amount to invest
Changing business processes and task flows (Making the system more productive by rearranging how users do things)	
Adding new capabilities	
Improving performance (Better response times for operations, faster switching from function to function)	
Helping users find the information they need faster and more easily (Includes searching, but also includes such possibilities as frequently used and recently used lists, favorites, data visualization to locate items quickly, etc.)	
Decision support (Helping users make better decisions by presenting them with the information they need)	
Reducing errors	
Improving aesthetics	
Making the system more modular, or combining modules that need a common user experience	
Clean-up (removal of obsolete functionality)	
Other category:	

You should divide your $100 among the following categories:

Category	Amount to invest
Changing business processes and task flows (Making the system more productive by rearranging how users do things)	
Adding new capabilities	
Improving performance (Better response times for operations, faster switching from function to function)	
Helping users find the information they need faster and more easily (Includes searching, but also includes such possibilities as frequently used and recently used lists, favorites, data visualization to locate items quickly, etc.)	
Decision support (Helping users make better decisions by presenting them with the information they need)	
Reducing errors	
Improving aesthetics	
Making the system more modular, or combining modules that need a common user experience	
Clean-up (removal of obsolete functionality)	

Analyze via spreadsheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2	Business Process / Task Flow	10			10	10	10	25	2			5	5		77
3	New Capabilities	15	10	30		10		10	10		10	15	10		120
4	Improving Performance	5	20					5	15		5		15		65
5	Helping users find information they need	20	10	10	30	20	20	10	18	25	25	10	10		208
6	Decision Support	20	10	10		20	20	10	20	30	10	35	15		200
7	Reducing errors	5	20	40	30		10	5	15		15		10		150
8	Aesthetics	10	20	10		20	10	20	10	10	15	20	10		155
9	Modularity/Granularity	5	10		25	20	20	5	5	25	15	10	20		160
10	Cleanup (removal of old functionality)	10			5		10	10	5	10	5	5	5		65
11															
12		100	100	100	100	100	100	100	100	100	100	100	100	0	

For a virtual project

- No major problems adapting
- Teams-style meetings with design team plus major stakeholders to analyze business needs
- $100 Exercise done online
- Results discussed with Teams-style meeting

- Typical time requirements – two meetings of about two hours each

Major sub-phase 2: User observation in the field

- Observing users doing actual work in the actual work environment (i.e in context) works best
- Open minded
- Not judgmental
- General, not highly detailed
- You are there to learn, not to teach

Choosing users to observe

- A representative sample
  - Not just power users!
- Coverage of the major roles
- Focus on people doing their typical work at the time of observation
- Coordinate with their manager, explain what you need, and they usually pick the individuals to observe

Tips for effective in-person user observation

- Try to watch actual work being done
  - Best if the user can offer **running commentary**
- Capture the environment too
- If in person, limit the number of observers
  - One or two is optimal
  - Three is maximum for most business settings

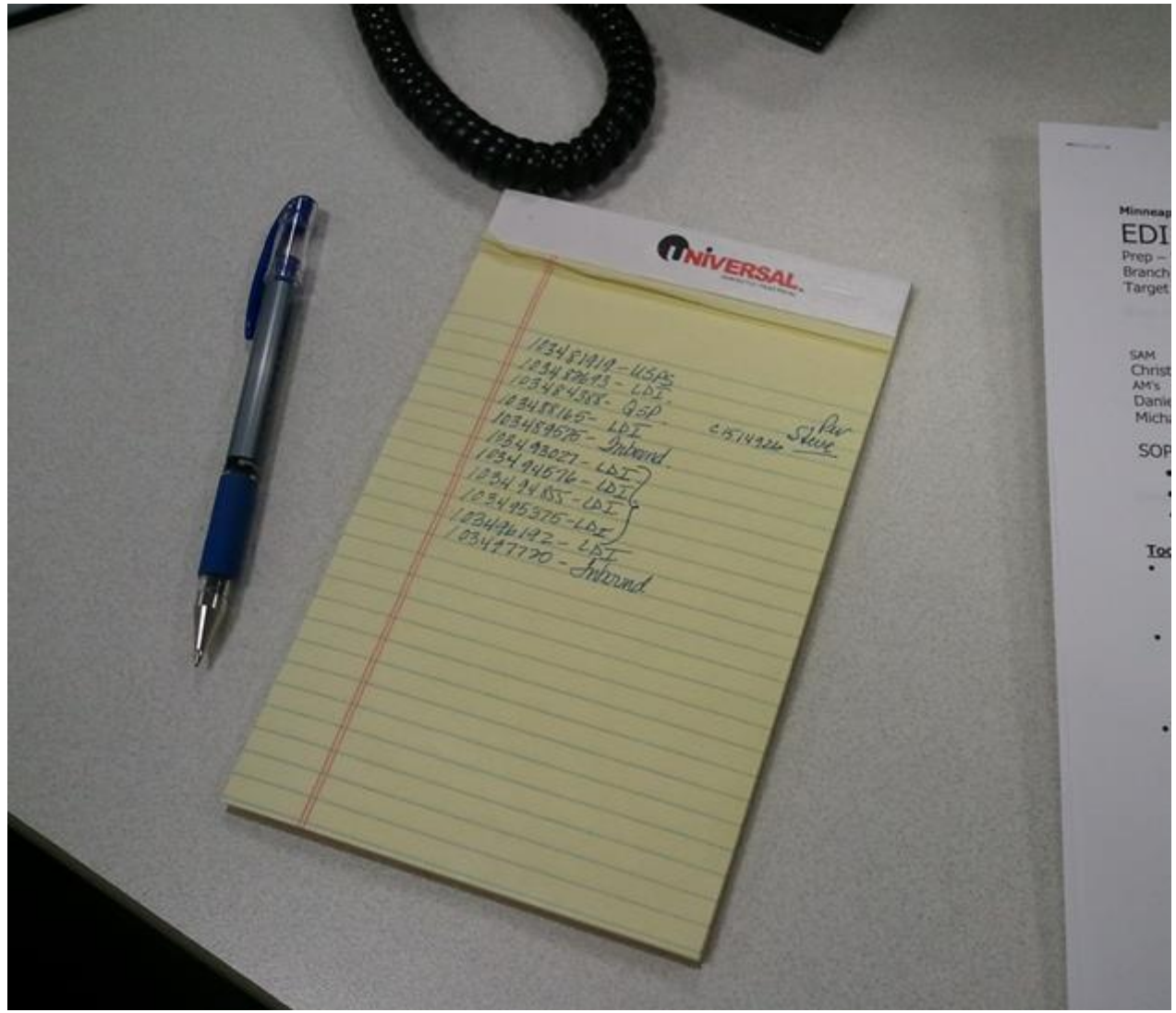
Typical schedule and logistics (for in person)

- 30 minutes or so per user
- 10-20 minutes uninterrupted, while they work and provide commentary
- Record questions during that period
- End with questions, both specific from observations, and general questions (listed later)
- Usually about four or five people per half day
- Consolidation period afterwards to organize notes and record observations

It’s not just about the software they use

- Their environment can provide clues about limitations in the software or system they’re using now

- This is an especially important consideration when replacing a manual process


NIVERSAL
103481919 - USPS
103487693 - LDI
103484388 - QSP
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103489575 - Inbound
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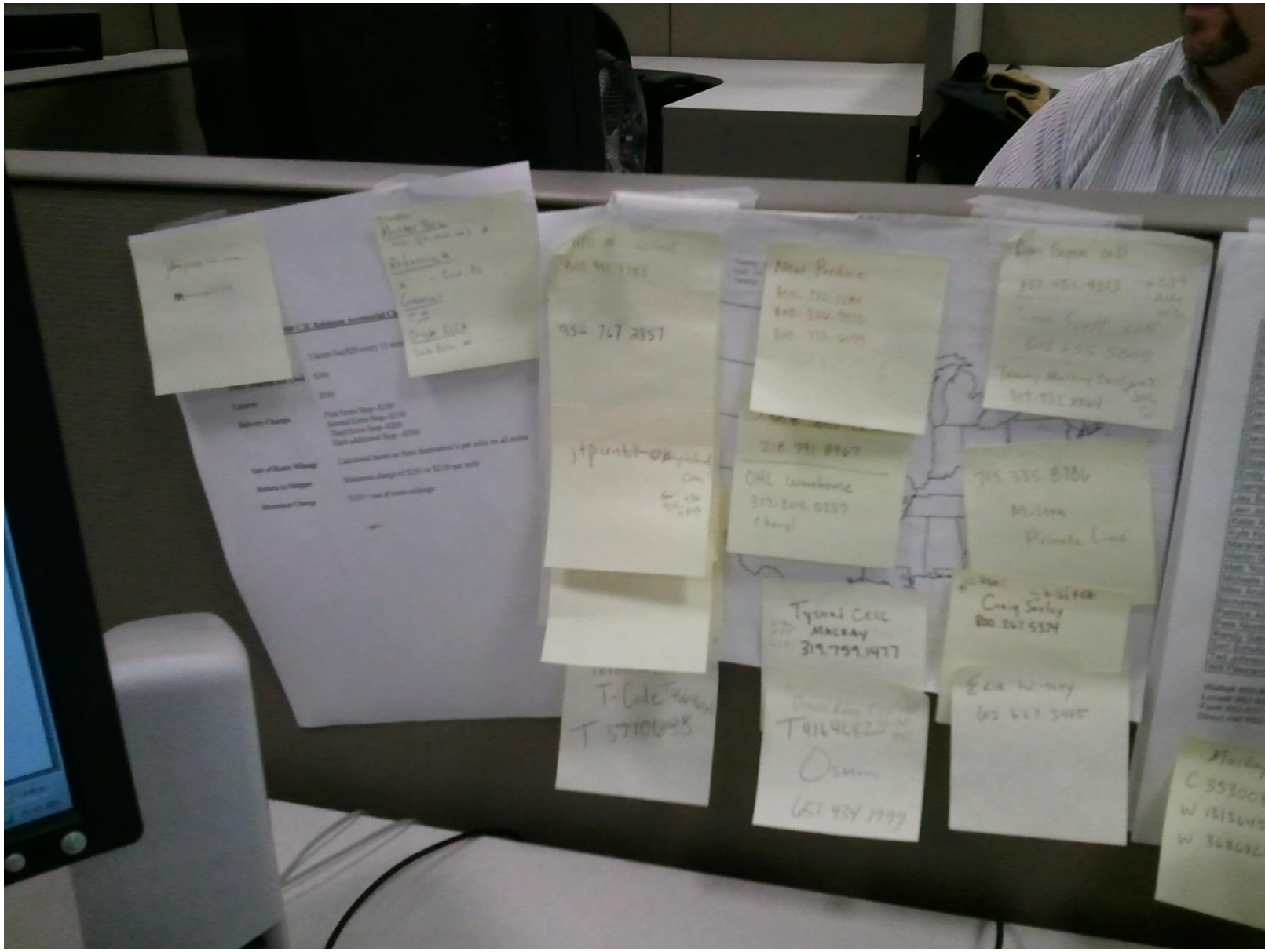
103494576 - LDI
103494855 - LDI
103495375 - LDI
103496192 - LDI
103497770 - Inbound
Per Steve
Minneap
EDI
Prep –
Branch
Target
SAM
Christ
AM's
Danie
Micha
SOP

ABFS ABF
CNWY Conway
DAFG Dayton
EXLA Estes
FXFE Fed Ex
HMES USF Holland
MGUL Magnum
MLXP Milan
NEMF New England Motor Freight
NPME New Penn
ODFL Old Dominion
PITD Pitt Ohio
PMLI Pace
PYLE A. Duie Pyle
RDFS Roadrunner
RNLO R&L
SAIA Saia
STDF Standard Forwarding
UPGF UPS Freight
VALC Valley Cartage
VITR Vitran
WTVA Ward
YRCW YRC
10:38 AM TUE JAN 24

Watch for sticky notes

Perhaps the most reliable indication of deficiencies in information tracking/availability in a current system is the presence of sticky notes



Generic questions

- Which functions/tasks do you use/do most often each day?
- What annoys you about the current system? What could be done better?
- Are you able to quickly find the information you need?
- How is your job different from the other people in your department?
- Does the current system have any bugs or serious limitations that interfere with your work?

- Can you tell me more about that?

A good “last question”

If you could change one thing about the system, or add one thing, what would it be?

For a virtual project

- Observation done via Teams/Zoom/whatever technology the organization uses internally
- Now any number of the team can observe
  - We had the entire team observe all user sessions
  - One team member has leader/facilitator responsibilities (we rotated this role)
- Sessions now closer to an hour
  - One or two a day
- Most of the technologies allow recording of the session – major benefit!

For a virtual project

- You can’t observe the environment first-hand
- To compensate, ask questions about it:

> “How many monitors do you have? What activities do you do on each?”

> “Do you use sticky notes or lists of codes or other paper supplements to the application?”

Major sub-phase 3: Analyzing user observations

- The notes taken during observation sessions don’t have enough structure to be very helpful during design
- This sub-phase converts those notes into a more useful form, and also provides consistent understanding for all team members

Recording your observations as simple sentences

- “The user can’t easily find a record created a couple of hours earlier, but they often need to come back to it.”
- “The system won’t let the user proceed without filling in this field, but sometimes they don’t know that information yet.”
- “The user doesn’t know why anyone needs data field X, and thinks it might not be needed by anyone.”
- “The user gets frustrated trying to find an item by phone number.”
- “The user keeps a sticky note to remind them of X.”

Each design team member does this for each observation in which they participate

- Typically yields 6 to 12 observations per team member per observation session
- Not counting duplicates, this will usually yield 150-300 observations for a typical size design project
- Now it’s time to discuss and structure these observations

Traditional designers's technique: Affinity diagramming

I prefer analyzing observations via spreadsheet

- Get observations in text form
- Put observations in one column of a spreadsheet
- In other columns, put “Category”, “Priority” or “Impact”, and something for miscellaneous notes
- As a team, go through observations, and assign category for each
  - Fill in other columns as appropriate
- Sort the observations by category
  - Note duplicate observations

Analysis meeting

- All design team members participate, plus potentially some stakeholders or sponsors
- 2-3 hours is typical
- Provides consistent understanding for the whole team
  - Everyone gets to understand what the other team members saw during observations

During analysis, the team adds categories, priorities, and useful notes

	A	B	C	
1	**Observations**	**Category**	**Priority**	**Notes**
2	Entered through pop-up messages quickly without even reading them	Notifications		
3	Uses mouse and tab keys to navigate on entry screens	Screen navigation		Not usi
4	Entry of propane used by trucks not utilizing built in option within program	Daily/weekly work	High	
5	User has to adjust the tax to the calculator amount figured outside of the system	Sales entry		This wo
6	Does not use projected versus actual amounts, uses adding machine and then compares to journal	Sales entry		Is this t
7	Uses the PDF preview to review amounts	Sales entry	Low	Report
8	Insufficient funds warning message in Cash Receipts is confusing to users, bypassed not knowing what to do	Notifications	High	
9	No easy way for the user to know how many debit unapplies have been created	System function		
10	Has to scroll up and down on the detail area of cash receipts to see invoices for large customers	Cash receipts		Possible
11	Complex navigation to see # of gallons remaining on contract	Inquiry	High	
12	Dates dropdown in inquiry goes from oldest to newest - user is usually interested in most recent	Inquiry		Possibly
13	No easy/intuitive printout for customers of a date range of history on accounts	Inquiry		Anothe
14	Comment made that COD only shows on general - not intuitive, must cover in training	Inquiry		Better v
15	Customer may say COD, but yet has a credit on their contract balance so it's not always an accurate picture	Data visualization		
16	Manual delivery/service screen not showing account status/delivery	Ticket prep		

This spreadsheet of categorized observations is a critical resource during design sprints

- For each design task, the team can review the relevant categories of observations
- Thus, the concerns of the user are fresh in the minds of the team as they begin active design

For a virtual project

- Affinity diagramming is right out
- Spreadsheet technique works fine for a virtual project
- We get more observations, so the meeting to sort them all out takes longer
- We had to break the meeting for observation analysis into two parts on two different days
  - Still only about four hours aggregate

Final discovery sub-phase: A punch list of design tasks

- When design begins, what is the list of design tasks the team will attack?

Account hub
Payment hub (plus navigation design between accounts and payments)

Search experience

Dashboard

Everything that goes into the owner's tax, organized and visualized (year-based)

Multiple forms of payment for one payment

Aggregation of accounts - forming list, possibly from different owners

Prepping your punch list for the design phase

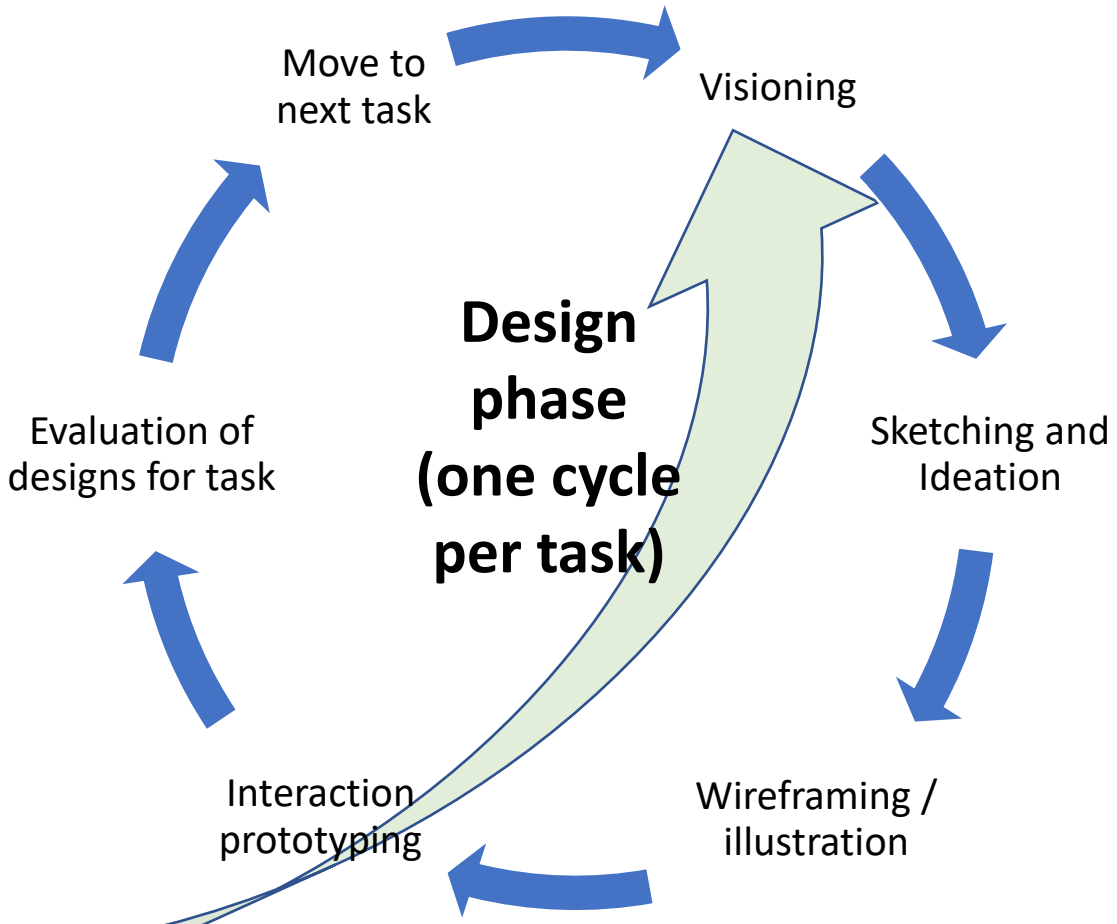
- This can either be done now, or at the beginning of a design task
- For a design task, list the most important things to keep in mind when doing the design
  - Most important actions the user takes
  - Most important pieces of information the user needs
  - Major roles of users using the design

For a virtual project

- No significant problems or changes
- With stretch calendar, there is more opportunity to loop in stakeholders for evaluation of the design task list

Ideation: Finding, Refining, and Evaluating Design Ideas

Understanding phase
Business needs and UX strategy
Observation of users in the field
Analysis of observations to gain insights and form work models
Listing and prioritizing design tasks based on that analysis
(Initial output is list of design tasks) - Task 1 - Task 2 - Task 3 - Etc.



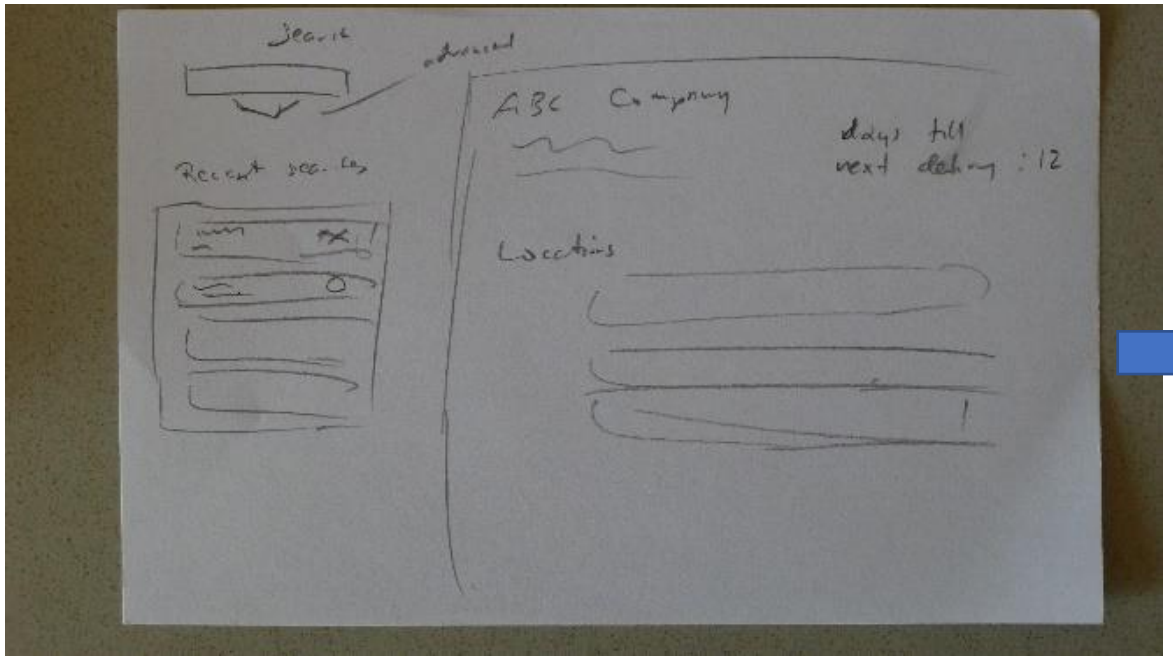
Sketching as the core of ideation

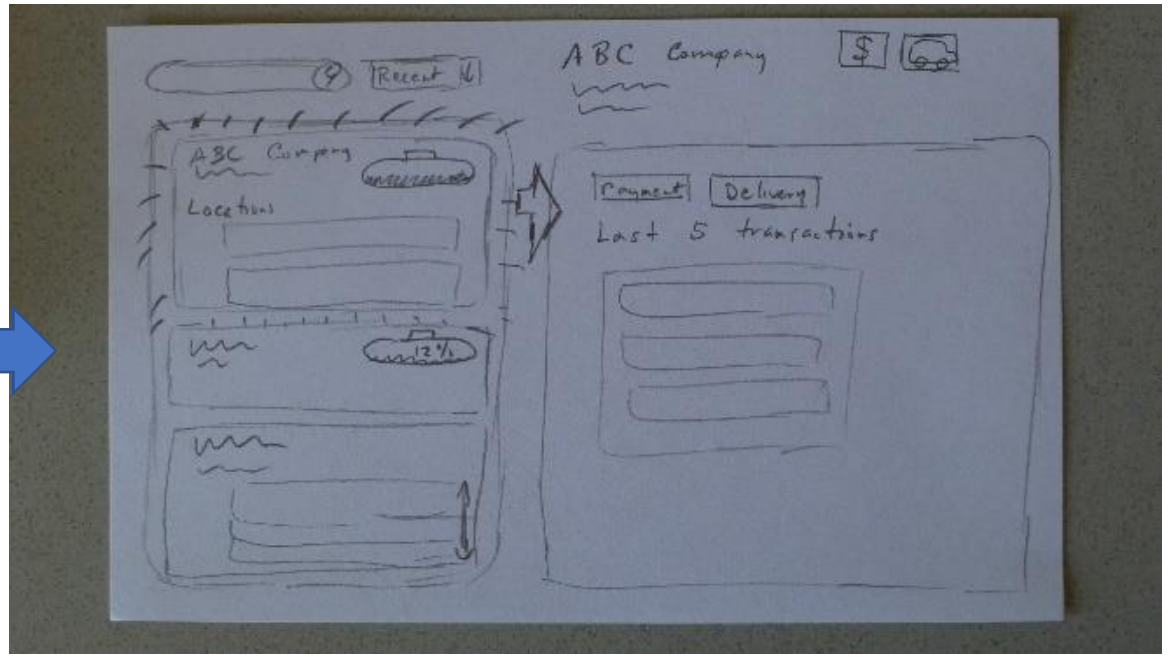
- Design processes vary greatly
- However, almost all mature design processes involve sketching
- Sketching vs. Drawing
  - You don’t need to be an artist
- The sketching phase of design is commonly called *storyboarding*
- Sketching can be on paper, whiteboard, or just about anything – as long as it’s blank

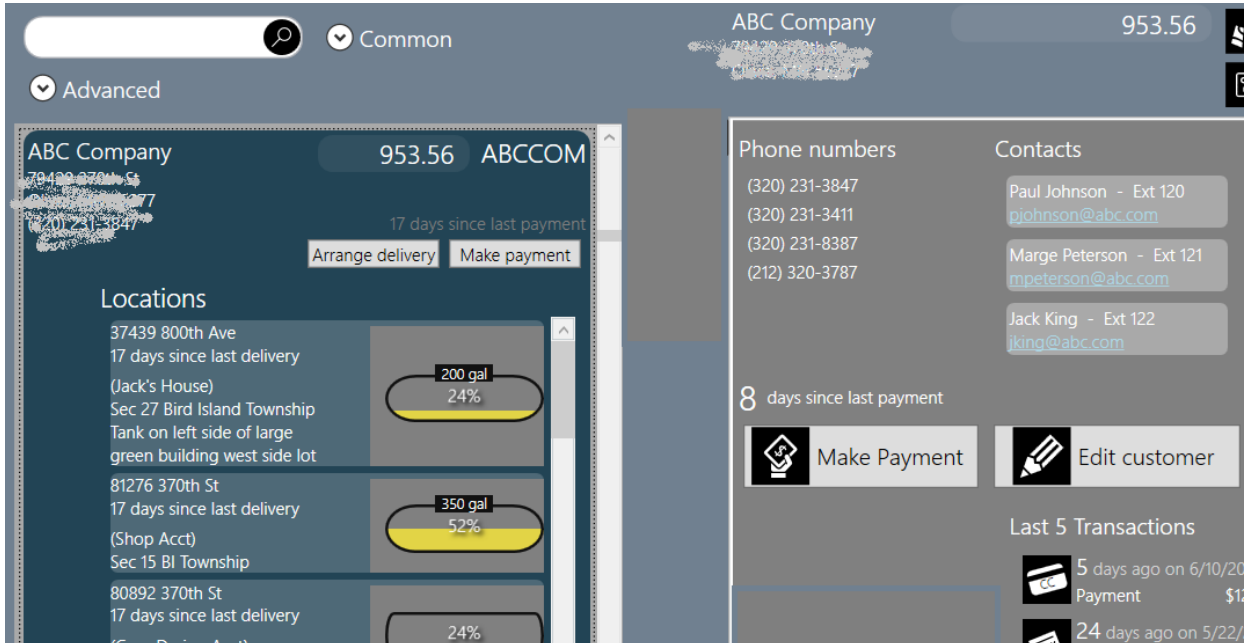
Courtesy xkcd.com

“Low fidelity, low investment”

- You can’t generate lots of ideas if you invest too much time and effort into each one
- Early ideas should be explored in rough sketched form
- Ideas that look worthwhile can be refined and explored in depth


ABC Company
days till
next delivery : 12
Locations


ABC Company
Locations
Payment
Delivery
Last 5 transactions


Common
Advanced
ABC Company
953.56
ABCCOM
17 days since last payment
Arrange delivery
Make payment
Locations
37439 800th Ave
17 days since last delivery
(Jack's House)
Sec 27 Bird Island Township
Tank on left side of large
green building west side lot
200 gal
24%
81276 370th St
17 days since last delivery
(Shop Acct)
Sec 15 BI Township
350 gal
52%
80892 370th St
17 days since last delivery
24%
ABC Company
953.56
Phone numbers
(320) 231-3847
(320) 231-3411
(320) 231-8387
(212) 320-3787
Contacts
Paul Johnson - Ext 120
pjohnson@abc.com
Marge Peterson - Ext 121
mpeterson@abc.com
Jack King - Ext 122
jking@abc.com
8 days since last payment
Make Payment
Edit customer
Last 5 Transactions
5 days ago on 6/10/20
Payment
24 days ago on 5/22/

Key technique for innovation – multiple, competing ideas

- The way to get great ideas for design is to have lots of ideas
- You should find **multiple design approaches** for every design challenge you face
  - At least two – three or four even better
  - Doing multiple designs forces you to break with the past and explore new ideas

Logistics for the storyboarding phase

- Review the design task as a team
  - Core functionality needed, important actions and data, user frustrations
- Have team sketch ideas in a half-hour sprint
  - If team is at least four, split into sub-teams for this step
  - Bring teams back together to look at each other's ideas
- After team discussion of first round ideas, do another round of sketching
  - Cross-pollination of ideas between sub-teams is common
- Don't stop until the team has at least two viable design approaches

Can developers and other non-designers really do this?

Unequivocally, yes

- I don’t have time today to discuss why that is
- I’ll just note that I’ve helped over a dozen teams of primarily developers embrace this process

Designers
Developers

What is a sub-team gets stuck? Embracing constraints

- Paradoxically, a constraint can force you into a new idea path
- Forcing yourself to develop and try alternatives

The training class for your app has just been cut from the budget. Add something to help new users.

www.billyhollis.com

Hmmm. Looks crowded. Increase whitespace at least 50%.

www.billyhollis.com

Pick the thing about the design you like the most. Remove it and replace it with something even better.

www.billyhollis.com

Look up a random design principle. Evaluate your design based on it. Repeat.

www.billyhollis.com

If just feels too rectilinear. Tilt something in the design 30 degrees.

www.billyhollis.com

Billy just looked over your design and walked away shaking his head sadly and slowly. Figure out what he didn't like and change it.

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Looks kind of busy. Remove half the labels.

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Flip the design top to bottom or right to left. See if that works better.

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You've just acquired some users who are six years old. Modify your design to accommodate them.

www.billyhollis.com

You've just acquired some users who are six years old. Modify your design to accommodate them.

www.billyhollis.com

Pick the thing about the design you like the most. Remove it and replace it with something even better.

www.billyhollis.com

Guiding resource for ideation and sketching: Sketching User Experiences, the Workbook

- Links to this book and other recommended design books:

billyhollis.com/DesignBooks

Interaction more important than layout

- Storyboards should make all user interactions explicit
- Layout should be minimal – just enough to get a general idea of where major elements go
- Data visualizations should be minimal too – just enough to get the gist
- Detailed layout is explored later in wireframes and illustrations

Media for storyboarding - options

- Blank paper and pencil
- White boards
  - Don’t let one person be the “pencil” – everyone sketches
  - Don’t forget to take pictures
- Blank index cards
  - Could be connected with sticky notes
- Butcher paper
- Basically, anything that’s blank and unlined

For paper sketches, don’t use a pen – use a pencil

Evaluating storyboard designs

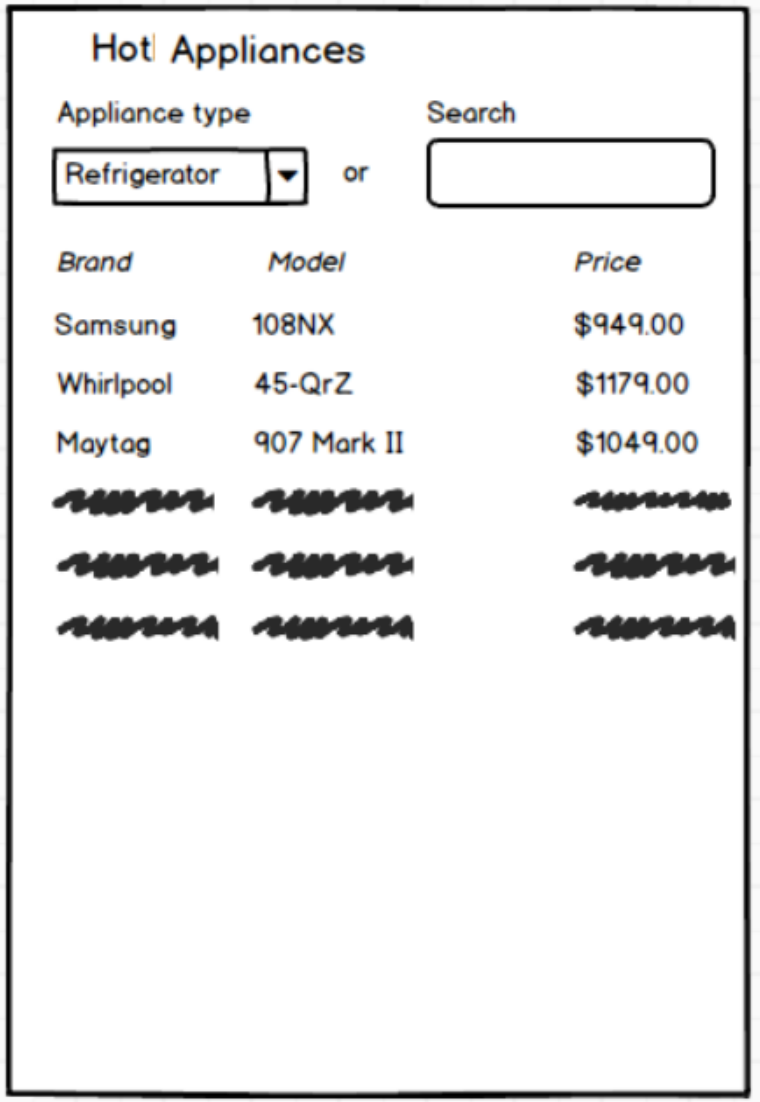
- Find users or stakeholders who can provide good feedback
- Do detailed storyboard drawings to show them and get reaction
  - Can supplement with colorization using color pencils and highlighters
- Tell them designs are not promises – they are candidate designs
- It’s OK for them to like more than one, though sometimes one design stands out clearly for them

For a virtual project

- Sketching / ideation suffers most from pure virtual projects
- Most team members forced to sketch alone
  - This limits ideas produced
- Have to set up online repository of sketches, and organize it
- I found the team's sketches useful for understand how they thought about the problems, but lacking in innovation – no real breaks with the past
- For small groups, using an online whiteboarding tool was OK, but still yielded mostly conventional/traditional designs

Next step – wireframing or illustration

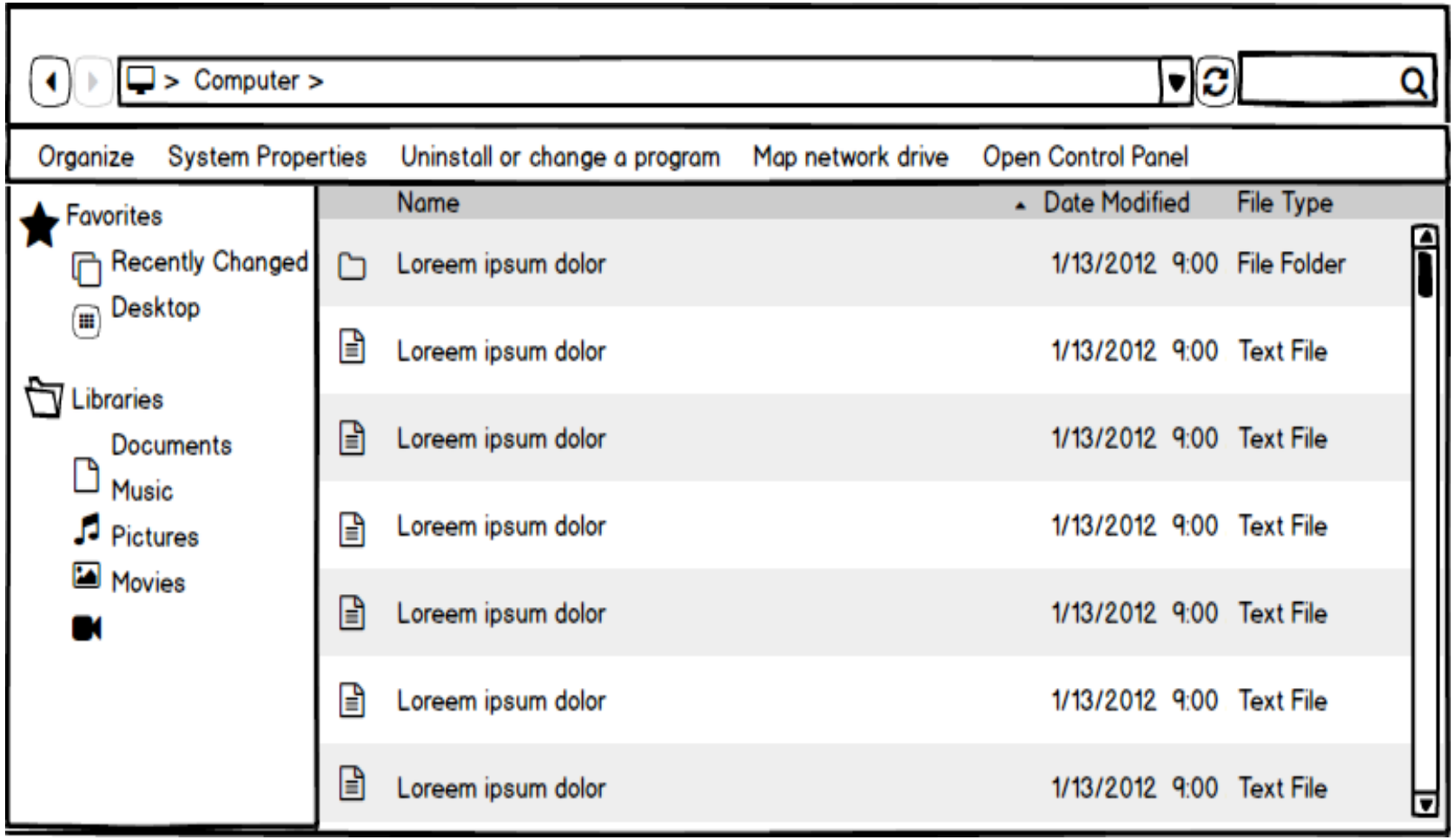
- Higher fidelity, more detailed layout
- Usually with a software tool
  - Powerpoint can be used for wireframing, but I prefer dedicated tools
  - Examples of wireframing tools: Balsamiq, wireframe.cc
  - Examples of illustration tools: Photoshop, CorelDraw, Illustrator



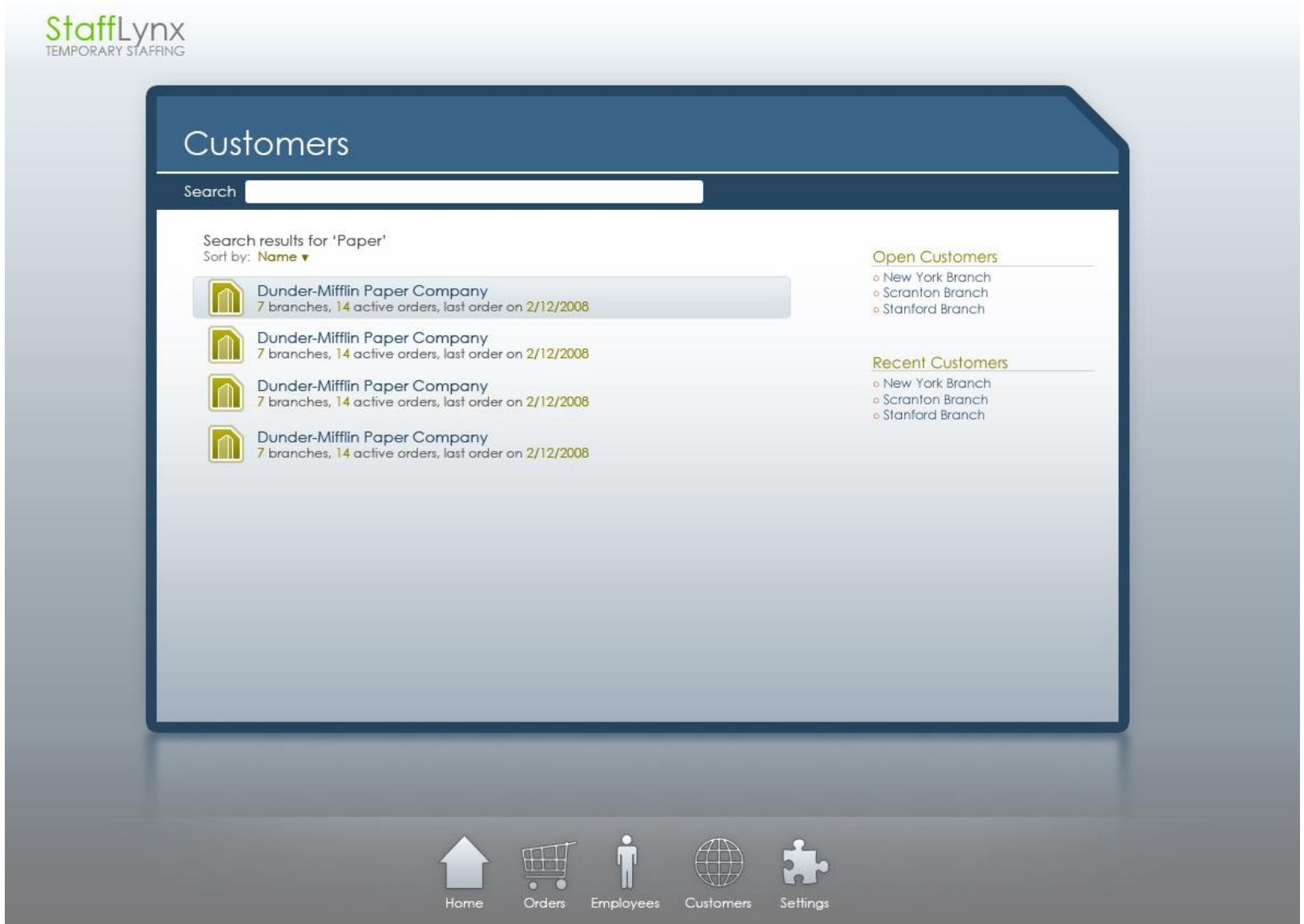
Which should you use?

Wireframing	When detailed layout is important to prove out a design, but precise cosmetics are not as important
Illustration	When visual look and feel have a high priority. Some graphic work is done to let the illustration yield a very good idea of the finished production product.

Wireframe


> Computer >
Organize
System Properties
Uninstall or change a program
Map network drive
Open Control Panel
Favorites
Recently Changed
Desktop
Libraries
Documents
Music
Pictures
Movies
Name
Date Modified
File Type
Loreem ipsum dolor
1/13/2012 9:00
File Folder
Text File

Illustration



STAFF LYNX

StaffLynx Stats

152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders
152 customers with open orders

Job Board

Green Lake Company 18 of 20 positions filled	2 open positions	Green Lake Company 18 of 20 positions filled	2 open positions
Green Lake Company 18 of 20 positions filled	2 open positions	Green Lake Company 18 of 20 positions filled	2 open positions
Green Lake Company 18 of 20 positions filled	2 open positions	Green Lake Company 18 of 20 positions filled	2 open positions
Green Lake Company 18 of 20 positions filled	2 open positions	Green Lake Company 18 of 20 positions filled	2 open positions

Action Items for David Garcia

Order Expiring 6/25/2008
Dunder Mifflin - Graphics Designers Needed

PO Expiring 7/5/2008
Green Lake Company

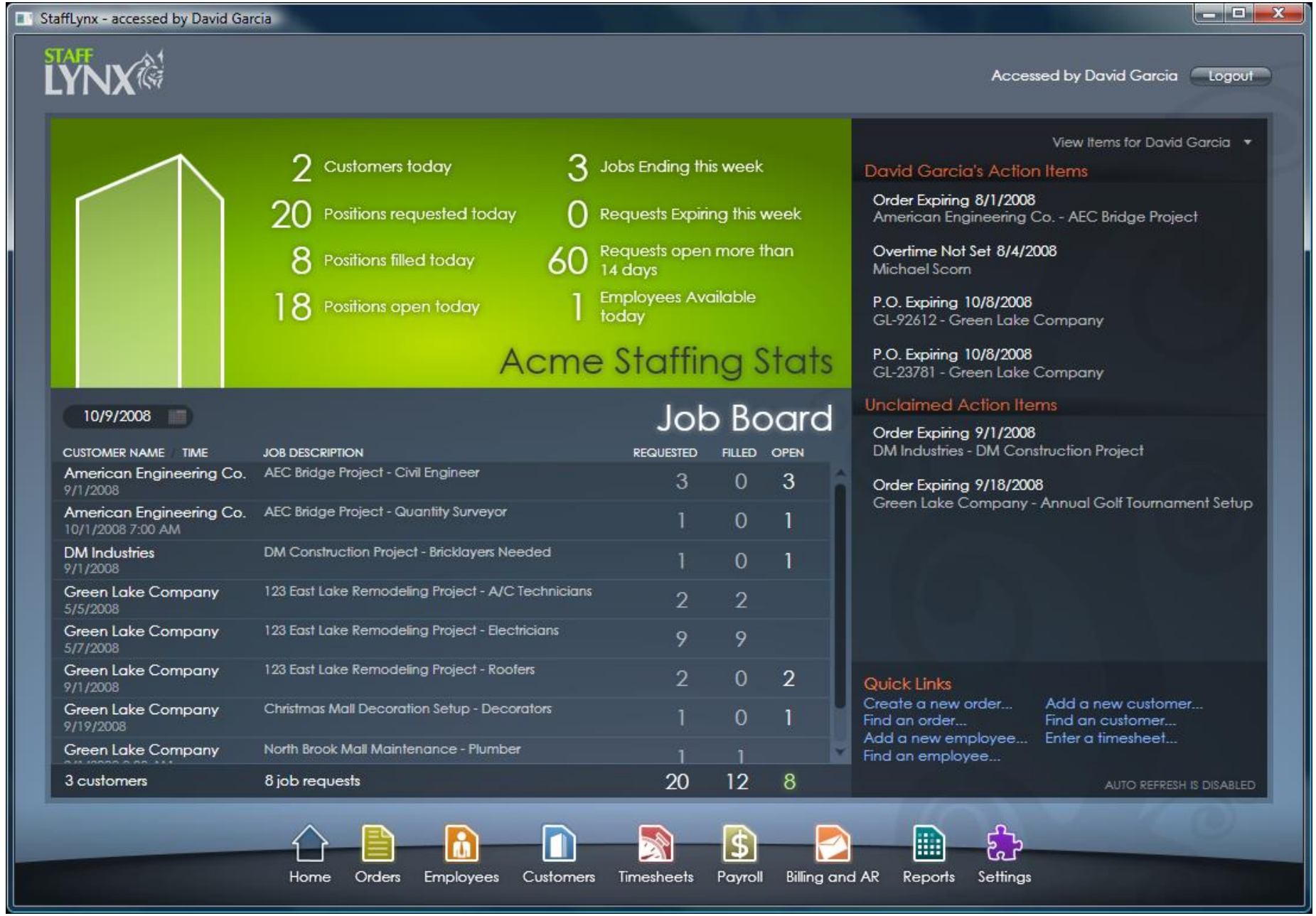
W4 Missing
Kevin F. Brown

Order Expiring 6/25/2008
Dunder Mifflin - Graphics Designers Needed

Order Expiring 6/25/2008
Dunder Mifflin - Graphics Designers Needed

Quick Links

Create a new order...
Add a new employee...
Add a new customer...
Enter a timesheet...
Find an order...
Find an employee...
Find a customer...


StaffLynx - accessed by David Garcia
STAFF LYNX
Accessed by David Garcia
Logout
2 Customers today
20 Positions requested today
8 Positions filled today
18 Positions open today
3 Jobs Ending this week
0 Requests Expiring this week
60 Requests open more than 14 days
1 Employees Available today
Acme Staffing Stats
View Items for David Garcia
David Garcia's Action Items
Order Expiring 8/1/2008
American Engineering Co. - AEC Bridge Project
Overtime Not Set 8/4/2008
Michael Scorn
P.O. Expiring 10/8/2008
GL-92612 - Green Lake Company
P.O. Expiring 10/8/2008
GL-23781 - Green Lake Company
Unclaimed Action Items
Order Expiring 9/1/2008
DM Industries - DM Construction Project
Order Expiring 9/18/2008
Green Lake Company - Annual Golf Tournament Setup
10/9/2008
Job Board
CUSTOMER NAME / TIME
JOB DESCRIPTION
REQUESTED
FILLED
OPEN
American Engineering Co. 9/1/2008
AEC Bridge Project - Civil Engineer
3 0 3
American Engineering Co. 10/1/2008 7:00 AM
AEC Bridge Project - Quantity Surveyor
1 0 1
DM Industries 9/1/2008
DM Construction Project - Bricklayers Needed
1 0 1
Green Lake Company 5/5/2008
123 East Lake Remodeling Project - A/C Technicians
2 2
Green Lake Company 5/7/2008
123 East Lake Remodeling Project - Electricians
9 9
Green Lake Company 9/1/2008
123 East Lake Remodeling Project - Roofers
2 0 2
Green Lake Company 9/19/2008
Christmas Mall Decoration Setup - Decorators
1 0 1
Green Lake Company
North Brook Mall Maintenance - Plumber
1 1
3 customers
8 job requests
20 12 8
Quick Links
Create a new order...
Find an order...
Add a new employee...
Find an employee...
Add a new customer...
Find an customer...
Enter a timesheet...
AUTO REFRESH IS DISABLED
Home
Orders
Employees
Customers
Timesheets
Payroll
Billing and AR
Reports
Settings

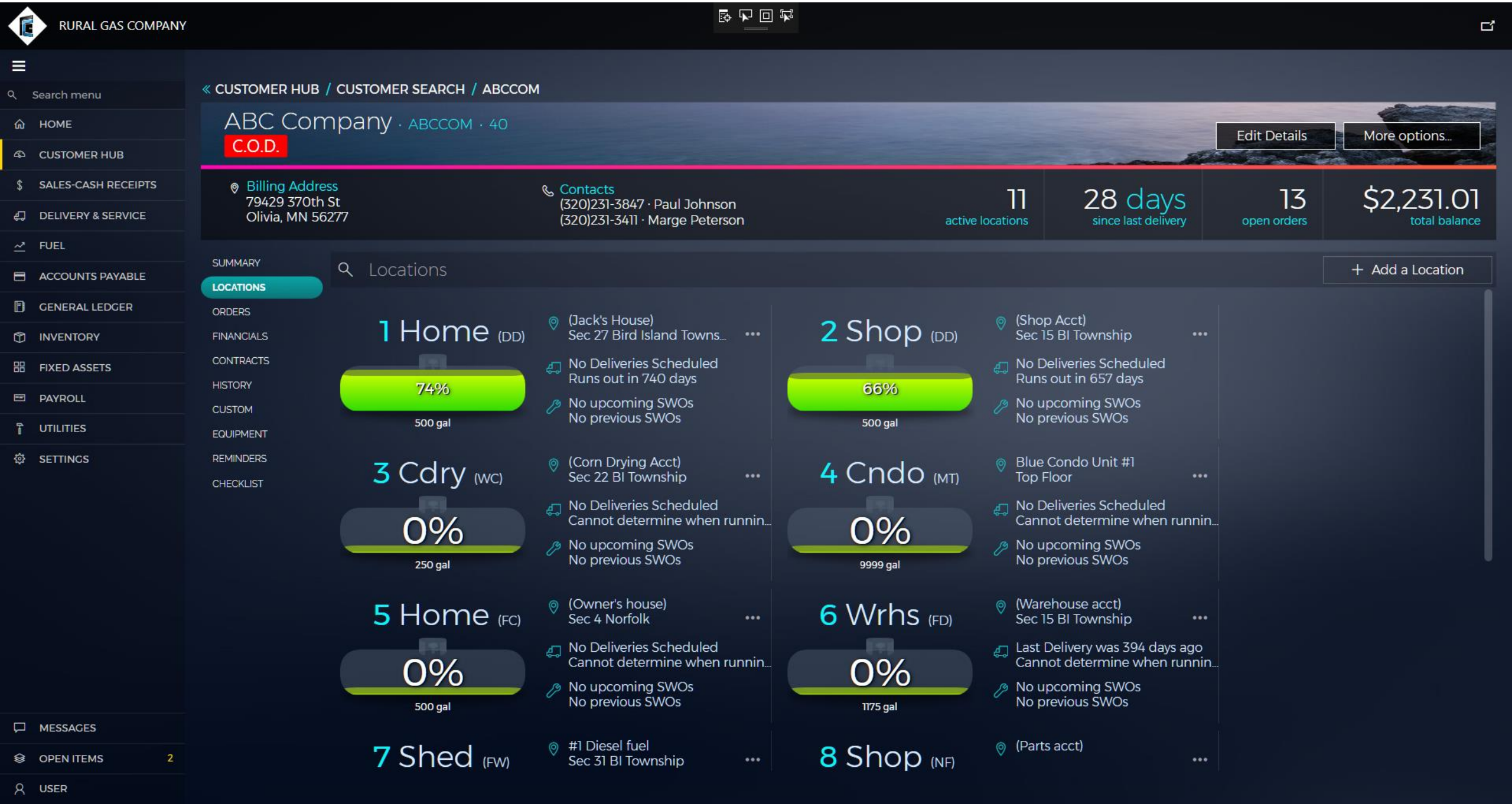
Paper Mockup

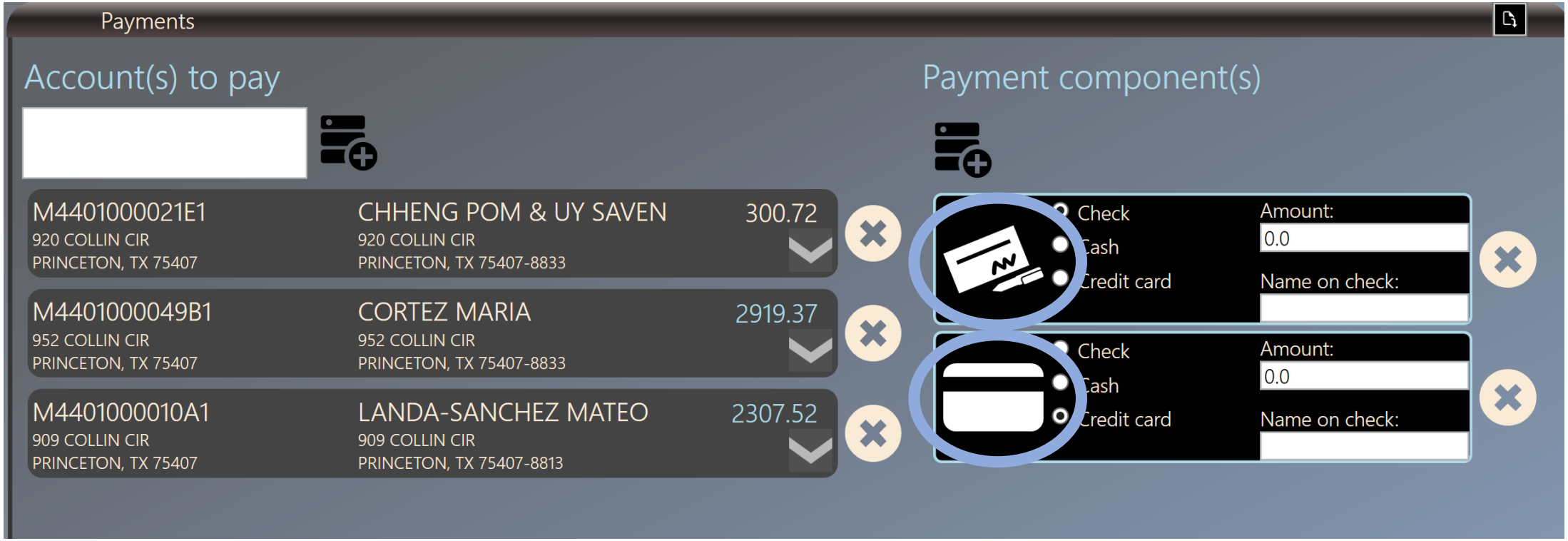
- If interaction is important or complex, it may be helpful to do paper mockups as the next stage.
- Paper mockups can use either wireframes or illustrations
- To present a paper mockup, the presenter can run through the task flow, showing the paper version of each screen, and overlaying parts of a screen when needed

Next step - prototyping

- Hack, hack, hack. Say it with me. Hack.
- Show interaction patterns
- Do more than one implementation of each design idea if you have more than one viable idea

Basic Navigation Shell
Inquiry Hub
Home
Inquiry Hub
Work Lists
Fuel
Accts Payable
General Ledger
Inventory
Fixed Assets
Payroll
Utilities
Open Items (3)
Action Items (7)
Notifications (5)
Favorites (6)
Common
Advanced
Cash Account
Bird Island, MN 55310
(320)
0.00
CASH
17 days since last payment
84%
200 gal
Arrange delivery
Make payment
Rural Gas Company, Inc.
155 South Main St
Bird Island, MN 55310
(320)
0.00
RURGA
17 days since last payment
200 gal
96%
Arrange delivery
Make payment
Rural Gas Buffalo Lake Cylindr
Buffalo Lake, MN 55314
(800)
0.00
RURGB
17 days since last payment
500 gal
33%
Arrange delivery
Make payment
Rural Gas Stewart Cylinders
Stewart, MN 55385
(877)
0.00
RURGS
17 days since last payment
24%
500 gal
Arrange delivery
Make payment
General
Financial
History
Equipment
Locations
Notes
Rural Gas Company, Inc.
155 South Main St
Bird Island, MN 55310
0.00
RURGA
Phone numbers
(320)
(320)
Contacts
Brian Sheehan - Ext 123
Sherlock Holmes - Ext 345
John Watson - Ext 678
200 gal
96%
8 days until next delivery
19 days until projected runout
29 days since last delivery
8 days since last payment
Make Payment
Edit customer
Arrange Delivery
Balance over 30: 0.00
Balance over 60: 0.00
Balance over 90: 0.00
Balance over 120 0.00
Send a letter
Last 5 Transactions
21 days ago on 10/22/2018
Payment $128.19
4 days ago on 11/8/2018
Payment $88.49
9 days ago on 11/3/2018
Payment $45.00
11 days ago on 11/1/2018
Fuel Sales $318.99 (147 @ $2.17)
9 days ago on 11/3/2018
Equipment Sales $412.33 (1 @ $412.33)


RURAL GAS COMPANY
Search menu
HOME
CUSTOMER HUB
SALES-CASH RECEIPTS
DELIVERY & SERVICE
FUEL
ACCOUNTS PAYABLE
GENERAL LEDGER
INVENTORY
FIXED ASSETS
PAYROLL
UTILITIES
SETTINGS
MESSAGES
OPEN ITEMS 2
USER
« CUSTOMER HUB / CUSTOMER SEARCH / ABCCOM
ABC Company · ABCCOM · 40
C.O.D.
Edit Details
More options...
Billing Address
79429 370th St
Olivia, MN 56277
Contacts
(320)231-3847 · Paul Johnson
(320)231-3411 · Marge Peterson
11
active locations
28 days
since last delivery
13
open orders
$2,231.01
total balance
SUMMARY
LOCATIONS
ORDERS
FINANCIALS
CONTRACTS
HISTORY
CUSTOM
EQUIPMENT
REMINDERS
CHECKLIST
Locations
+ Add a Location
1 Home (DD)
74%
500 gal
(Jack's House)
Sec 27 Bird Island Towns...
No Deliveries Scheduled
Runs out in 740 days
No upcoming SWOs
No previous SWOs
2 Shop (DD)
66%
500 gal
(Shop Acct)
Sec 15 BI Township
No Deliveries Scheduled
Runs out in 657 days
No upcoming SWOs
No previous SWOs
3 Cdry (WC)
0%
250 gal
(Corn Drying Acct)
Sec 22 BI Township
No Deliveries Scheduled
Cannot determine when runnin...
No upcoming SWOs
No previous SWOs
4 Cndo (MT)
0%
9999 gal
Blue Condo Unit #1
Top Floor
No Deliveries Scheduled
Cannot determine when runnin...
No upcoming SWOs
No previous SWOs
5 Home (FC)
0%
500 gal
(Owner's house)
Sec 4 Norfolk
No Deliveries Scheduled
Cannot determine when runnin...
No upcoming SWOs
No previous SWOs
6 Wrhs (FD)
0%
1175 gal
(Warehouse acct)
Sec 15 BI Township
Last Delivery was 394 days ago
Cannot determine when runnin...
No upcoming SWOs
No previous SWOs
7 Shed (FW)
#1 Diesel fuel
Sec 31 BI Township
8 Shop (NF)
(Parts acct)


Payments
Account(s) to pay
M4401000021E1
920 COLLIN CIR
PRINCETON, TX 75407
CHHENG POM & UY SAVEN
920 COLLIN CIR
PRINCETON, TX 75407-8833
300.72
M4401000049B1
952 COLLIN CIR
PRINCETON, TX 75407
CORTEZ MARIA
952 COLLIN CIR
PRINCETON, TX 75407-8833
2919.37
M4401000010A1
909 COLLIN CIR
PRINCETON, TX 75407
LANDA-SANCHEZ MATEO
909 COLLIN CIR
PRINCETON, TX 75407-8813
2307.52
Payment component(s)
Check
Cash
Credit card
Amount:
0.0
Name on check:
Check
Cash
Credit card
Amount:
0.0
Name on check:

For a virtual project

- Wireframing, illustration, and creation of prototypes is mostly done by one or two team members, offline
- Therefore, no major considerations for a virtual project
- Because sketching/ideation produces more conventional/traditional designs, more responsibility on the team member(s) doing these phases
- Deliverables are evaluated in an online meeting of the entire team
  - Thus, potentially several iterations

Evaluation phase

- With typical wireframes, mockups, or prototypes, demonstrate to a group of users and stakeholders
  - Goal is to make a final decision on chosen design
- Give users have a fair chance to see and discuss all the final candidates
- If there is not a consensus, make final decision with ranked voting

This isn’t the end…

- At this point, you should have a set of designs for production coding
- Design details will definitely need to be filled in during development
- Smaller pieces such as data visualizations are the most likely candidates for additional design work later in development

Getting the best of both

- We are easing back into in-person work
- I think a hybrid approach works best for design projects
  - Significant in-person work becomes virtual
  - Highest value in-person work remains in-person

- The phase that benefits most from in-person work is sketching/ideation

When to call on a pro designer

- If you have thousands of users
- If a design failure would seriously hurt the business
- If costs of user mistakes are catastrophic
- If you work on a software package in a competitive market

- Or if you simply aspire to a higher level of excellence in design

UX design instruction

- Classes on UX design are widely available
- A good professional can dramatically speed your team's transition to a UX design focus
- However, many classes are by people who only do design
  - This can result in a communications style mismatch with developers
  - Developers don't like too much intuitive, touchy-feely content
  - They prefer more tangible explanations, with science and research
  - Try to review online videos or other content to avoid that pitfall

Resources on interaction design and design process

- Sketching User Experiences, the Workbook (Buxton, et.al.)
- The Joy of UX – David Platt
- About Face – Alan Cooper
- 101 Design Methods (Kumar)
- Don’t Make Me Think - Steve Krug

- My white paper on the design process

Videos

- “Norman Doors”
  - https://youtu.be/yY96hTb8WgI
- John Cleese on Creativity
  - https://youtu.be/Pb5oIIPO62g