

Personas & User Testing

No screens



Prof. Lydia Chilton
COMS 4170
18 April 2018

Say your name



Goal 2

When the needs and abilities of users are unclear, design systems by **learning from iteration** and experimentation.

Part 3: Editing the Party Planning Committee

The interface to edit the party planning committee (PPC) is a drag and drop direct manipulation interface as described below.

1. The PPC UI needs to display two lists:
 - 1) a list of all the [employees seen here](#), and
 - 2) a list of people on the party planning committee.

In its default state, the party planning committee list must have a div at the top of the list to serve as a drop target.

3. Using JQuery Draggable and Droppable, the PPC list to the head of the of the PPC list, a must also be true: names from the PPC list. This must be implemented in the Module.

4. To cue that an element is draggable, its background turns light yellow, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.

5. While the item is being dragged, the background turns light yellow, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.
6. While the item is being dragged, it should have a light yellow background, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.
7. While the item is being dragged, the background turns light yellow, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.
8. When the item is dragged over the drop target, the background turns light yellow, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.
9. If an item is "dropped" anywhere other than the drop target, the background turns light yellow, and the background turns light yellow, and the background turns light yellow, and the background turns light yellow.

Note:

When the user toggles between the Logging and the Party Planning Committee, the state should be stored in a javascript variable that should be there. However, for this implementation, it should be there.

Please submit your HTML, CSS, and JS files, a

Columbia Paper Infinity

Home Log Sales Party Planning Committee

People

2: Dwight
3: Oscar
4: Creed
5: Pam
6: Jim
7: Stanley
8: Michael
9: Kevin
10: Kelly

Party Planning Committee

1: Angela
1: Phyllis

Make a website that uses multiple videos to achieve a goal

Clear needs, abilities, goal

Unclear needs, abilities, goal

How do we get from idea to execution?



Idea

Product

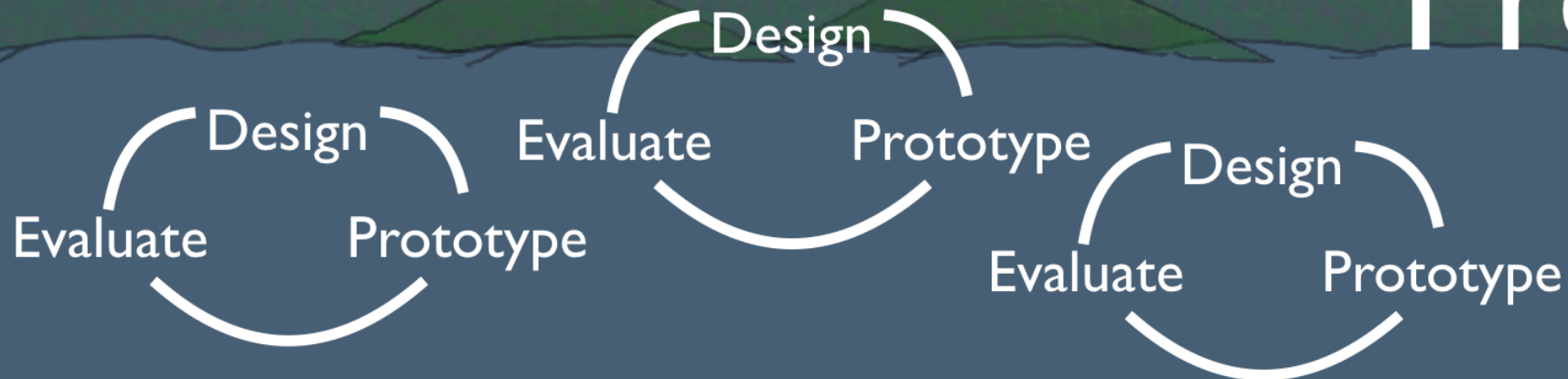
Iterative Design mitigates risk:

Every new **concept** is a risk.
Every risk needs to be **prototyped**.

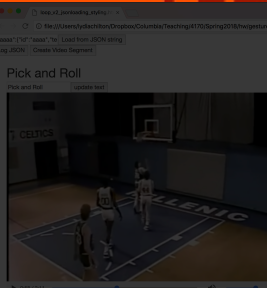
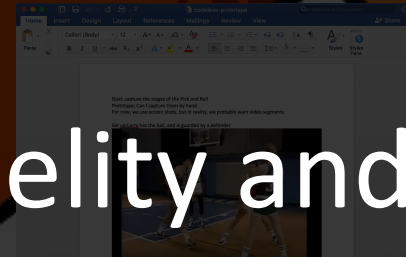
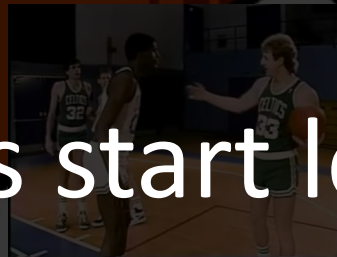
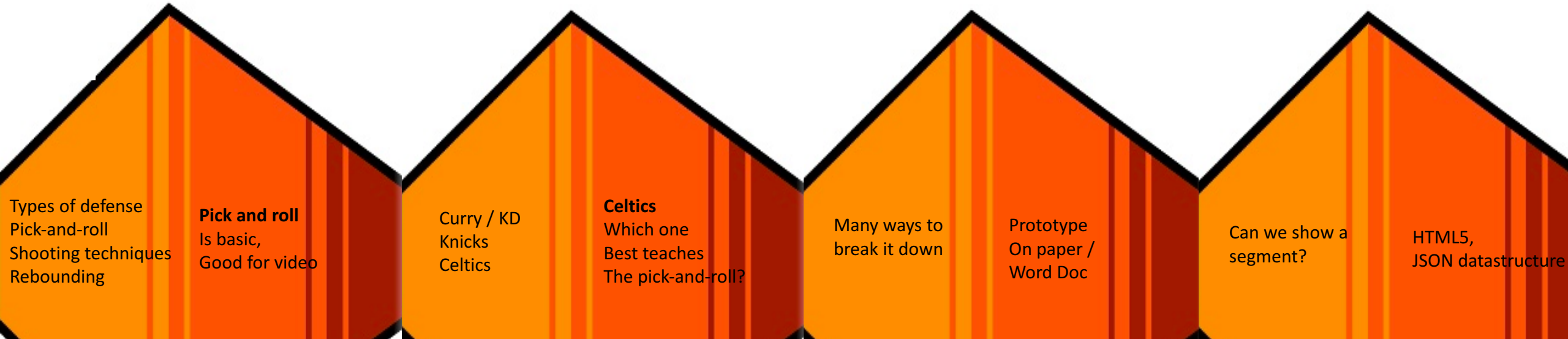


Idea

Product



Flare and Focus: Try many options before picking one



Prototypes start low-fidelity and increase in fidelity at every iteration.

Specific Idea

Which video?

Which segments?

Technical Elements

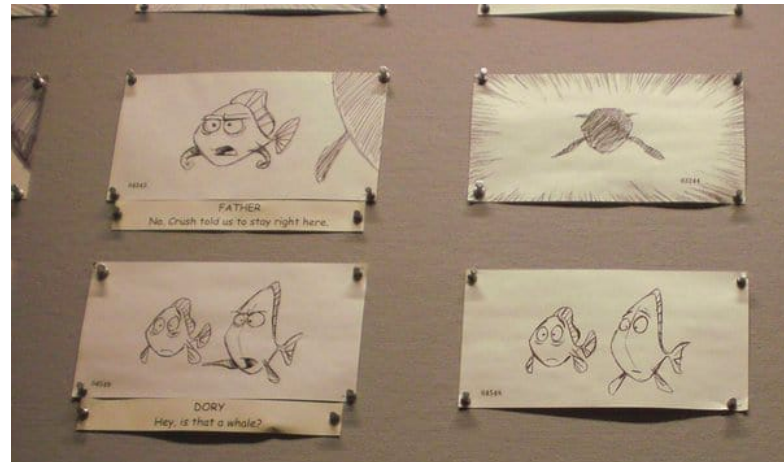
Prototypes move from low-fidelity to higher-fidelity at every iteration

Idea

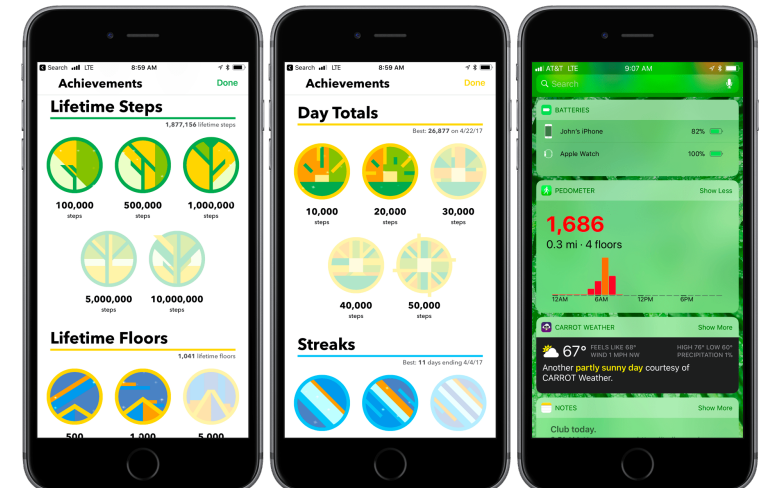
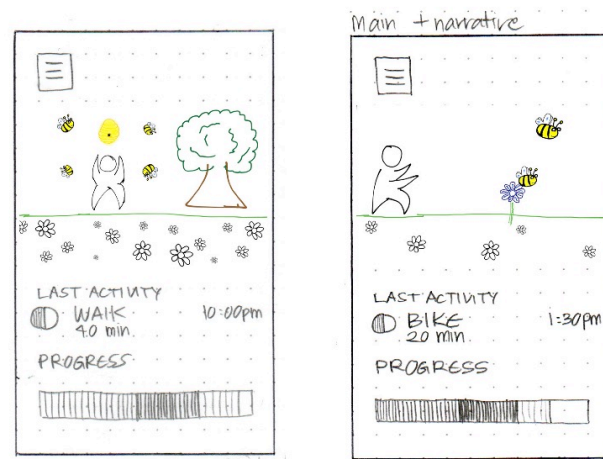
Storyboard

Consumer-facing artifact

Finding your friend!



Help people be healthy!



Our iterative process so far...



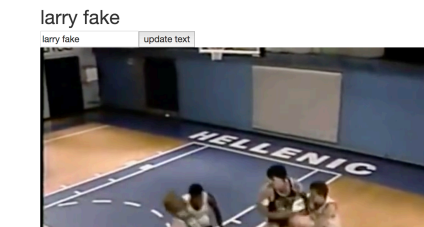
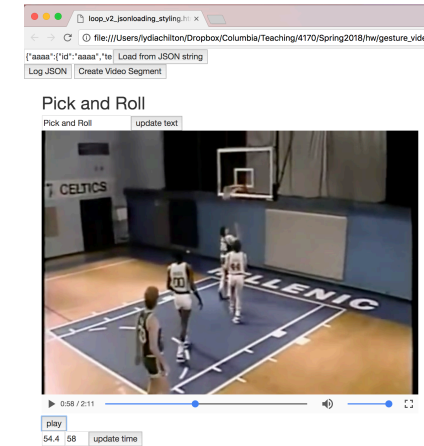
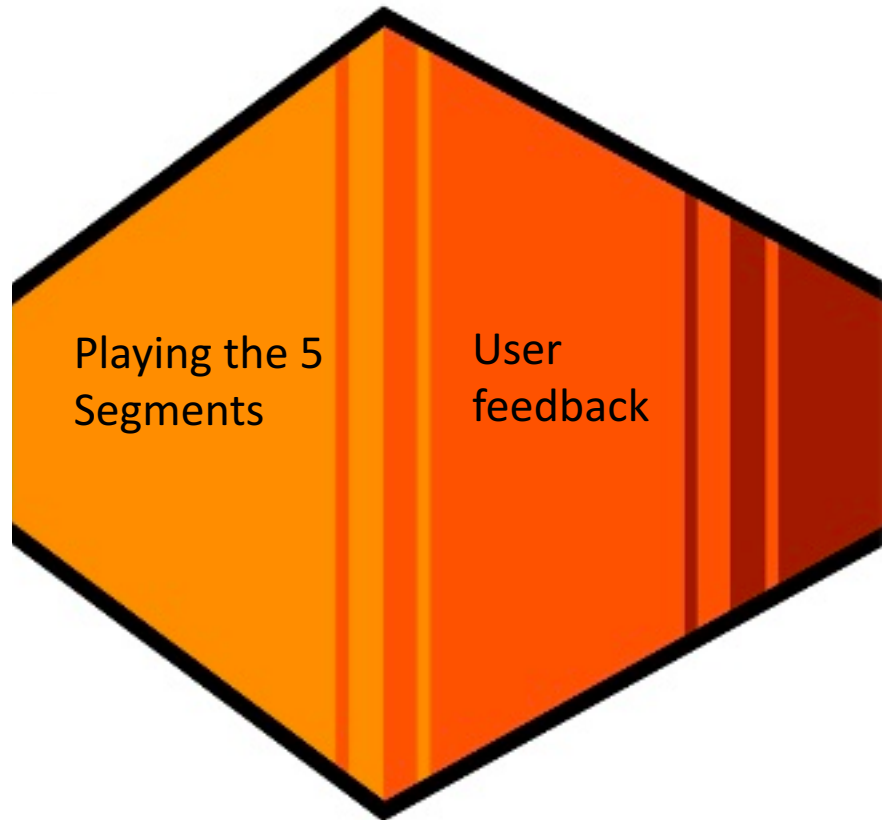
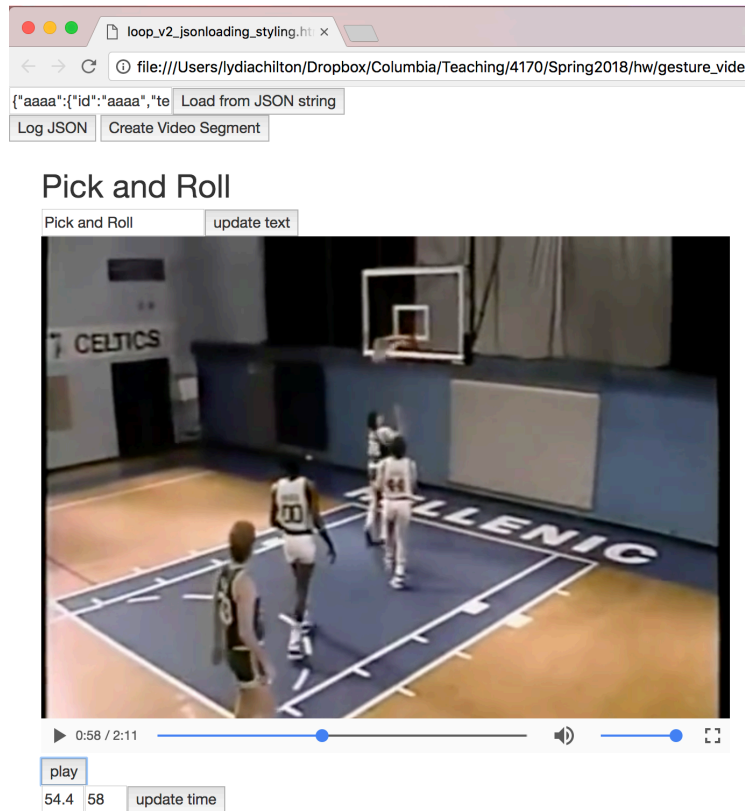
Specific Idea

Which video?

Which segments?

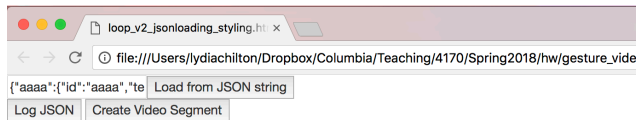
Technical Elements

Now we have a computer prototype



ONE ESSENTIAL FEATURE

What's the biggest risk?



Pick and Roll

Pick and Roll update text



set the screen

set the screen update text



larry fake

larry fake update text



All the elements are sorta “there”
It’s starting to feel like a real system...

BUT

Can a user work their way through the system step-by-step?
And accomplish their goal.

Personas

Persona: The step-by-step story of how one person uses your application to achieve a goal.

Domain:
Tourism

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Square to Sbarro

Idea:
Generate walking directions to help tourists get from A to B.



Step-by-Step Intent/Action/Feedback “Story”

Persona: Michael Scott. NYC Tourist.

Goal: Get from Times Square to Sbarro

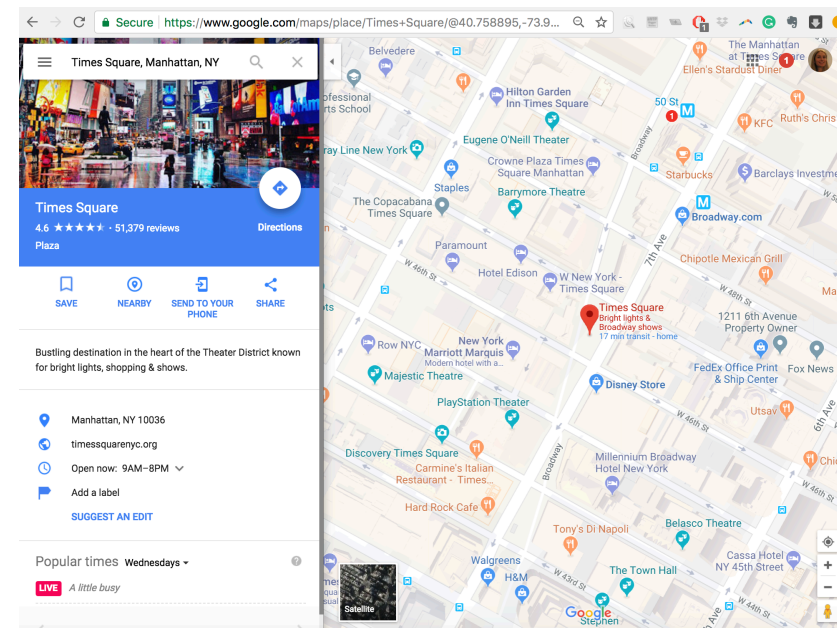


1. He knows he's in Times Square and he sees a destination box on the interface.

He starting types “Times Square” until he sees it in the autocomplete.

He selects it from the autocomplete and the map recenters to Times Square.

From the map, he can see that location looks right to him.



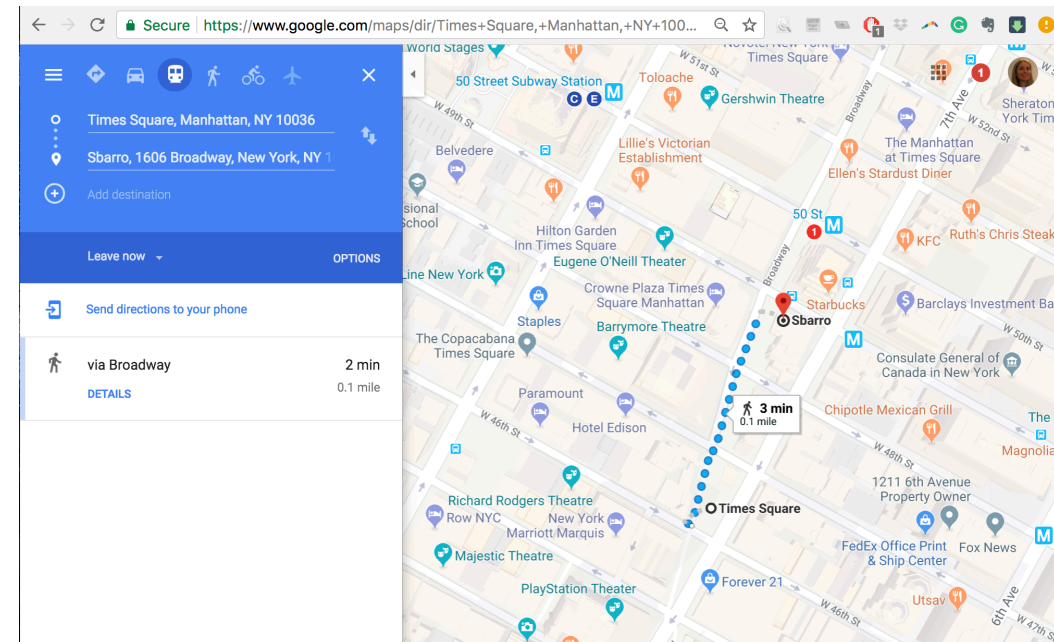
Step-by-Step Intent/Action/Feedback “Story”

Persona: Michael Scott. NYC Tourist.

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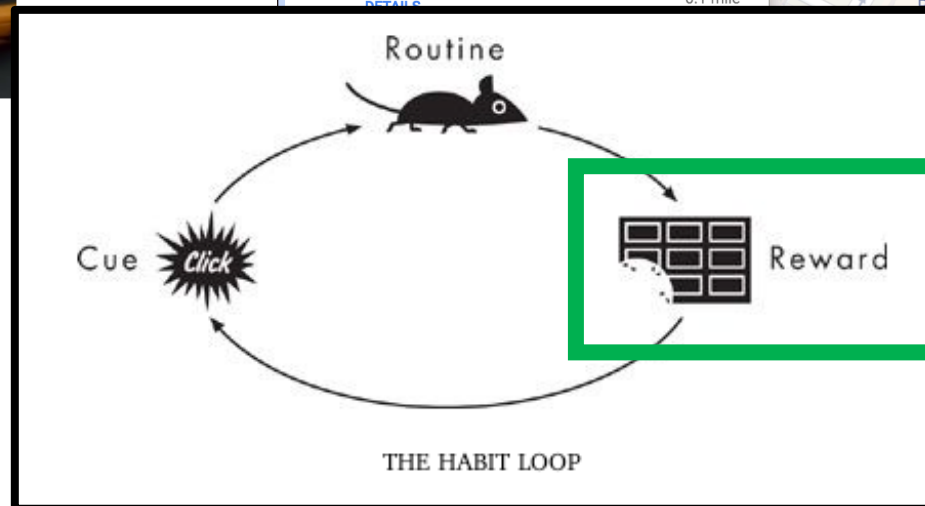
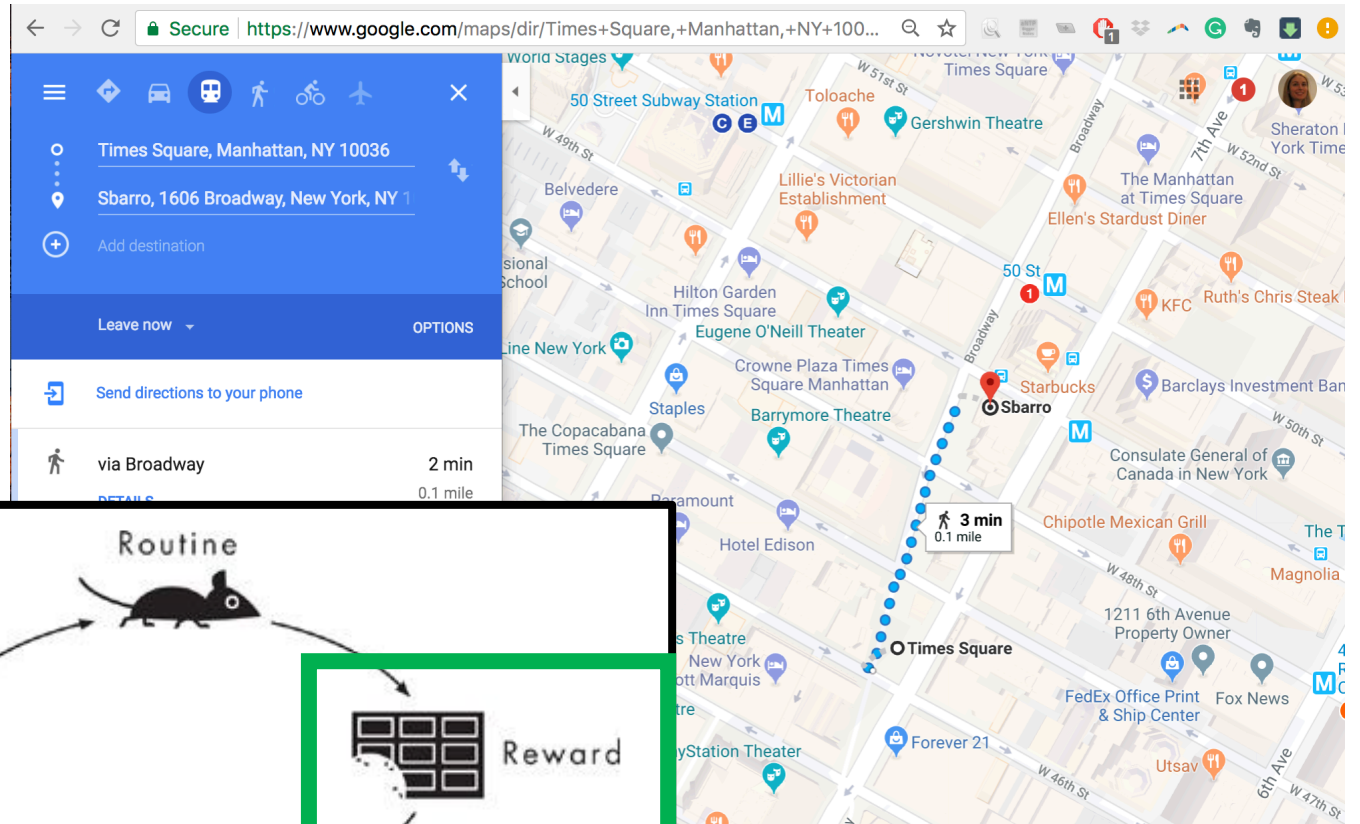


1. He sees a map with a dotted line connecting Times Square and Sbarro with an image of a person walking, indicating that this is the suggest path to take while walking.
2. He sees it is a 3 min walk and an easy path, and decides to walk.



It is important for the user to get some feedback that makes them “feel done”

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Square to Sbarro



Why make up a step-by-step story for one person?

Domain:
Tourism

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Square to Sbarro

Idea:
Generate walking directions to help tourists get from A to B.

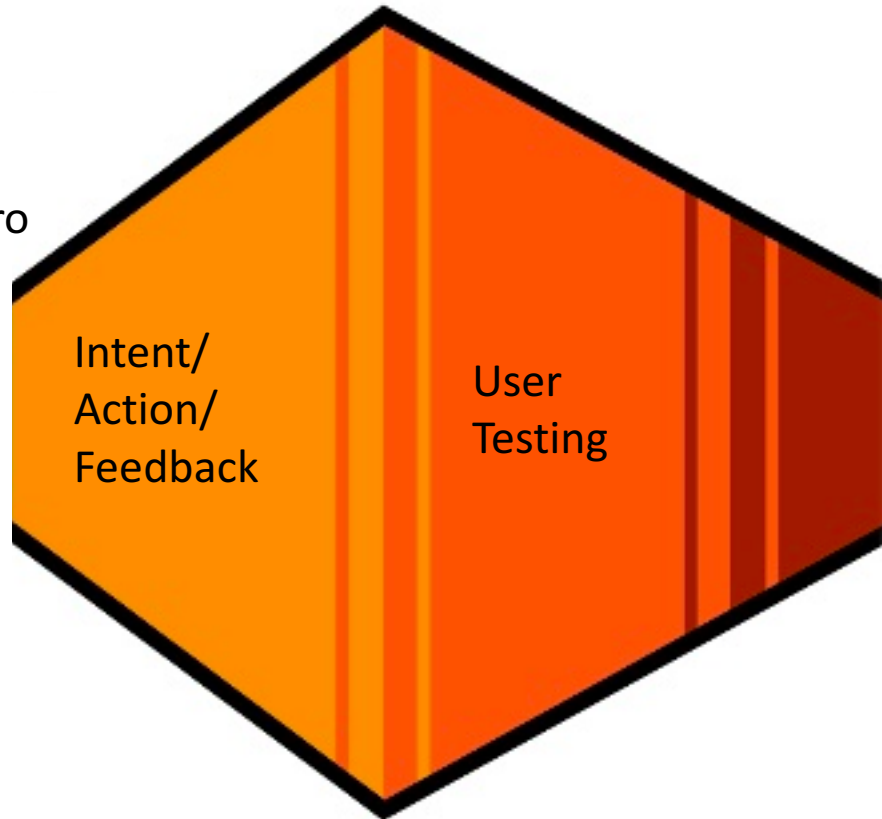


You can't solve all the problems unless you solve one problem first.

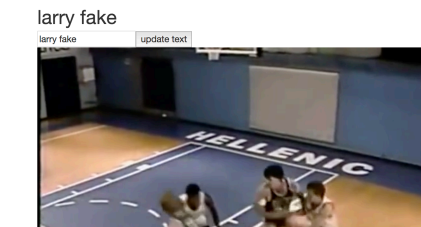
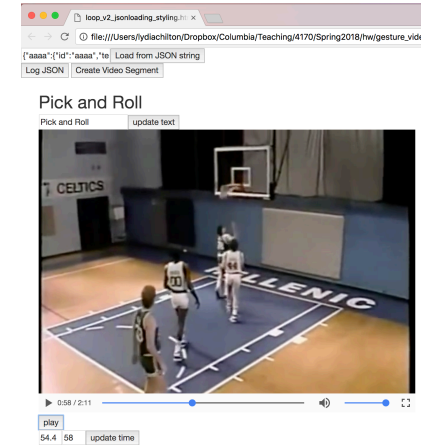


But a persona is *just a story*. We need to test it on people to validate it

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Sq to Sbarro



**Can people actually
Follow that story?**



User Testing

Base it on the persona.

Tell them their concrete goal

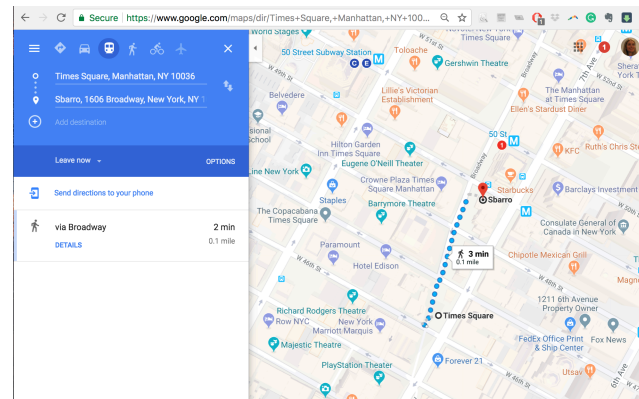
Persona: Michael Scott. NYC Tourist.

Goal: Get from Times Sq to Sbarro



Give them the interface

Try to let them work through it.



Be quiet and

Look for critical incidents

Any time you have to help them,
that's a "critical incident"

If they can't get all the way to the goal,
that's a "critical incident"

If they reach the goal but are
exhausted, confused, crying, or
pissed at you,
that's a "critical incident"

Then listen to their critique.
They may not be very nice.
Just write it down.

This is often the hardest part.

You have invested time and energy in this design

You can see how it could/would/should/might look in your mind's eye.



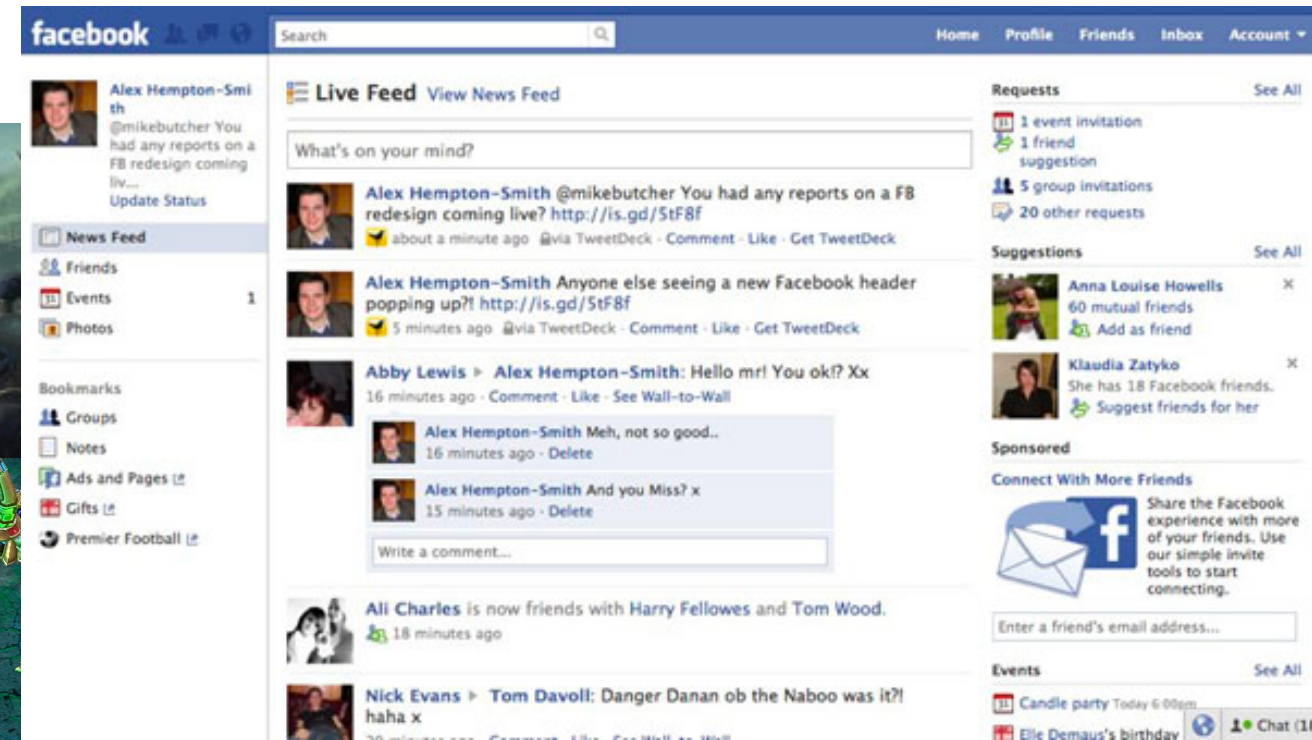
You may discover big problems.

- * Drifting drones
- * Users can't accomplish the task.

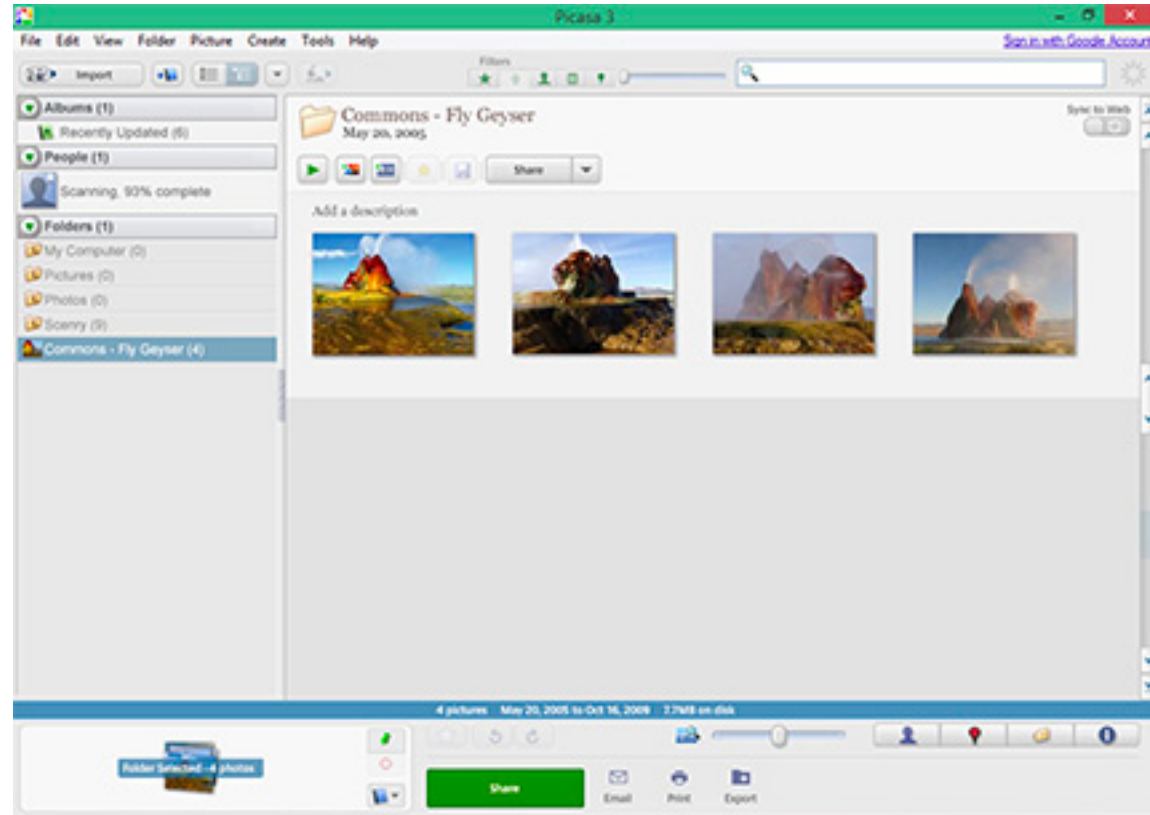
This is normal.

The good news is that
You have a chance to pivot.

Classic Pivot Story #473



Upload and Share Photos



Example:

Pick-and-Roll

Idea: Break down basketball strategy so casual NBA watchers can recognize them.



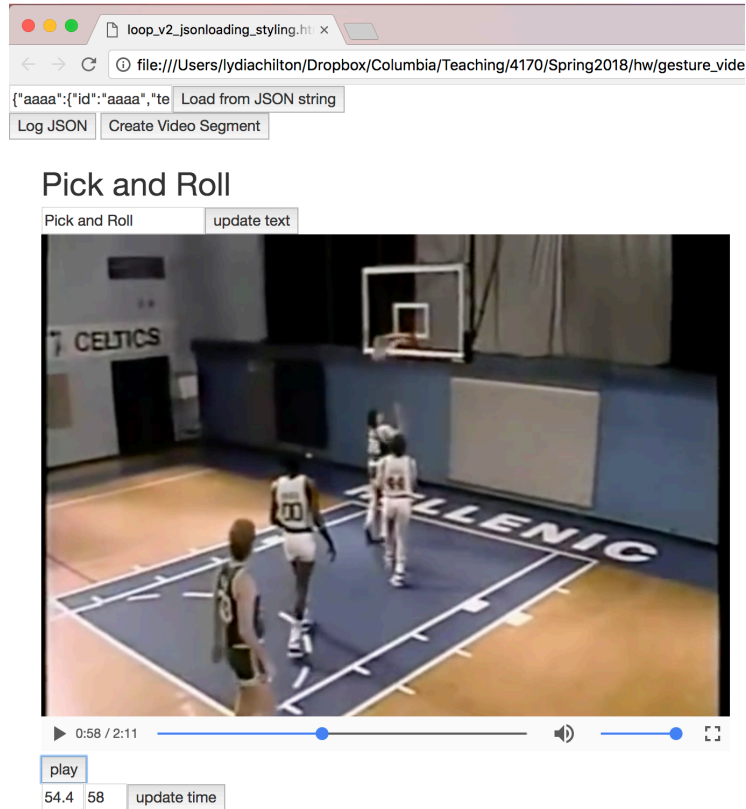
Specific Idea

Which video?

Which segments?

**Technical
Elements**

Computer Prototype and User Feedback



loop_v2_jsonloading_styling.ht x

file:///Users/lydiachilton/Dropbox/Columbia/Teaching/4170/Spring2018/hw/gesture_vid

```
{ "aaaa": { "id": "aaaa", "te
```

 Load from JSON string

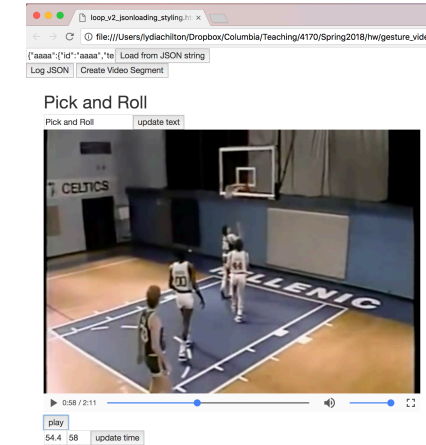
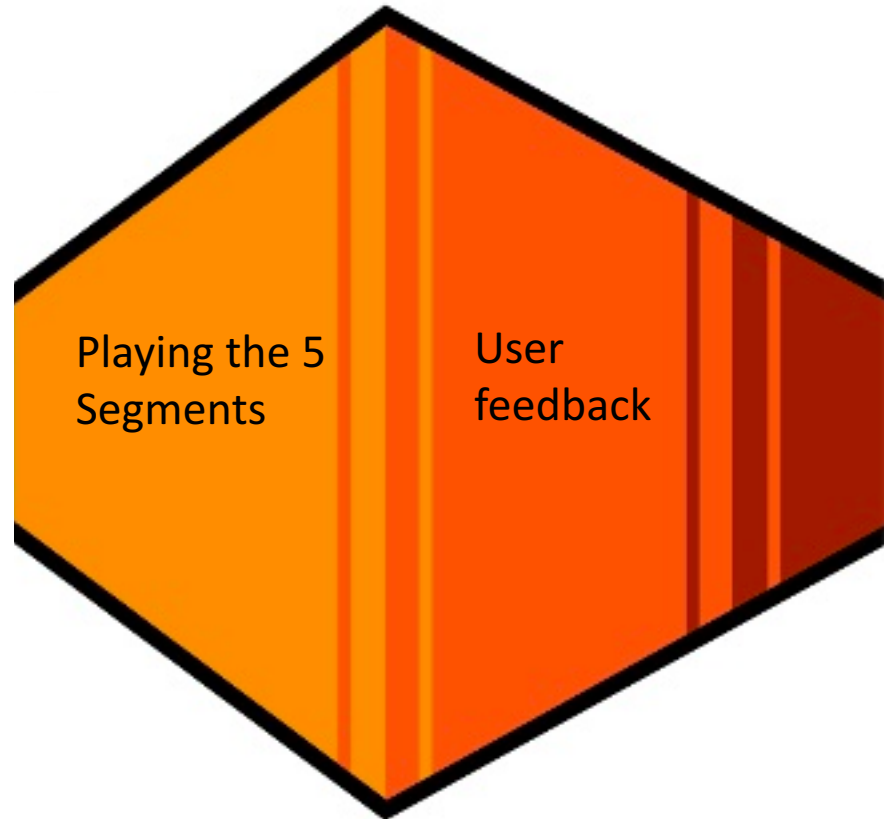
Log JSON Create Video Segment

Pick and Roll

Pick and Roll update text

0:58 / 2:11

play 54.4 58 update time



loop_v2_jsonloading_styling.ht x

file:///Users/lydiachilton/Dropbox/Columbia/Teaching/4170/Spring2018/hw/gesture_vid

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Log JSON Create Video Segment

Pick and Roll

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0:58 / 2:11

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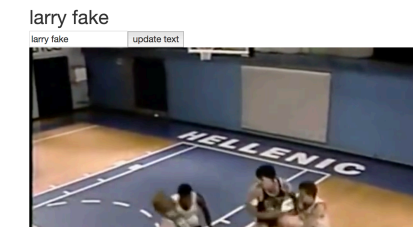


set the screen

set the screen update text

0:58 / 2:11

play 54.4 55.5 update time



larry fake

larry fake update text

ONE ESSENTIAL FEATURE

Feedback on one essential feature

Feedback #1

Users didn't know where to focus their attention during each segment

Feedback #2

Scrolling between items was a pain and ruined the "flow" between the steps.

Feedback #3

Takes time to find and click the play button. This also breaks the "flow."

Feedback #4

I don't know who "Larry" and "McHale" are.

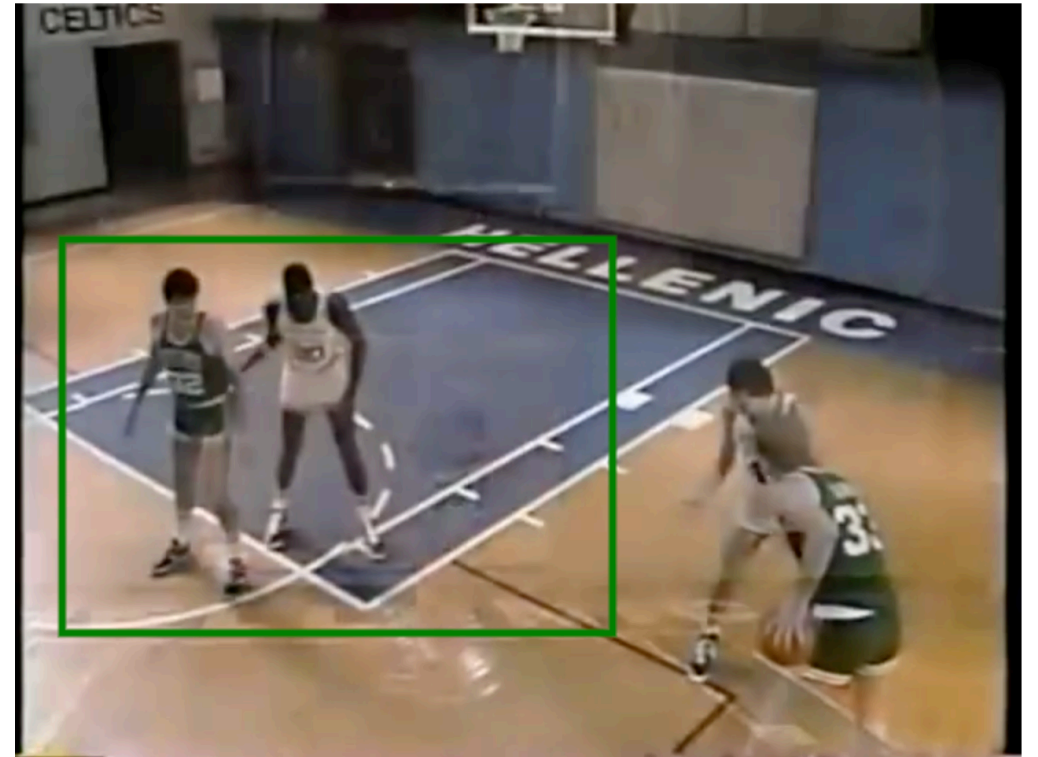
Pick-and-Roll Iteration 2

Feedback #1

Users didn't know where to focus during each segment

Solution

I added boxes around the areas of the video the user should focus



Pick-and-Roll Iteration 2

Feedback #2

Scrolling between items was a pain.

Solution:

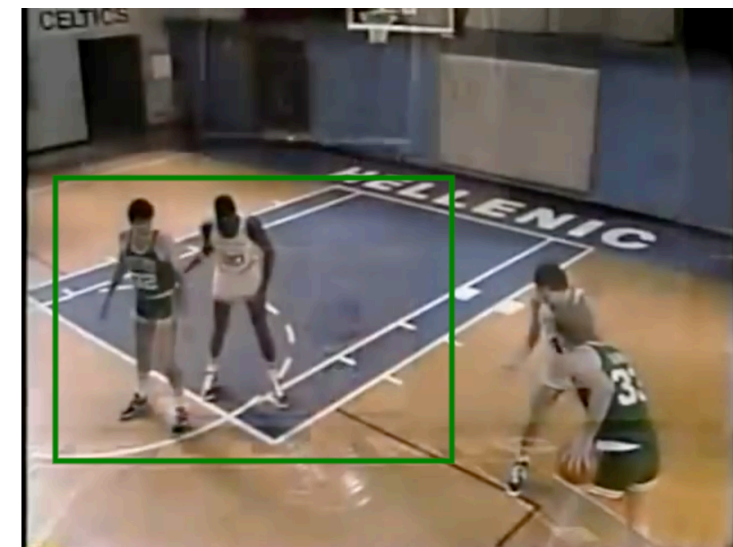
I layered the videos on top of each other

And then added a menu to help track progress



Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

1. McHale sets the screen
2. Bird fakes and moves
3. McHale peels out in front of his defender
4. McHale gets a pass from Bird
5. McHale shoots a layup



Pick-and-Roll Iteration 2

Feedback #3

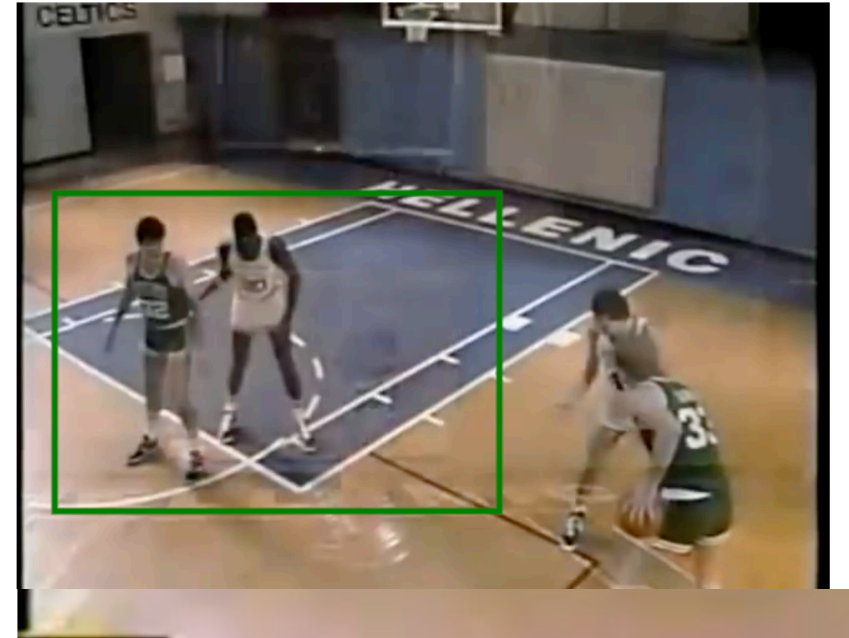
Transitioning between segments was still hard.

Solution:

I added keyboard shortcuts.

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

- | |
|--|
| 1. McHale sets the screen |
| 2. Bird fakes and moves |
| 3. McHale peels out in front of his defender |
| 4. McHale gets a pass from Bird |
| 5. McHale shoots a layup |



play (spacebar)

next (->)

Pick-and-Roll Iteration 2

Feedback #4

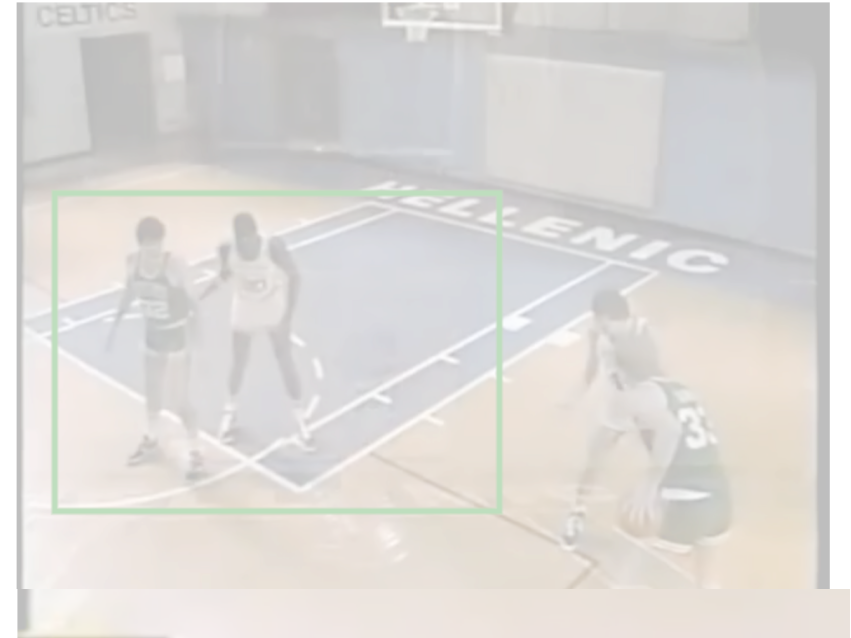
I don't know who "McHale" is and who I'm supposed to watch.

Solution:

I added a better title.

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

1. McHale sets the screen
2. Bird fakes and moves
3. McHale peels out in front of his defender
4. McHale gets a pass from Bird
5. McHale shoots a layup



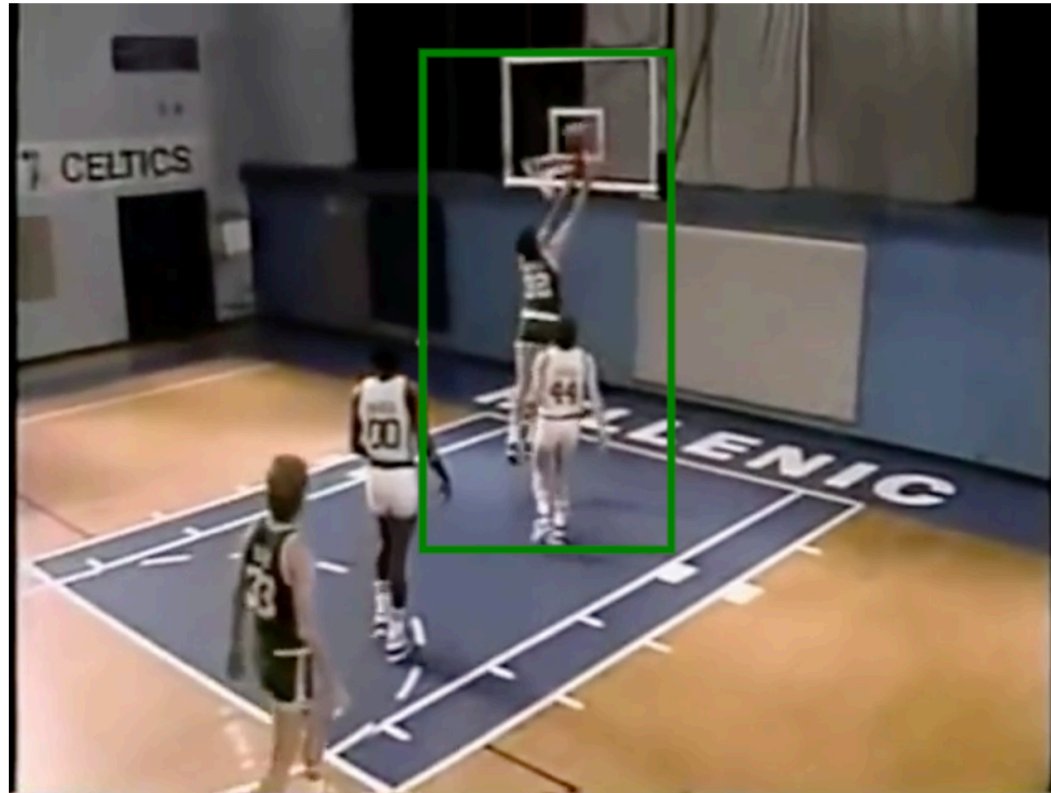
play (spacebar)

next (->)

User Testing AGAIN!

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

- | |
|--|
| 1. McHale sets the screen |
| 2. Bird fakes and moves |
| 3. McHale peels out in front of his defender |
| 4. McHale gets a pass from Bird |
| 5. McHale shoots a layup |



play (spacebar) next (->)

User feedback

“Yeah... it’s okay.

(long pause)

I just don’t quite get it.”

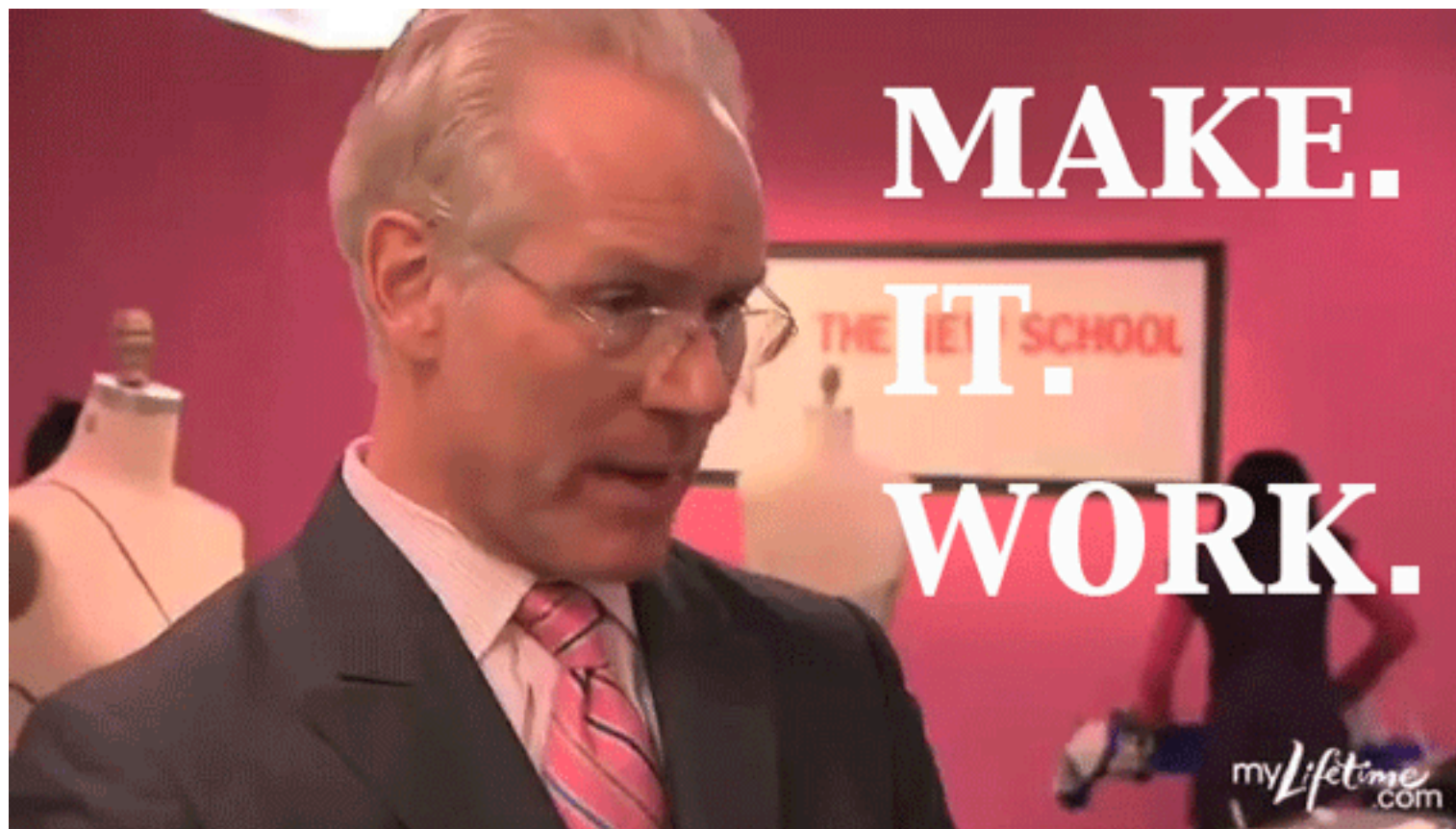
Worst case scenario

“Yeah... it’s okay.

(long pause)

I just don’t quite get it.”

There’s no clear problem, but users aren’t responding well.
If you picked a hard/risky enough project, this will happen.



What do you do?

#1 Ignore it.



“Boring.”
“Slow.”
“Too complicated.”

1% of the time the users are wrong.

If you ignore it, you have to have a good reason why.

“It’s a ballad - something you appreciate more the second time because it’s sensitive and introspective.”

#2 Punt it



You know it's not perfect, but you're out of time or money and you hope some users are just kind enough (or committed enough) to put up with it.

#3 Figure out why they feel that way then fix it.



People have no idea why they feel something.

WHY ARE
YOU CRYING?



Hungry
Tired
Hurt
Sick
Diaper change
Bored

But sometimes you can figure it out for them.

Why does this feel bad?

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

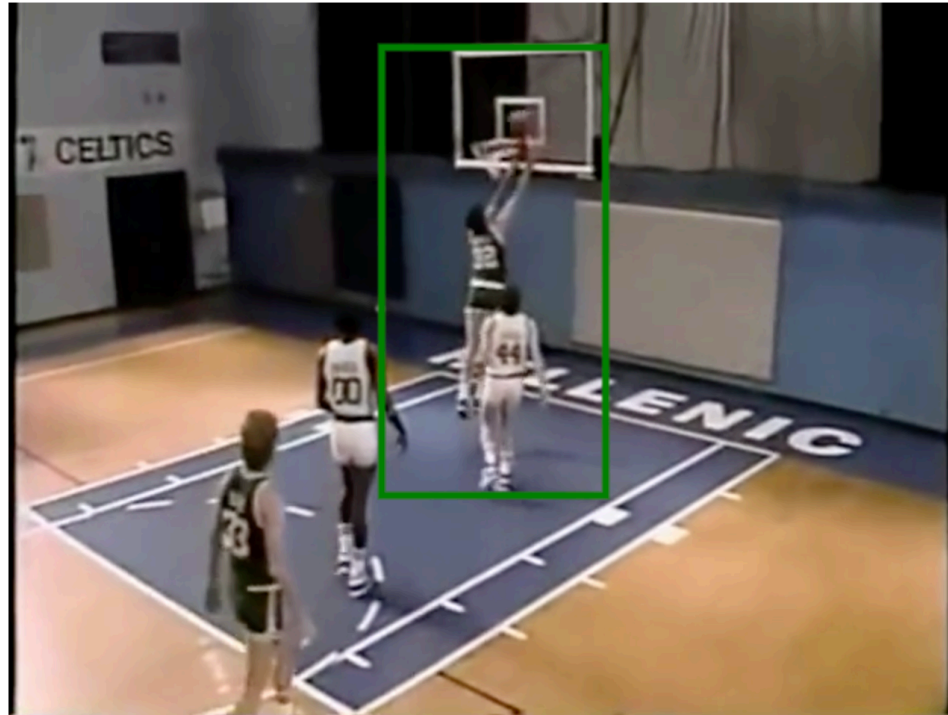
1. McHale sets the screen

2. Bird fakes and moves

3. McHale peels out in front of his defender

4. McHale gets a pass from Bird

5. McHale shoots a layup



play (spacebar) next (->)

Pretend you are a user.

Do a step-by-step walk through the application in painful detail.

Try to experience their bad feeling.

You have to let go of your *positive opinion* and want to see their point of view.

Try to understand the problem.

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

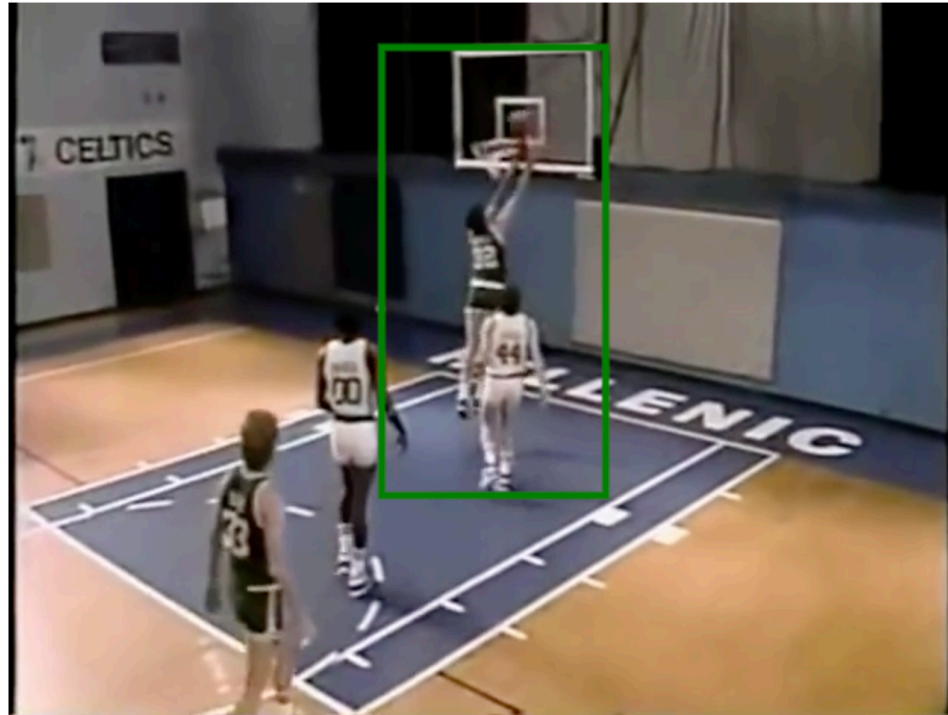
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4. McHale gets a pass from Bird

5. McHale shoots a layup



play (spacebar) next (->)

The steps do feel disjointed. The “narrative” is not linear. Two people doing two things at the same time. What if we made the narrative linear. Sequence of events we could follow more easily. Like a timeline.

Think back to what the real goal is. Make sure you didn't get lost in the details

Watch Bird and McHale (in green) perform the pick-and-roll in 5 stages

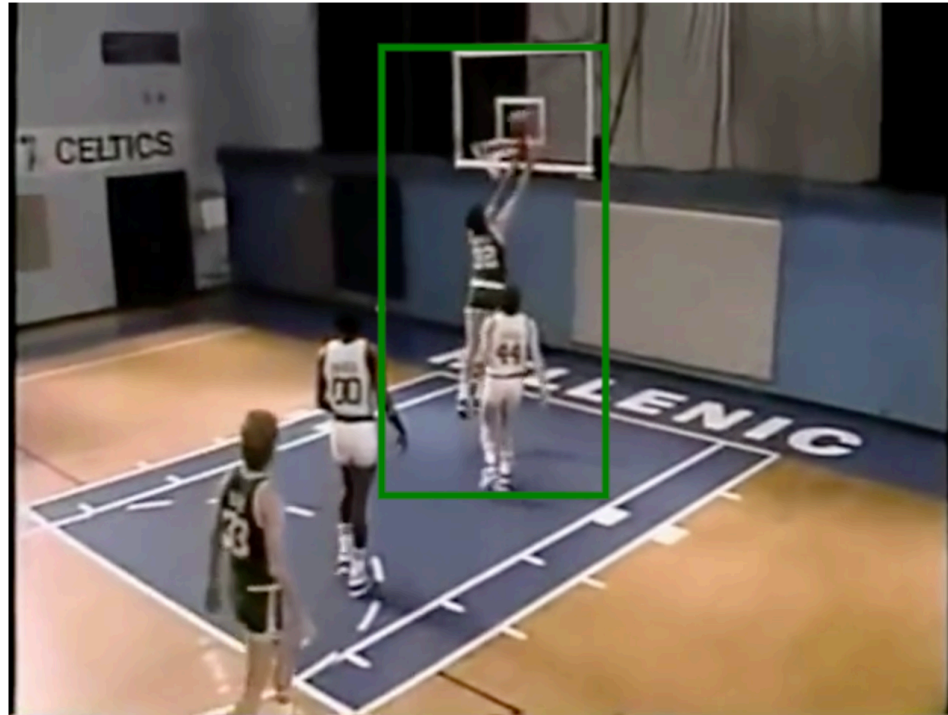
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5. McHale shoots a layup

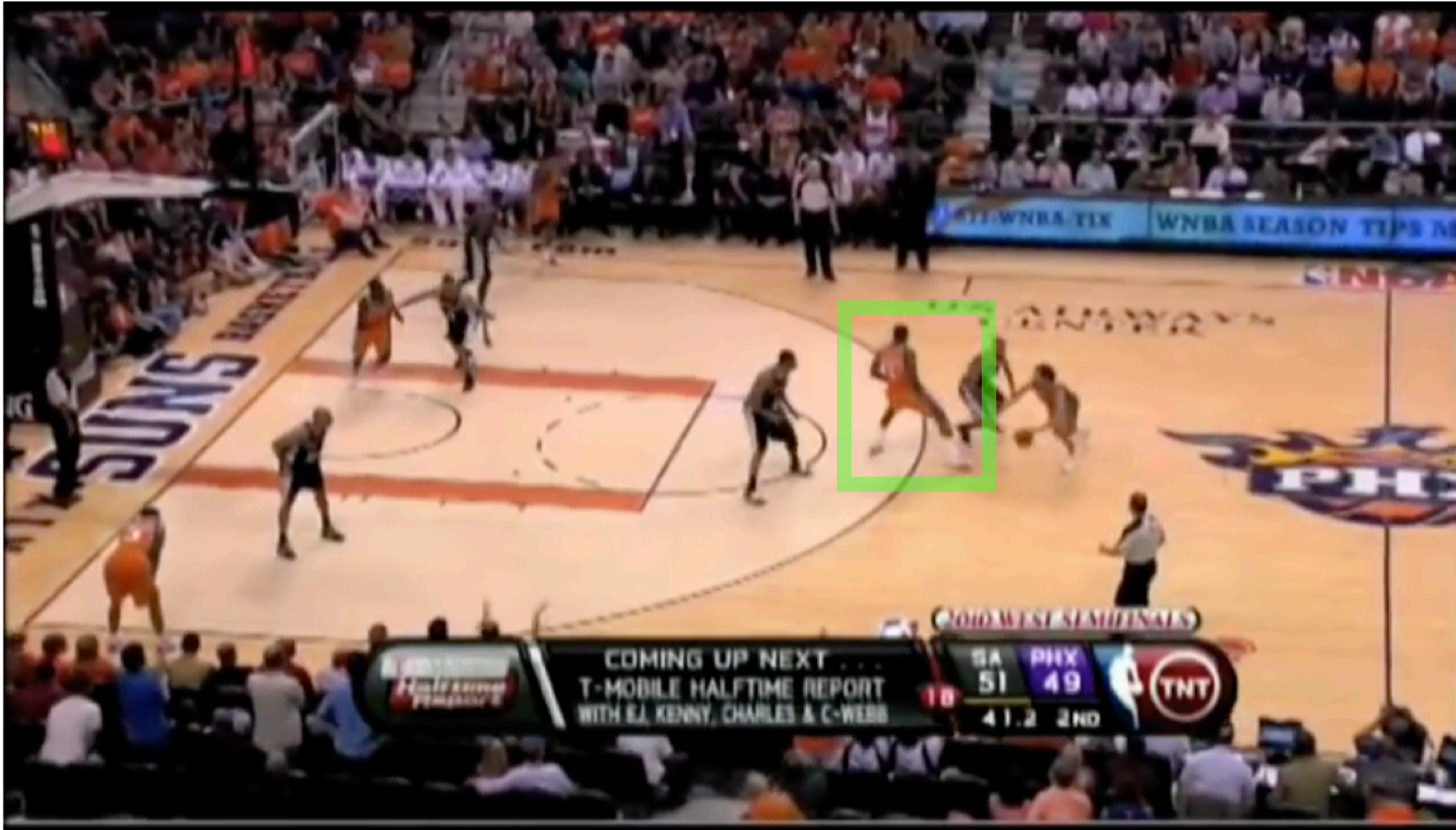


play (spacebar) next (->)

What was the overall goal? What was the real reason I wanted this?
To identify the pick-and-roll in NBA games.
Did I actually accomplish that? NO.
How would I?

I tried it myself.

I found Youtube clips of real NBA games with pick and rolls.
Why is this hard? What was I doing to identify the pick and rolls?



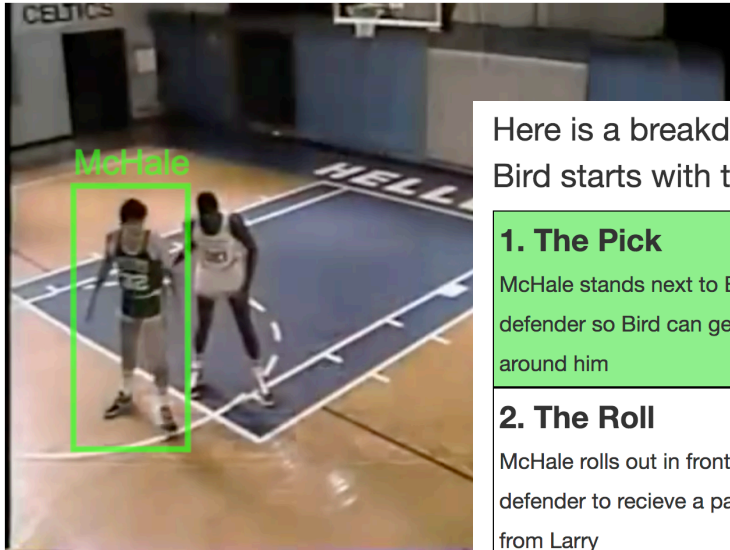
I focus too much on the person with the ball.

To find detect the pick-and-roll you have to watch out for the “helper” – McHale.

Pivot: Follow McHale's Actions in the Pick and Roll

Learn how NBA stars get around the defense:
The Pick and Roll play

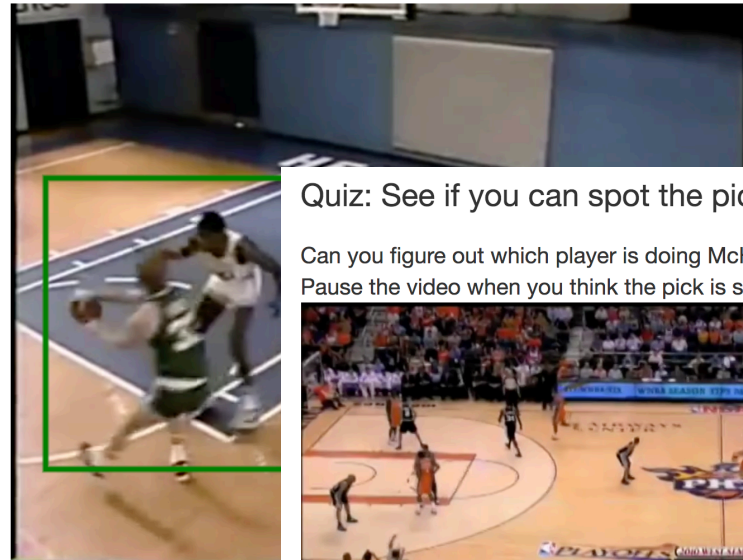
Play this video to see how Bird and McHale use the pick-and-roll to get around their two defenders to score a basket.



Play

Here is a breakdown of the 3 stages of the pick-and-roll.
Bird starts with the ball, but follow what McHale does to score.

- 1. The Pick**
McHale stands next to Bird's defender so Bird can get around him
- 2. The Roll**
McHale rolls out in front of his defender to receive a pass from Larry
- 3. The Score**
McHale shoots a layup



Quiz: See if you can spot the pick and roll in these real NBA clips

Can you figure out which player is doing McHale's role?
Pause the video when you think the pick is set and press 'check' to see our answer.



Show the "Pick"



Introduce the step up. Let users feel how complicated it is.

Learn how NBA stars get around the defense:
The Pick and Roll play

Play this video to see how Bird and McHale use the pick-and-roll to get around their two defenders to score a basket.



Tell them to follow McHale.

Now the 3 steps proceed linearly.

Here is a breakdown of the 3 stages of the pick-and-roll.
Bird starts with the ball, but follow what McHale does to score.

1. The Pick

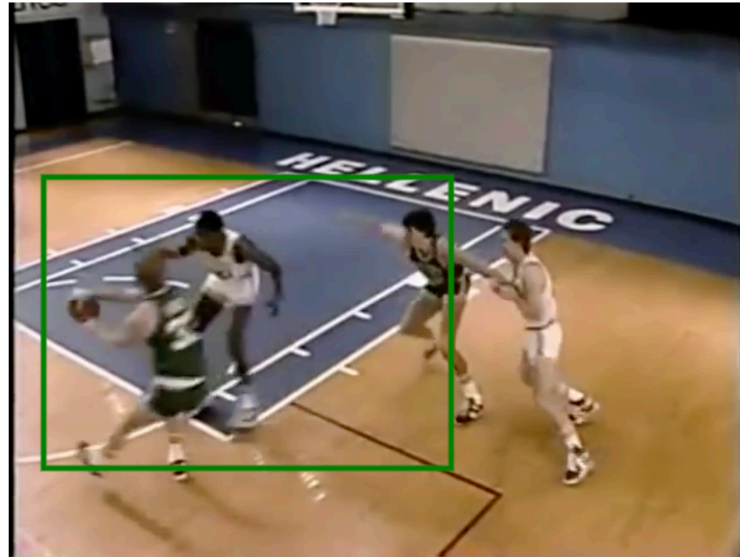
McHale stands next to Bird's defender so Bird can get around him

2. The Roll

McHale rolls out in front of his defender to receive a pass from Larry

3. The Score

McHale shoots a layup

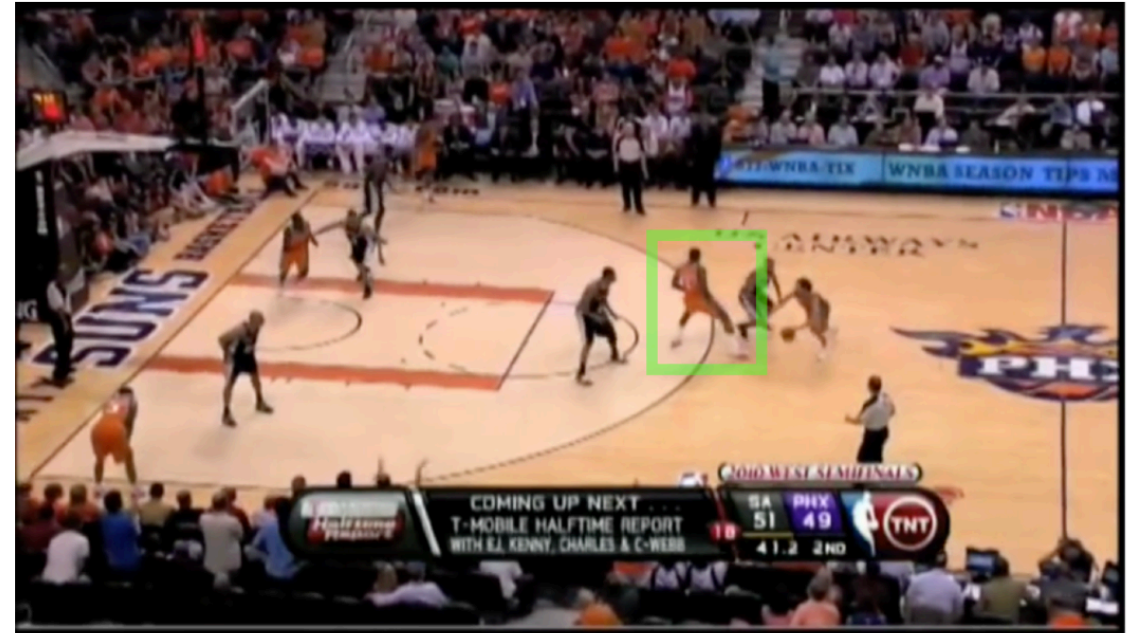


Design an interaction where users can feel that they have accomplished the goal.

Quiz: See if you can spot the pick and roll in these real NBA clips

Can you figure out which player is doing McHale's role?

Pause the video when you think the pick is set and press 'check' to see our answer.

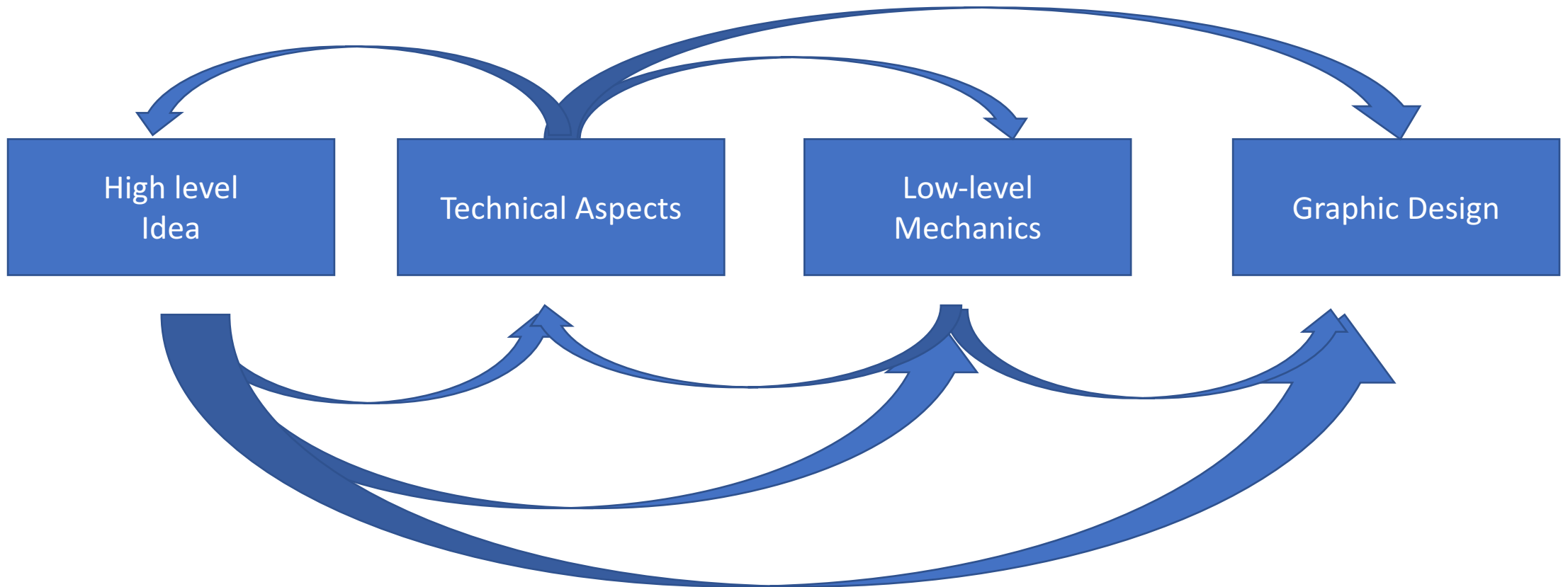


Show the "Pick"

Is design really this hard?

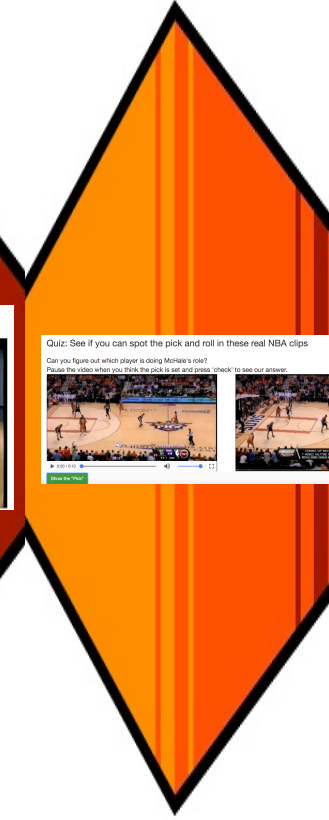
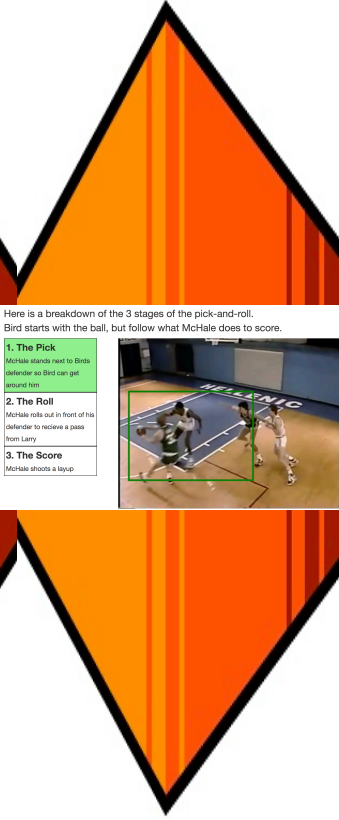
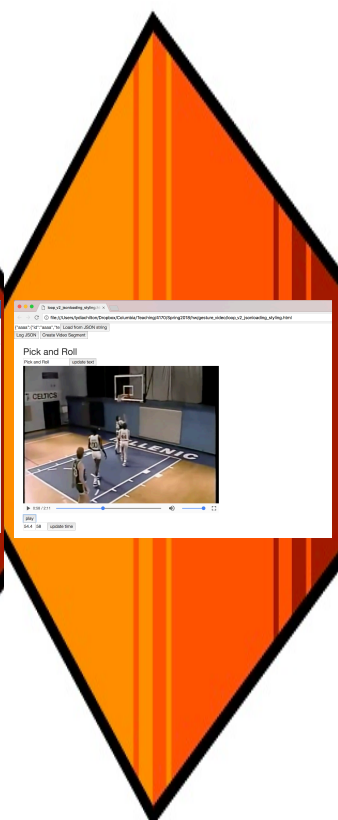
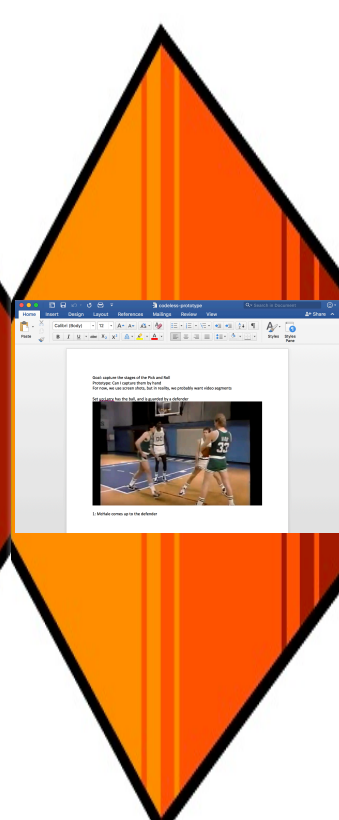
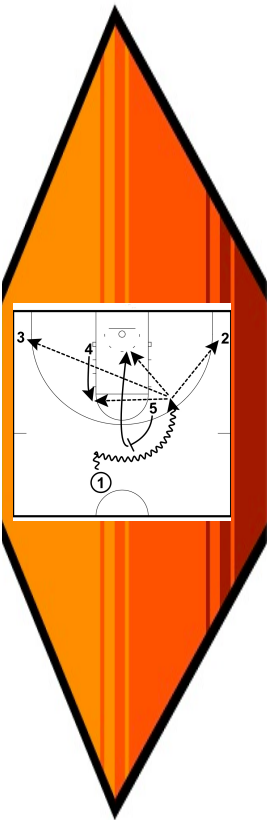
Or are we just stupid?

Design requires synthesizing many elements that are completely dependent on each other.



Design requires synthesizing many elements that are completely dependent on each other.

Idea:
Help NBA fans
Recognize the
strategy
during games



Idea

Resources

Design

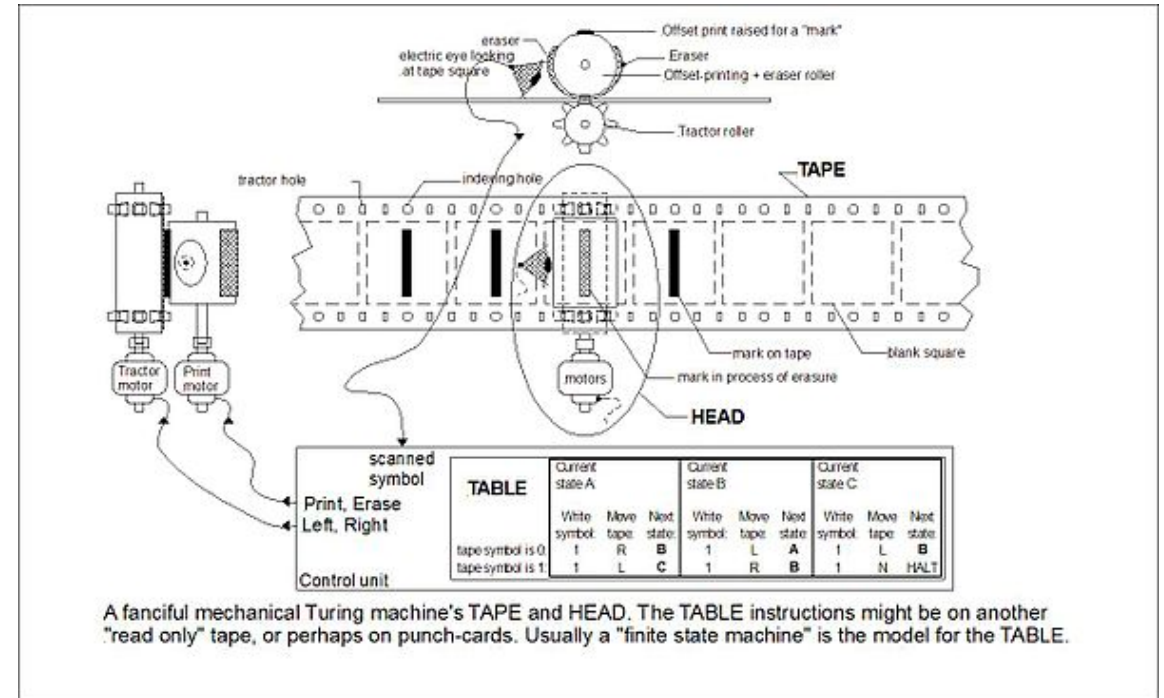
Technical

Design

Idea

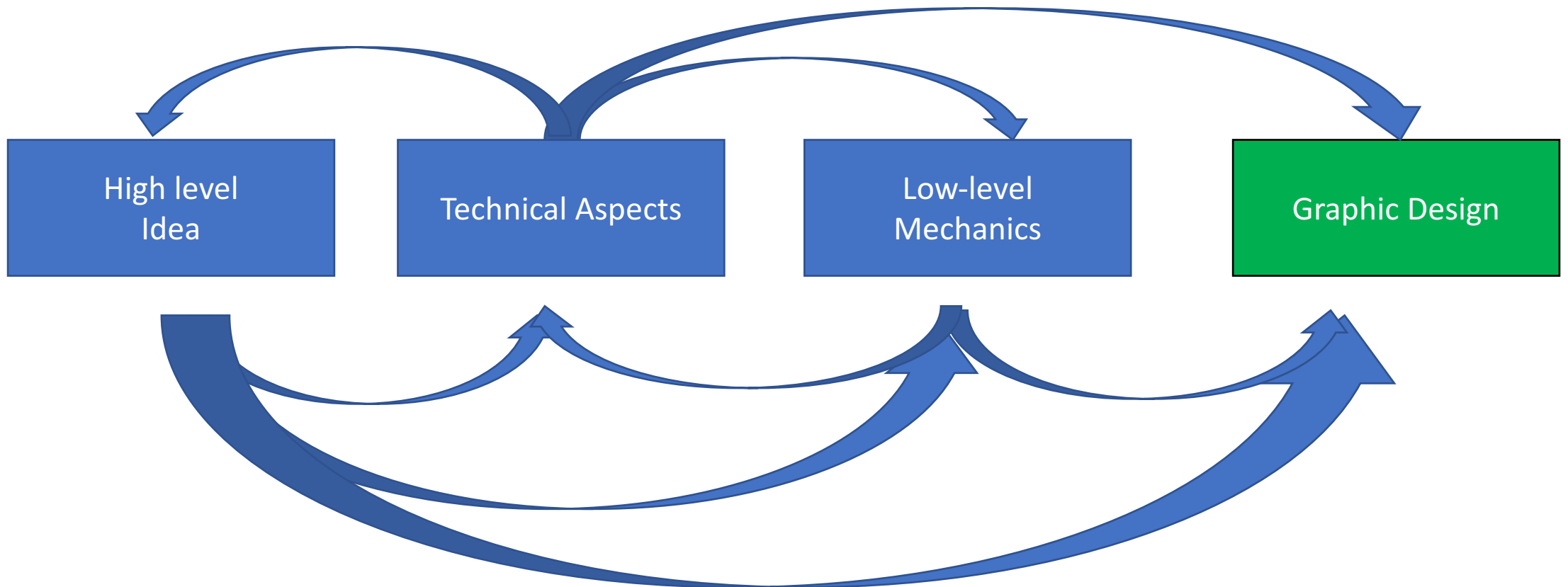
Design

Can we “know” the whether a solution is computable without having to compute it?



No. We have to run the algorithm.

Graphic Design is the final step.
Why?



High level
Idea

Low-level
Mechanics

Technical Aspects

Graphic Design

Domain: Toys

Toys don't want to be forgotten so they find a way to move with their owner.



Script
Casting
Storyboard

Rendering 2 hours of digital
movie

Cinematography



Does this character look like a nice guy?

Does he sound like a nice guy?

Does this character look like an asshole?



High level Idea

Domain: Mapping directions

Give a user directions of how to walk from A to B.

Low-level Mechanics

User wants to get walking directions from Met to The Empire State Building

Start typing “Metropolitan Opera house”

A drop down appears. Select “Metropolitan Opera house” from autocomplete

The map recenters on that destination. The user sees it is correct.

The type “Empire state building”

...

They see a map with a visible path laid out and walking

Technical Aspects

Having a database of map information

Querying them fast enough to use.

Rendering the route.

Writing turn by turn directions

Graphic Design

Can I see where to input the information?

Can I see the feedback?

Information Hierarchy

Gestalt (grouping)

Layout (grid?)

Position (top, bottom, etc.)

Size,

Whitespace,

Contrast,

Color,

Images/icons/media,

High level
Idea

Low-level
Mechanics

Technical Aspects

Graphic Design

Domain: NBA

Break down the pick-and-roll
So casual NBA fans can
recognize this strategy during
play.

??????

Can play the clips of the
video

Does it look like I can
proceed to the next step?

Does it look like I can
accomplish this goal simply?

Final Project Requirements

Due 11:59pm on Monday April 30, 2018

1. Working system

Create a website where a single user can interact with multiple videos (or one video in multiple ways) to achieve a specific goal within a domain.

IMPORTANT: the user must be able to accomplish a specific goal and get feedback of that goal as a “reward” to signal their success.

2. Write Up: The Idea

What is the domain?

What who is the specific person it serves?

What videos (or multiple parts of one video) does it use?

How does that person interact with the system?

What specific goal does it meet?

Why is that goal hard?

How does the user know when they have achieved that goal?

3. Write Up: 3 Key Implementation Decisions

Name three implementation decisions you made.
What user need drove these.

Example:

To teach the pick-and-roll in step-by-step segments, I used HTML5 video player in order to "clip" segments from the video

4. Write up: Persona and Low level user intent/actions/feedback to complete the goal

Include a write up of how a particular user persona would complete multiple low-level actions and receive feedback of them while trying to achieve their goal.

Like assignment #3, but with the changes seen in these slides

5. Write up: 3 Key Design Decisions from user feedback

Include a write up of 3 important design decisions you made to suit the needs and abilities of users. These design decisions must have come from feedback given during critique or user testing (either done in class or outside of class).

For each of the three design decision

1. What what the user need?
2. What was your original design?
3. What feedback did you receive and how did you solicit it?
4. How did you iterate on your design to accommodate this feedback?

If you can't think of 3 design decisions you made based on user feedback then you probably to pick a more specific or demanding user goal.

6. Write up: Graphic Design Intent and implementation

Write up: Graphic Design

Include a write up of 3 ways you used each of the conceptual tools in your website to convey your design intent.

For each conceptual tool, say what your *design intent* was, how you achieved it with that tool, and show a screen shot.

(Like assignment #2)

Intent:

I want to user to know where to focus in each of the videos

Color:

I consistently use green blocks to indicate areas where the user should look. Green means “go” and the green is picked it eye catching. I want the user’s eyes to go there.

Milestone #9

Due Monday 4/23 in class

Milestone #9: Conduct user tests based on your persona

You must tell users who they are:
And what their goal is:

They must realistically do the task from beginning to end.
Like watching a movie. You can't fast forward thru the boring stuff.
You can re-do the interface so that there is no boring stuff.
They must do it all during the 10 minute user study.

No 40 minute videos!
No placeholder videos.
Real tasks, real videos, real need.
So you can test if you are really meeting the user need.
**TRY IT YOURSELF BEFORE YOU TORTURE SOMEBODY ELSE
WITH IT.**

Schedule

4/23 Monday: Milestone #9 User Testing on each other

4/25 Wednesday: Milestone #10 Graphic design.

No lecture. More individual meetings during class time

4/30 Monday:

- Projects due at midnight
- No Presentations. Instead. Final Exam Review.

Summary

Prototypes start in low-fidelity and move to higher fidelity in every iteration.



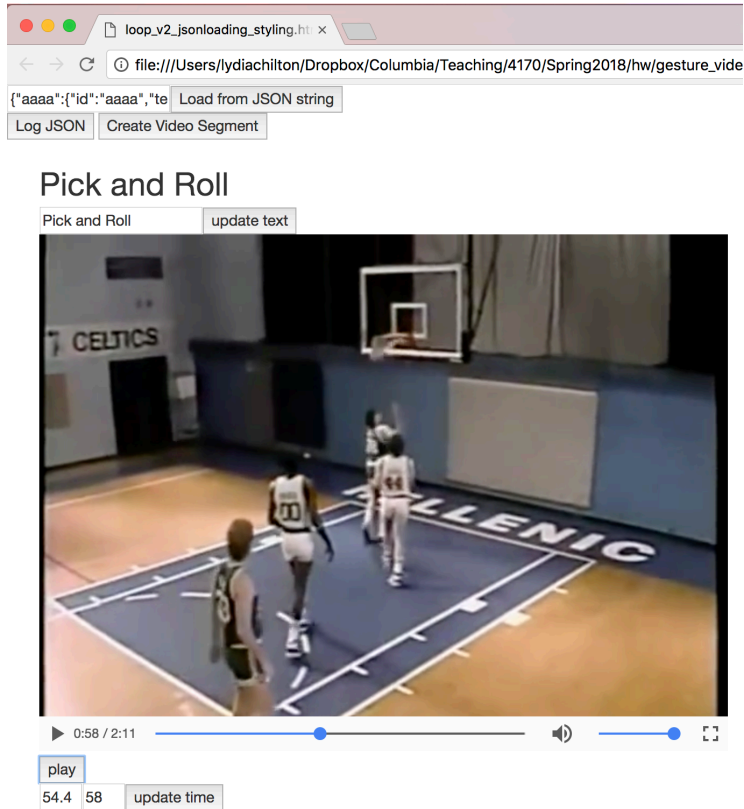
Specific Idea

Which video?

Which segments?

**Technical
Elements**

At this point, you have a computer prototype



loop_v2_jsonloading_styling.ht x

file:///Users/lydiachilton/Dropbox/Columbia/Teaching/4170/Spring2018/hw/gesture_vid

```
{ "aaaa": { "id": "aaaa", "te
```

 Load from JSON string

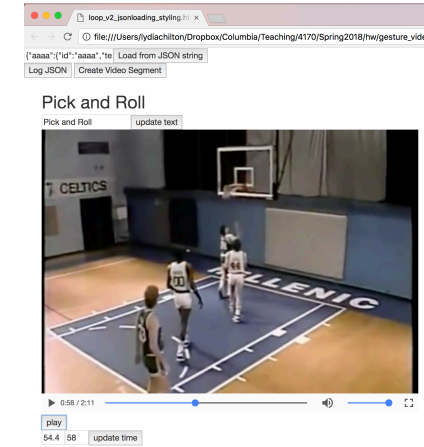
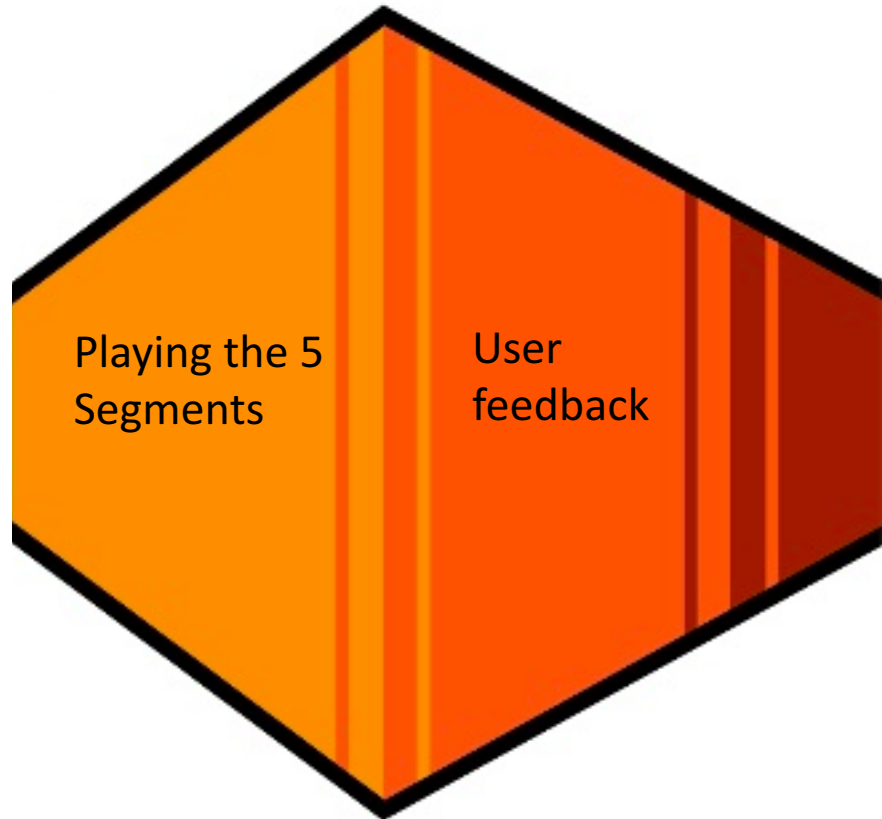
Log JSON Create Video Segment

Pick and Roll

Pick and Roll update text

0:58 / 2:11

play 54.4 58 update time



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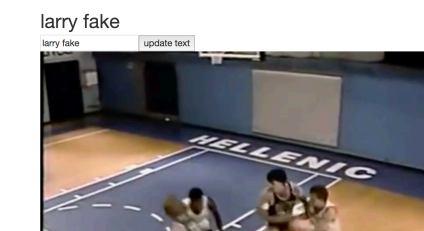


set the screen

set the screen update text

0:58 / 2:11

play 54.4 55.5 update time

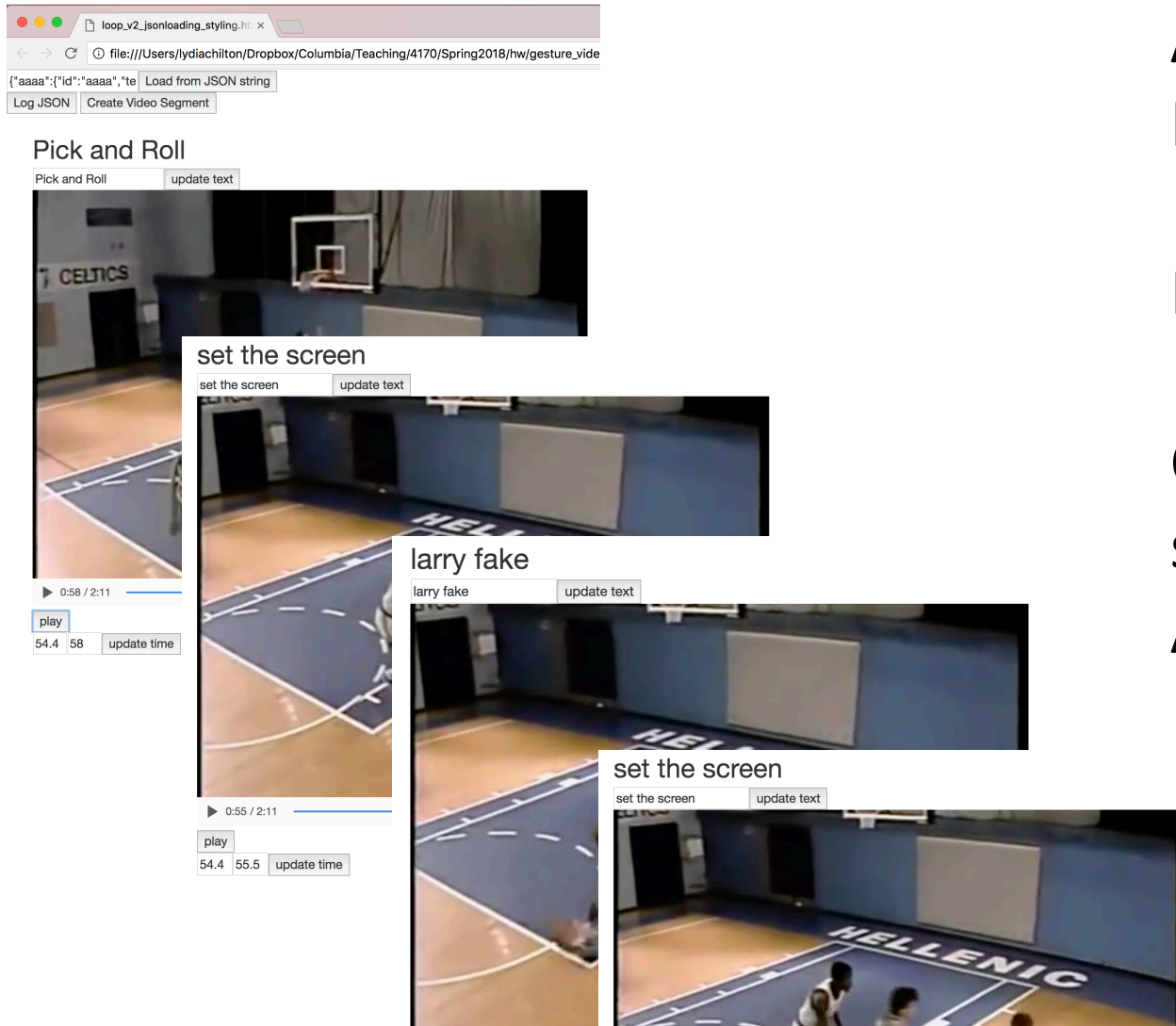


larry fake

larry fake update text

Technical features

What's the biggest risk?



All the elements are sorta “there”
It’s starting to feel like a real system...

BUT

Can a user work their way through the
system step-by-step?
And accomplish their goal.

Persona: The step-by-step story of how one person uses your application to achieve a goal.

Domain:
Tourism

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Square to Sbarro

Idea:
Generate walking directions to help tourists get from A to B.



Step-by-Step Intent/Action/Feedback “Story”

Persona: Michael Scott. NYC Tourist.

Goal: Get from Times Square to Sbarro

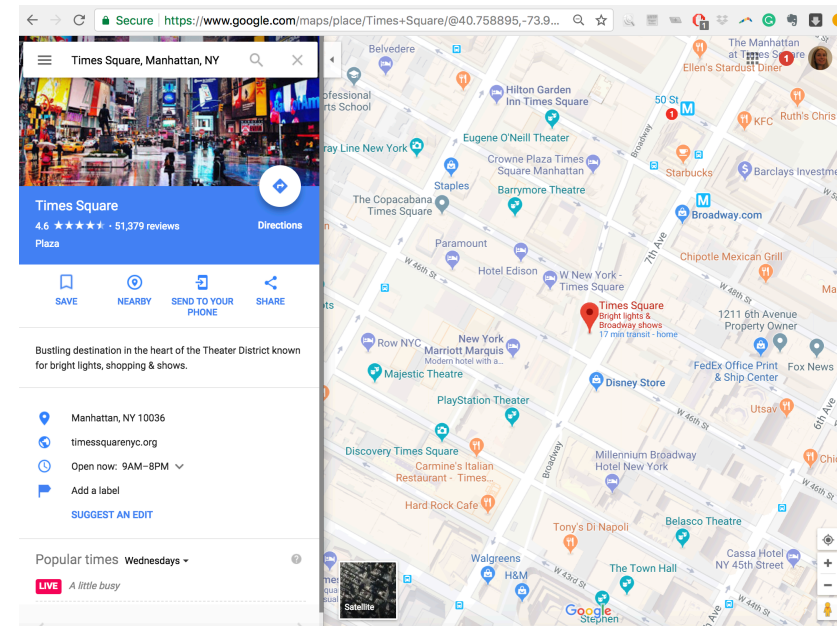


1. He knows he's in Times Square and he sees a destination box on the interface.

He starting types “Times Square” until he sees it in the autocomplete.

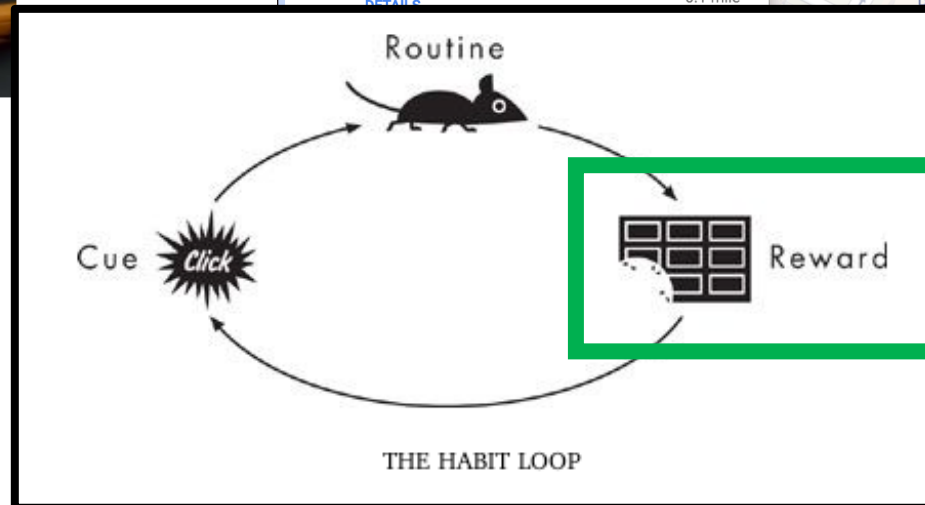
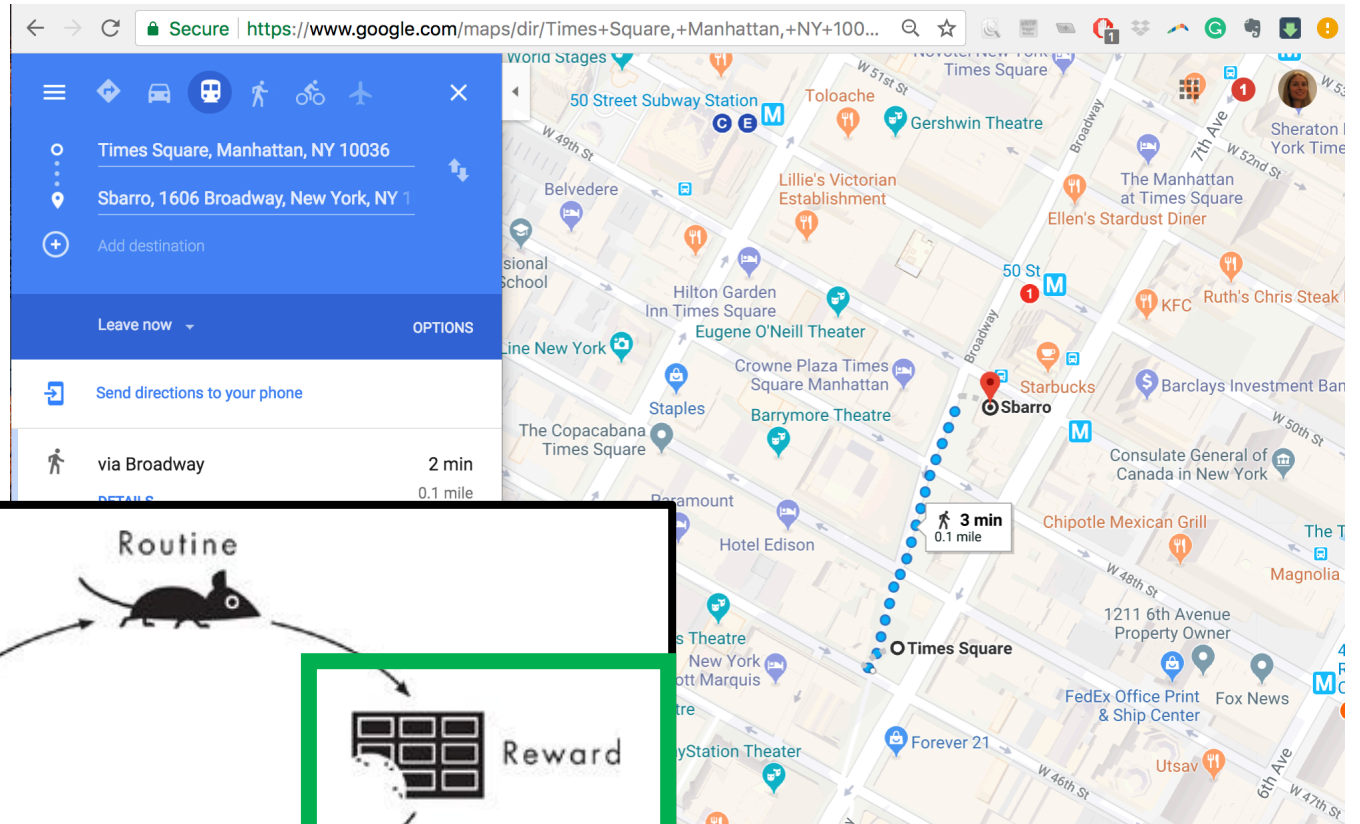
He selects it from the autocomplete and the map recenters to Times Square.

From he map, he can see that looks like the right location to him.



It is important for the user to get some feedback that makes them “feel done”

Persona: Michael Scott. NYC Tourist.
Goal: Get from Times Square to Sbarro



User Testing: Worst case scenario

“Yeah... it’s okay.

(long pause)

I just don’t quite get it.”

There’s no clear problem, but users aren’t responding well. If you picked a hard/risky enough project, this will happen.

Schedule

4/23 Monday: Milestone #9: User Testing in class

4/25 Wednesday: More individual meetings during class time

4/30 Monday:

- Projects due at midnight
- No Presentations. Instead. Final Exam Review.