Menus and Navigation

No screens

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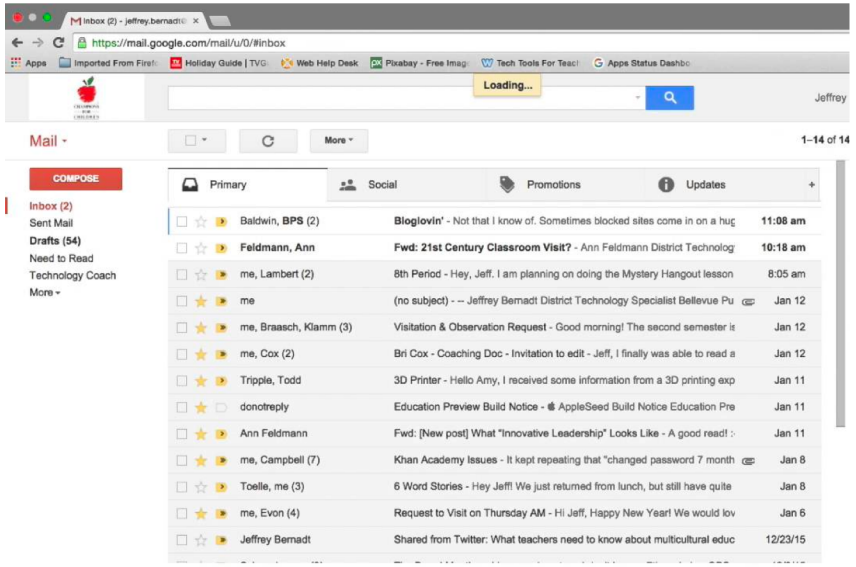
COMS 4170

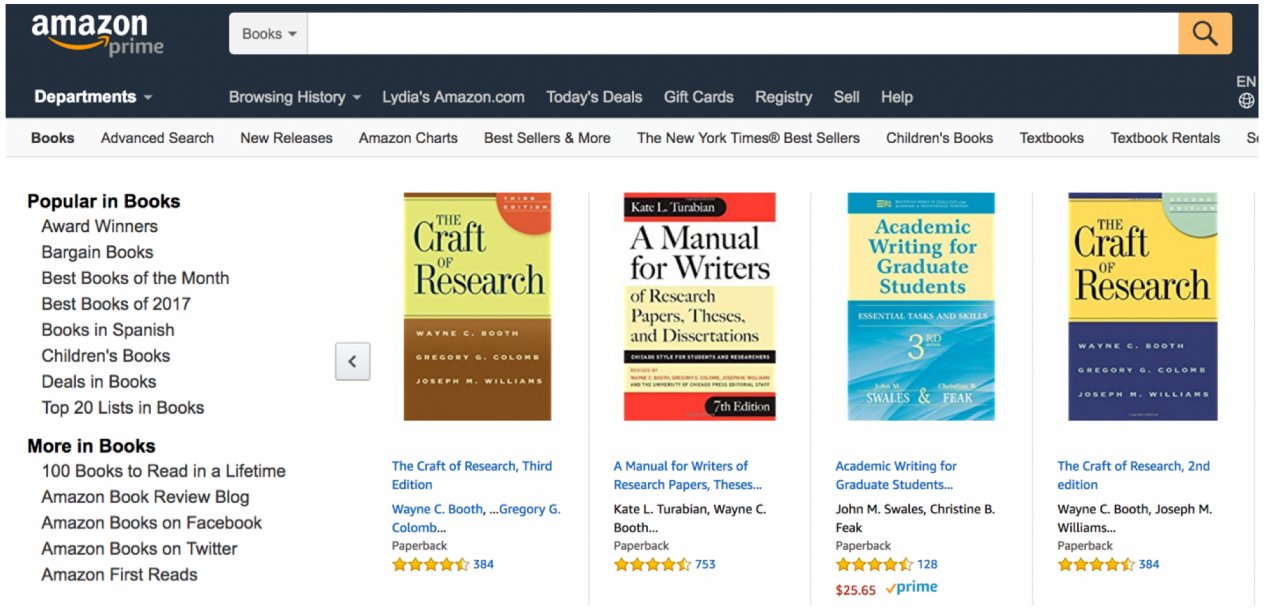
17 February 2020

Say your name

Users interact with a system to accomplish a goal



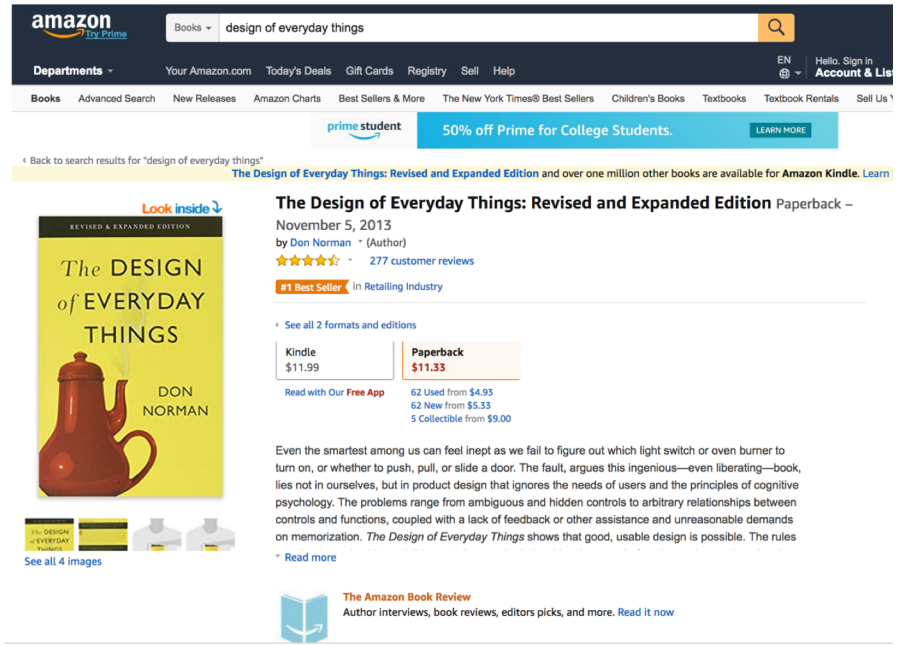
To read and respond to all email.



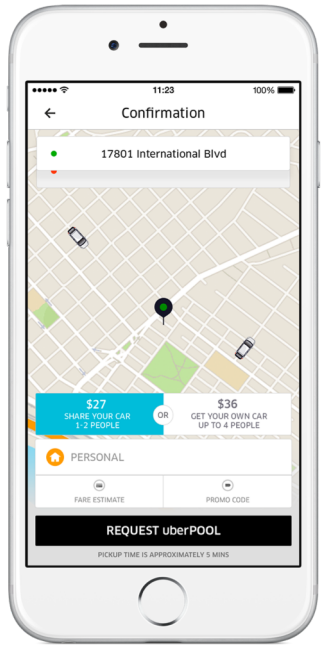
To buy a book

We are designing applications that help people achieve fairly complex goals.

Buy a book



Hail a cab to JFK



Can we put it all the information on one big page?

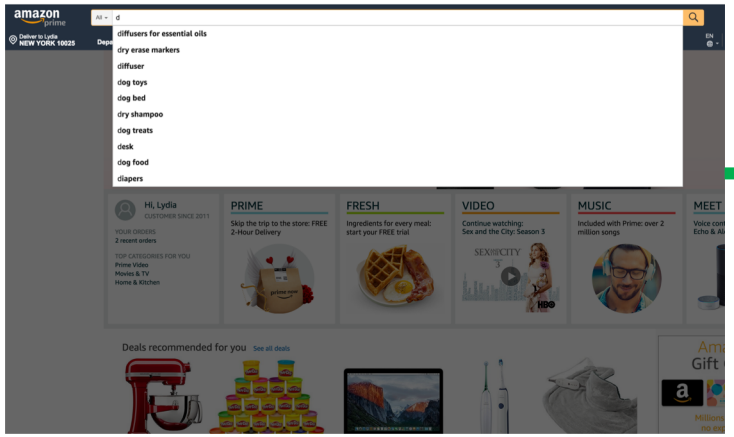
But for complex tasks, there is too much information to fit in one screen.

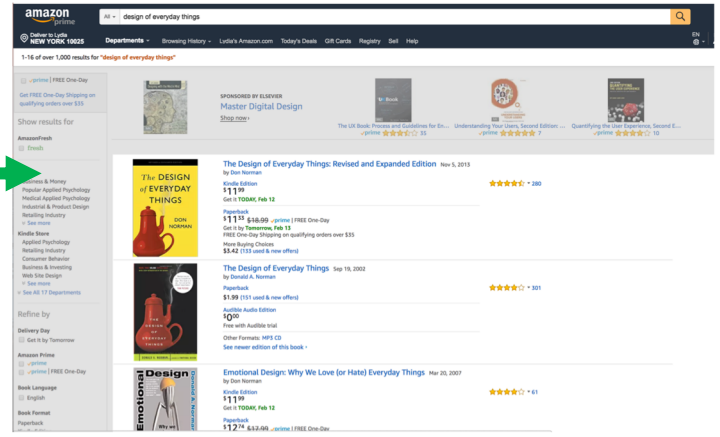
Buying a book on Amazon:

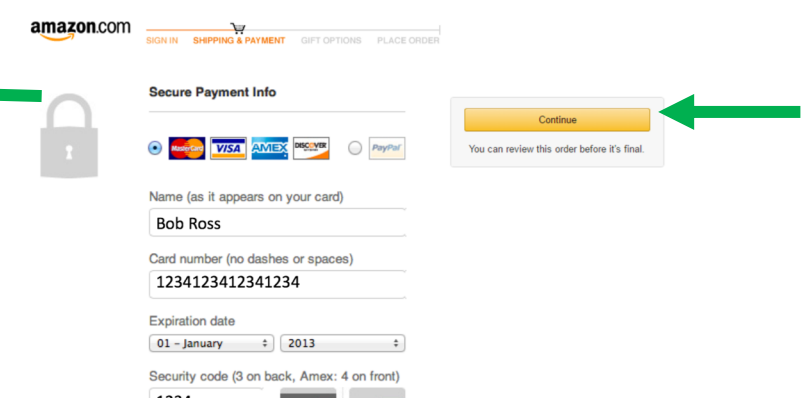
- Search for the book
- Select the edition
- See the reviews
- Look at the index
- How many pages does it have?
- Put it in your cart
- Shop around for other things
- Select a payment method
- Enter payment method information
- Enter shipping information
- Go back and put something else in the cart
- Change to rush delivery
- Remove something from the cart

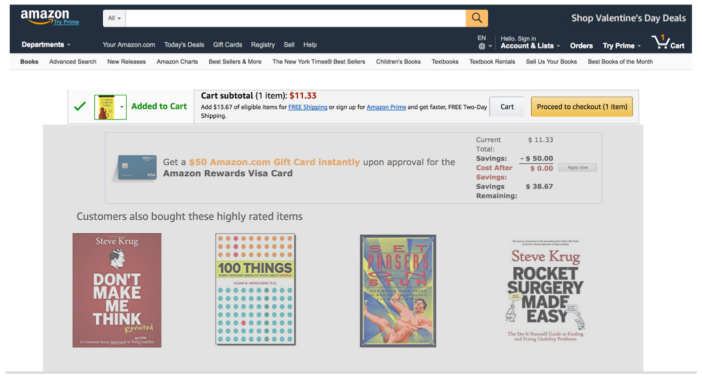
How should we break it up?

For complex goals, break the task into **states**, **options**, and **transitions** to new states.









Think of it like a video game and
You are designing the experience of your user

Examples of

States, Options and Transitions

Goal: **Find** “The Design of Everyday Things”

What **state** am I in?

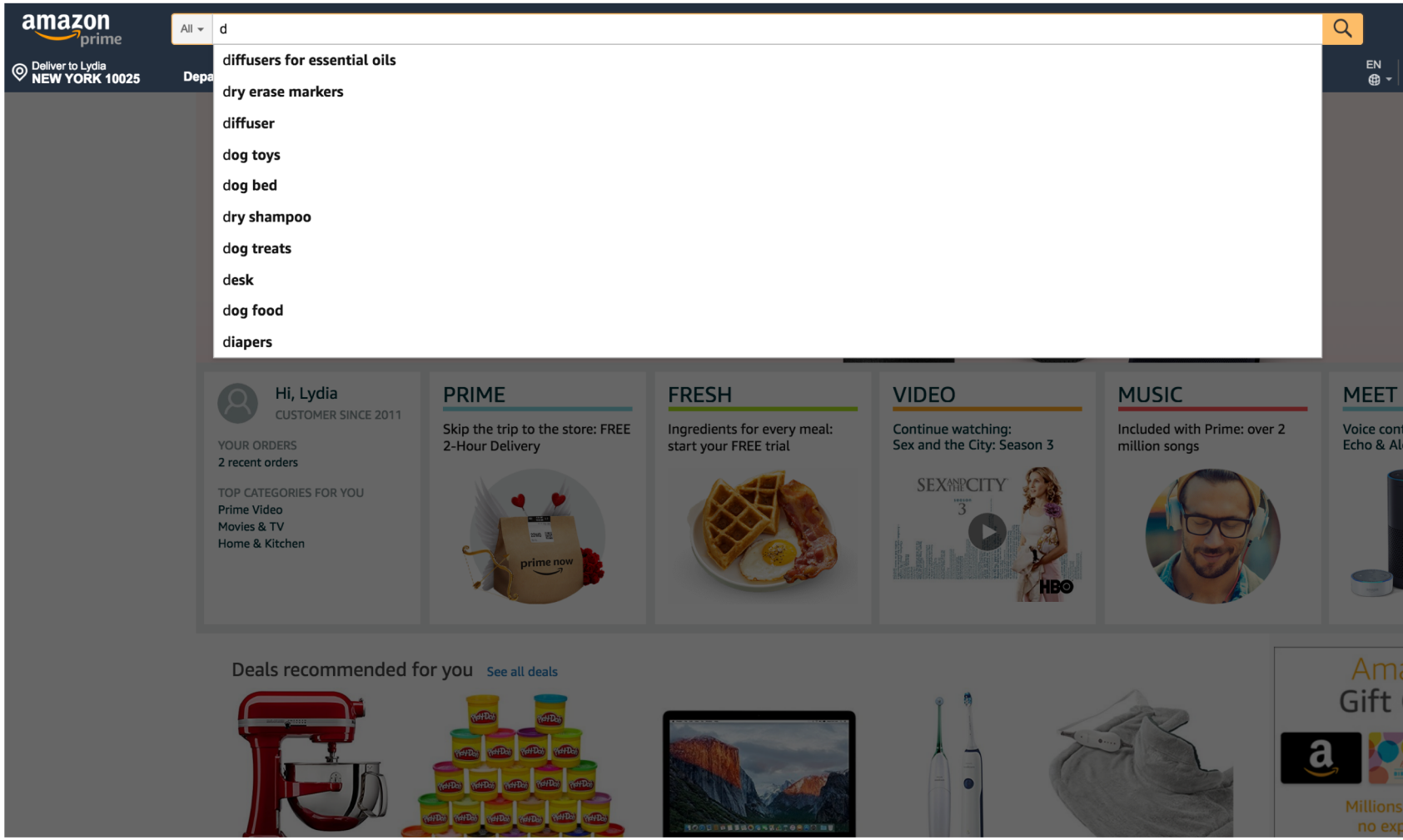
Product Search

What **options** do I have?

All the products

How do I **transition**?

Select an product name



Goal: **find** “The Design of Everyday Things”

What **state** am I in?

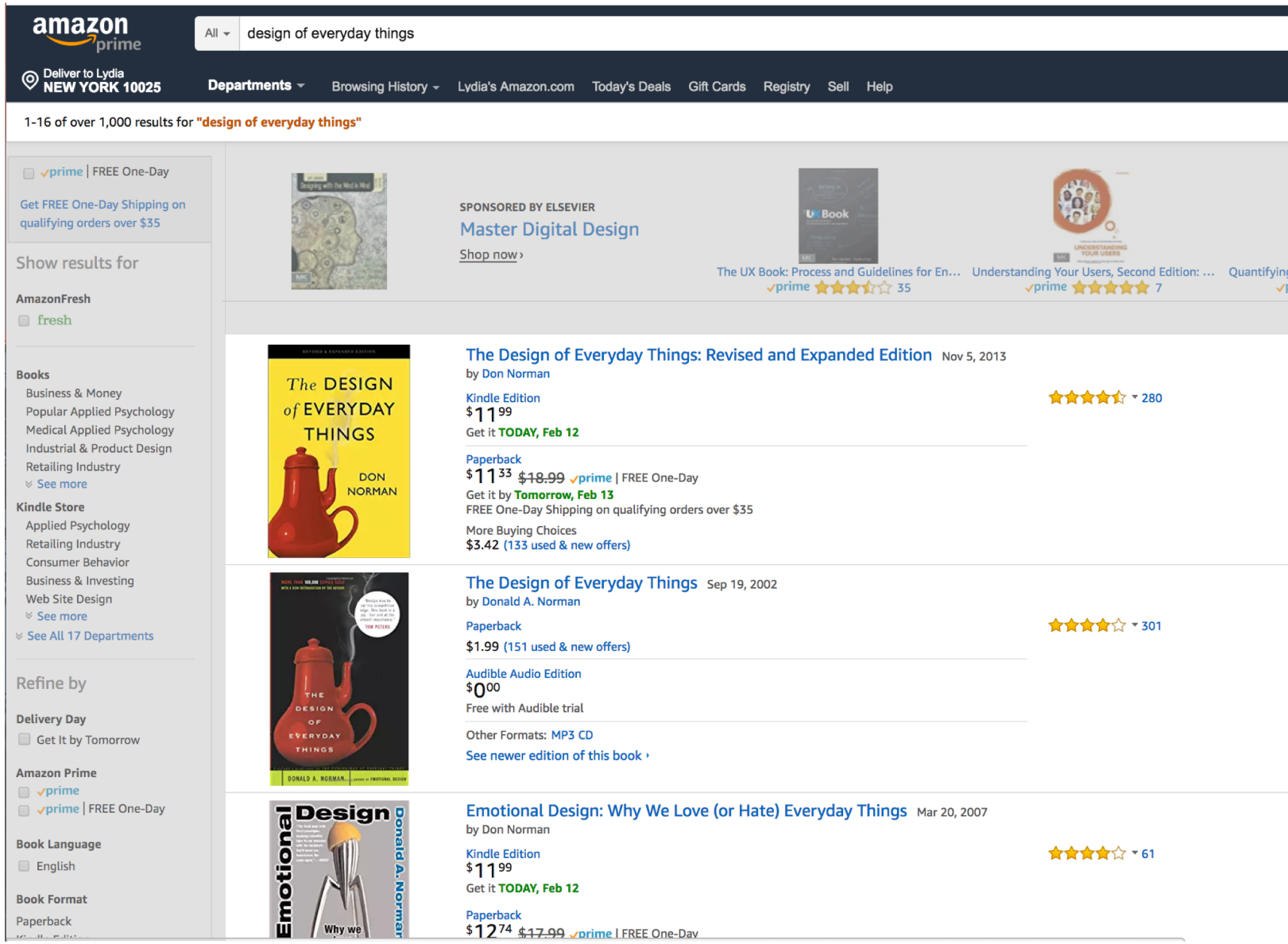
Product search results

What **options** do I have?

All the products – different editions

How do I **transition**?

Select an product name



Goal: **Decide if I'll buy** "The Design of Everyday Things'

What **state** am I in?

Product info page

What **options** do I have?

Kindle/paper back,

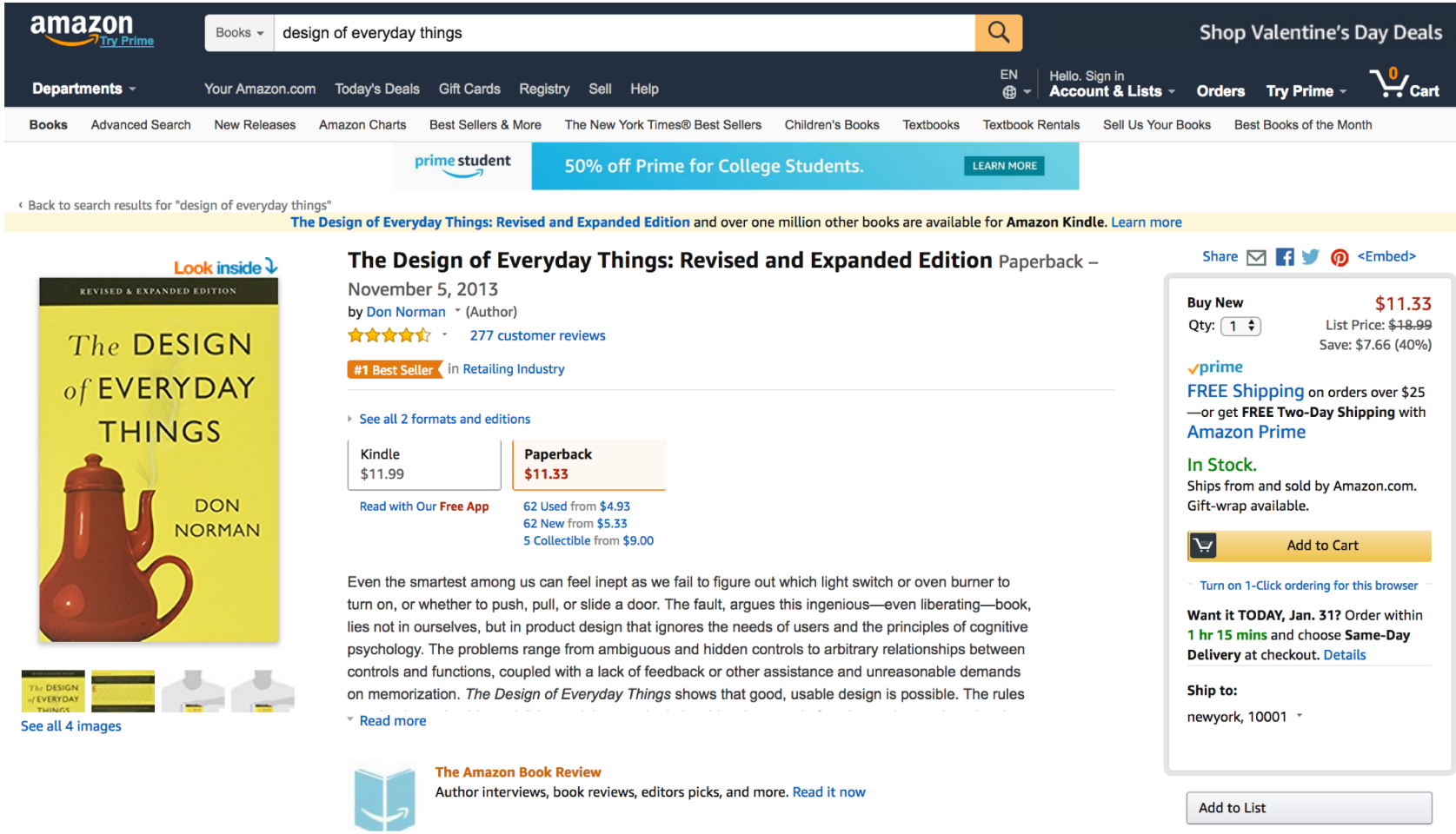
Look in book, reviews

Add to cart

How do I **transition**?

Add to cart OR

Go back



Goal: **Decide** if I'm done.

What **state** am I in?

"Add to cart" feedback

What **options** do I have?

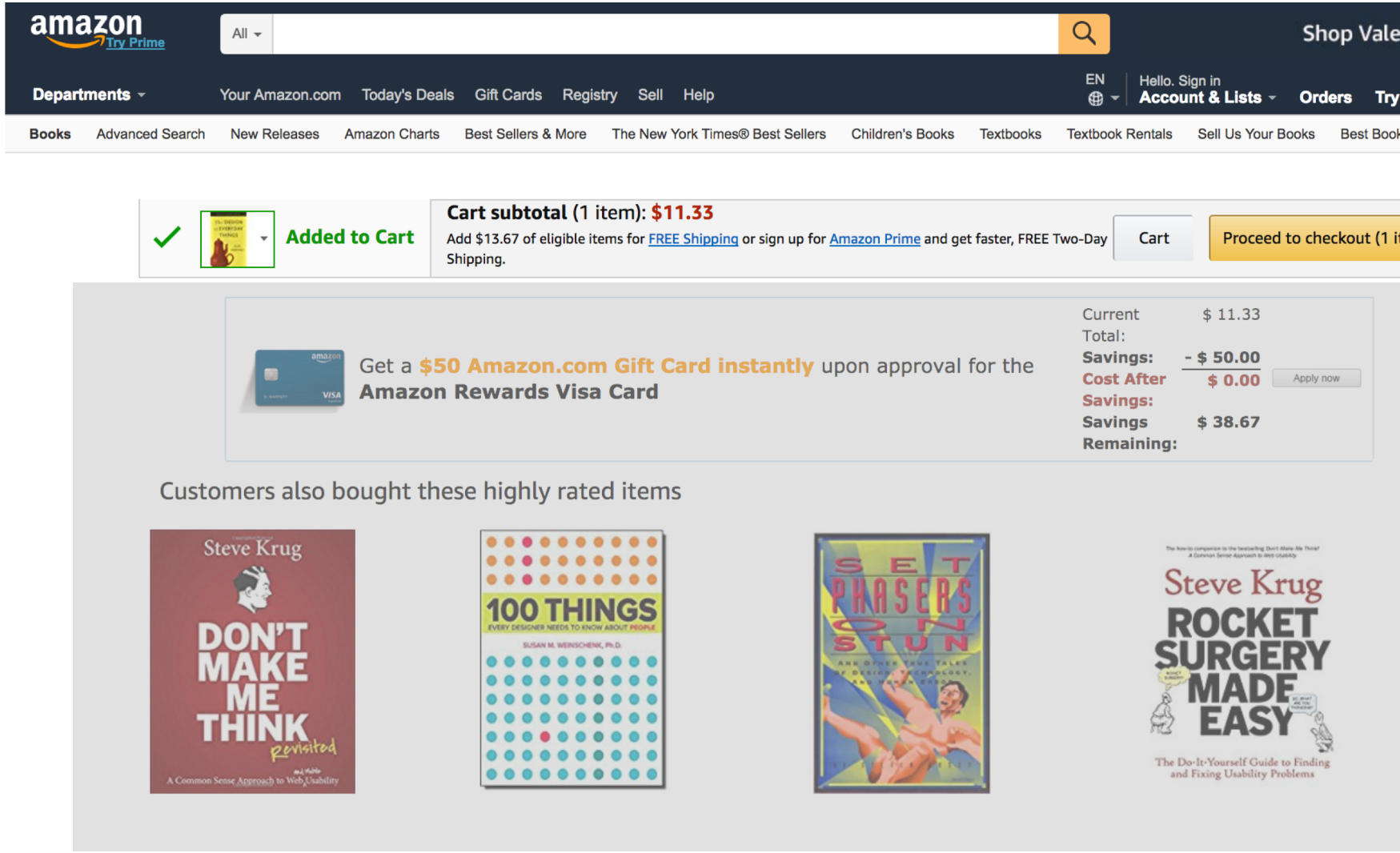
Check out

See cart

Keep shopping

How do I **transition**?

Click one of the options.



Goal: **Pay** for it.

What **state** am I in?

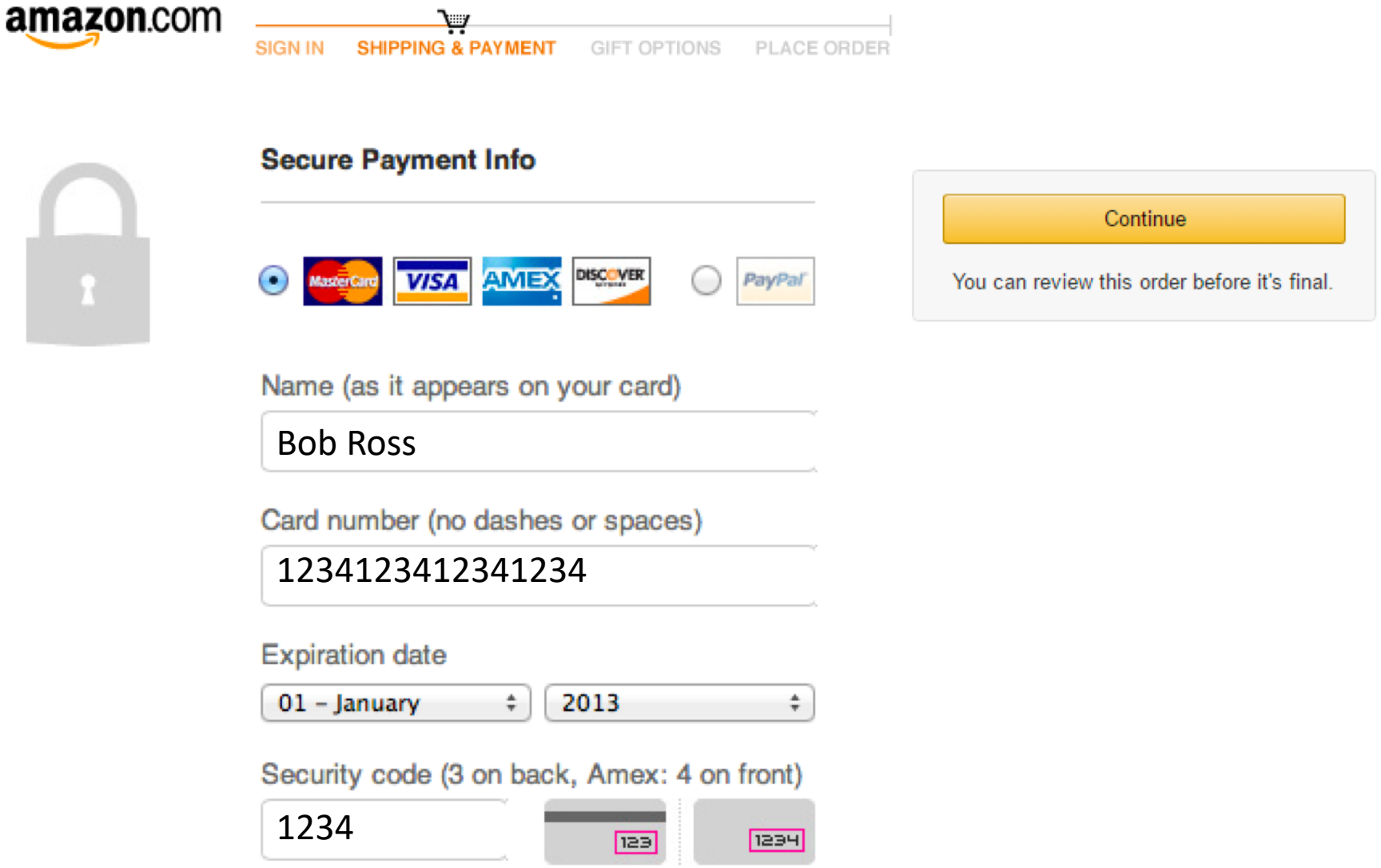
Enter payment

What **options** do I have?

Which payment methods

How do I **transition**?

Press Continue



Goal: **Buy** it.

What **state** am I in?

Review and place order

What **options** do I have?

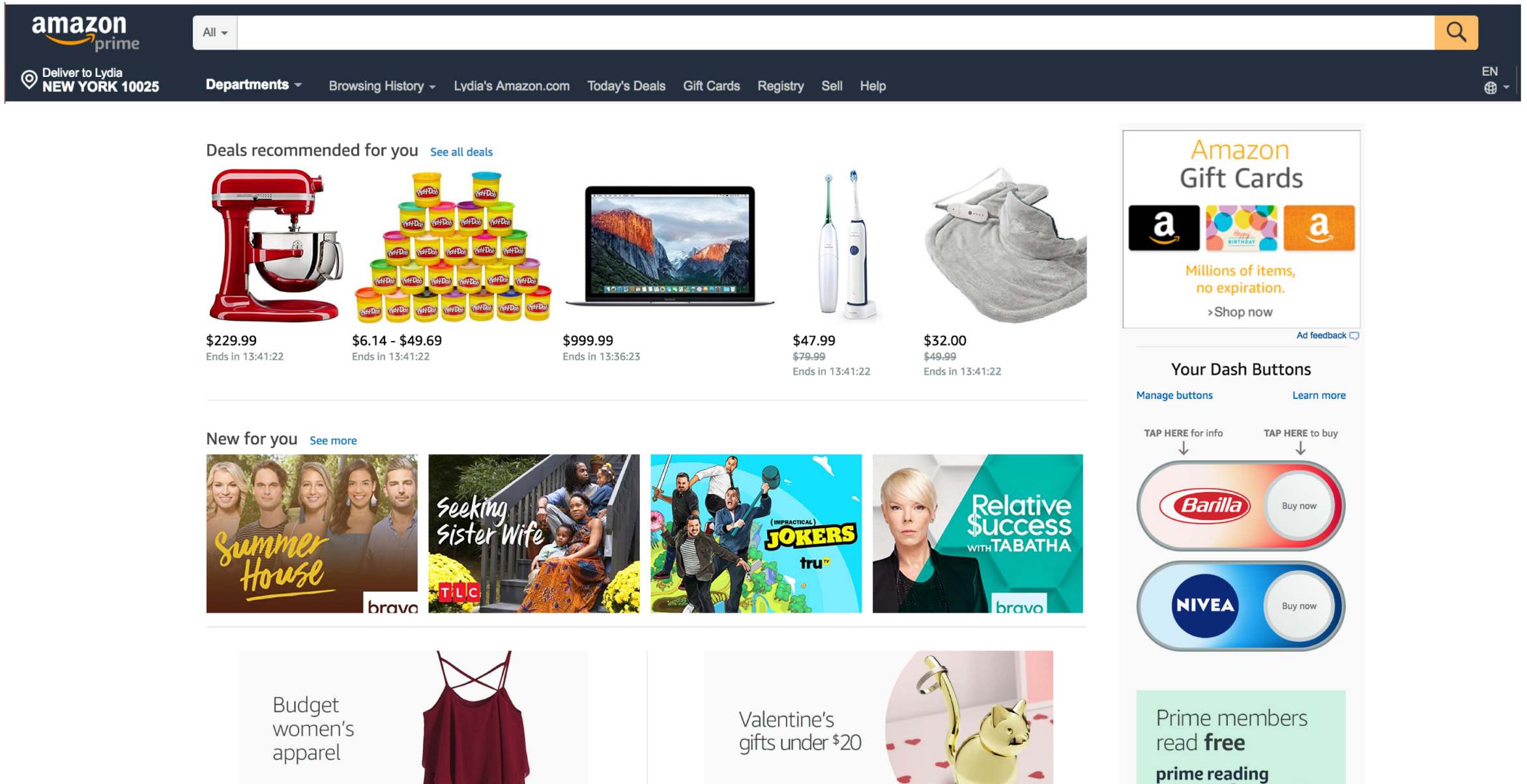
Shipping options,

Change payment options

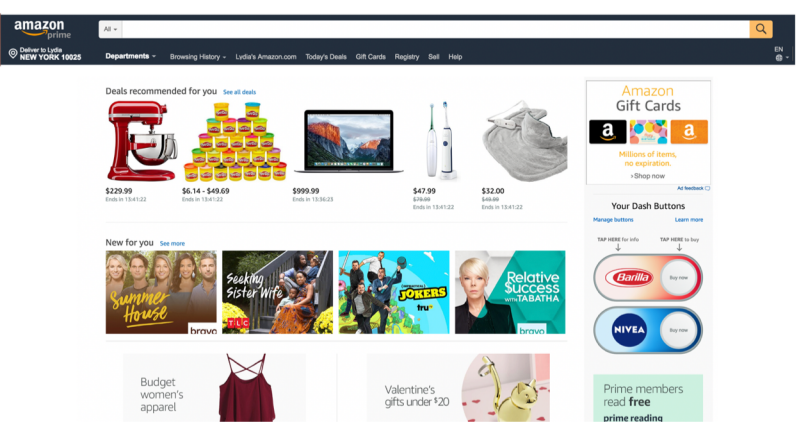
How do I **transition**?

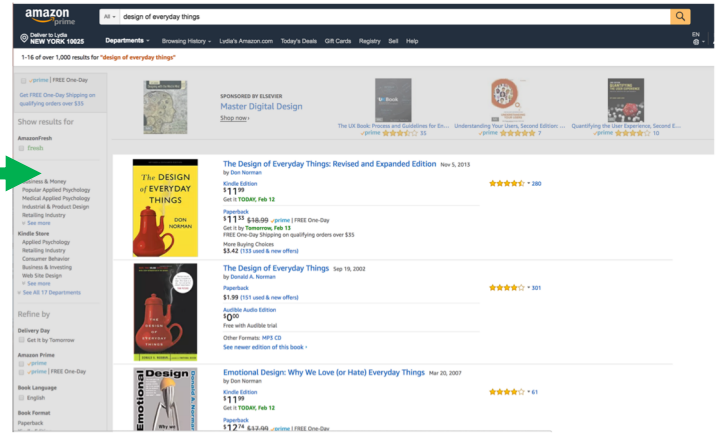
Press “Place your order”

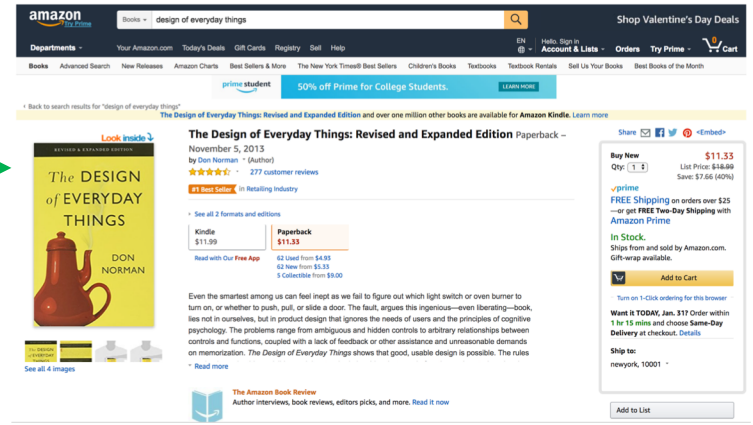
After I buy, what state do I transition to?

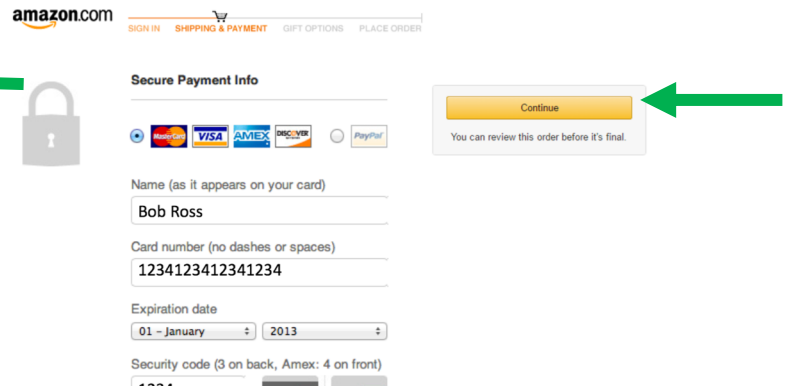


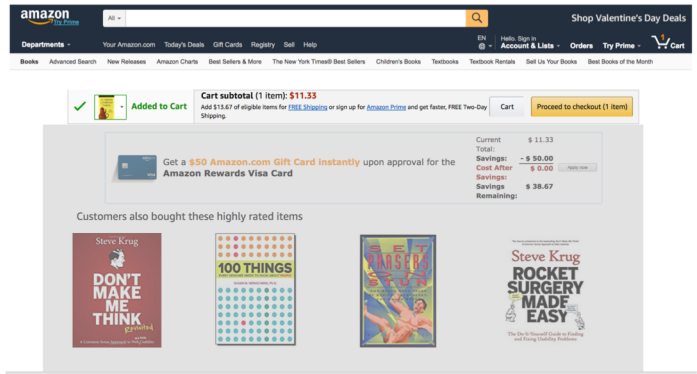
For complex goals, break the task into **states**, **options**, and **transitions** to new states.











Goal: Tell Uber where to find me.

What **state** am I in?

Set pickup location

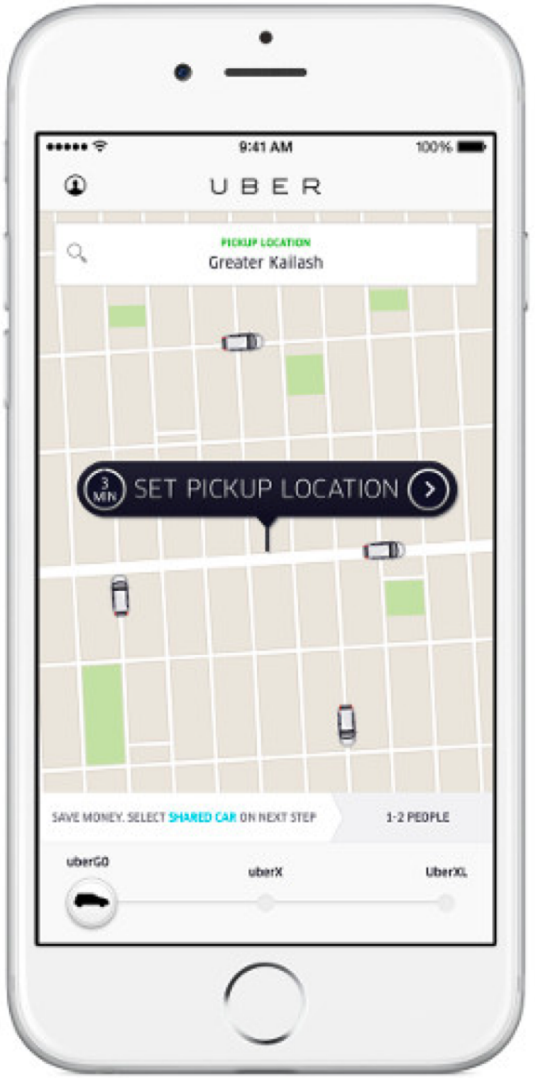
What **options** do I have?

Move pin to different location

What size car: pool/X/XL

How do I **transition**?

Press “Set Pickuplocation”



Goal: Pay for it.

What **state** am I in?

Payment/Confirmation

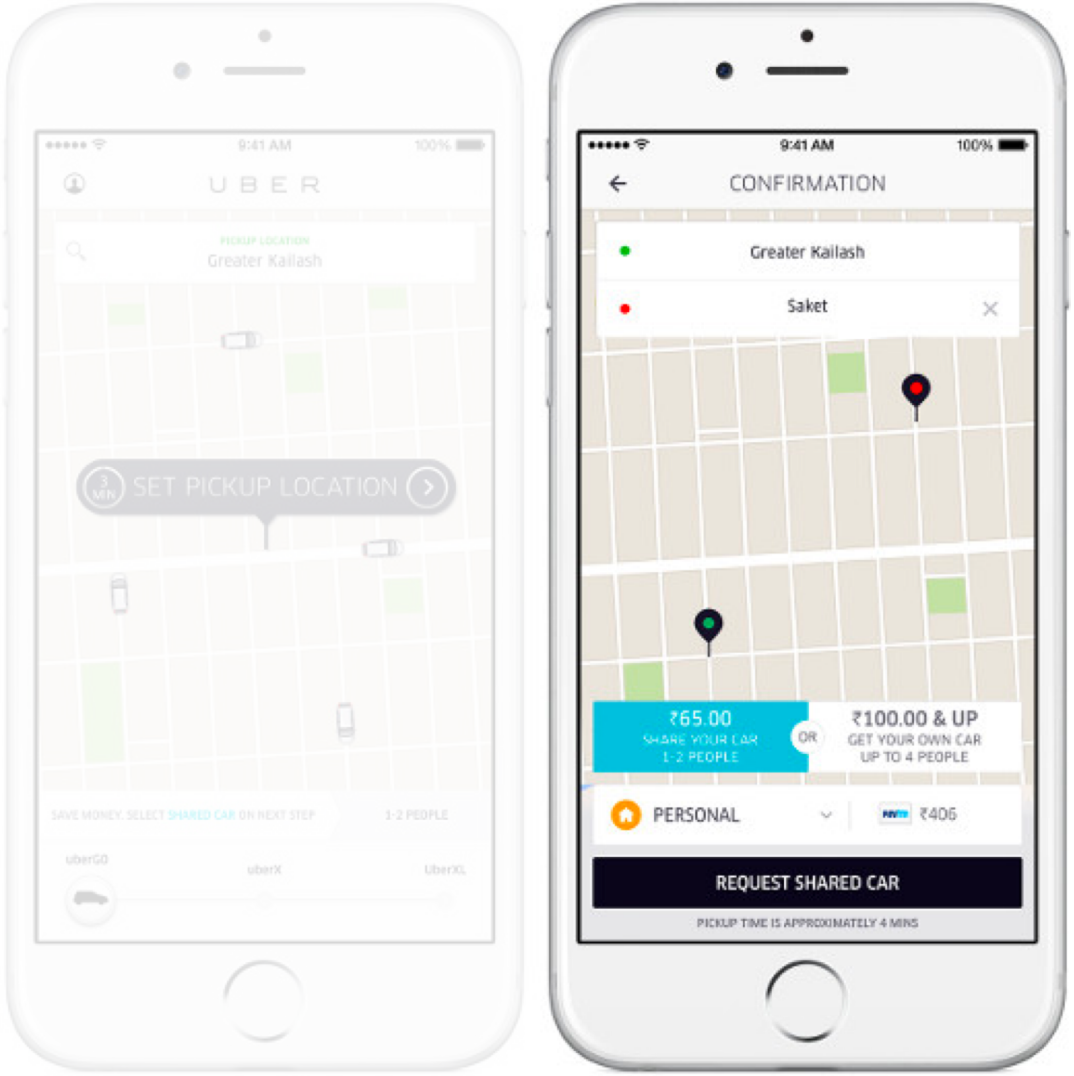
What **options** do I have?

Switch credit cards

Upgrade to your

How do I **transition**?

Press “Request shared car”



Goal: Find car

What **state** am I in?

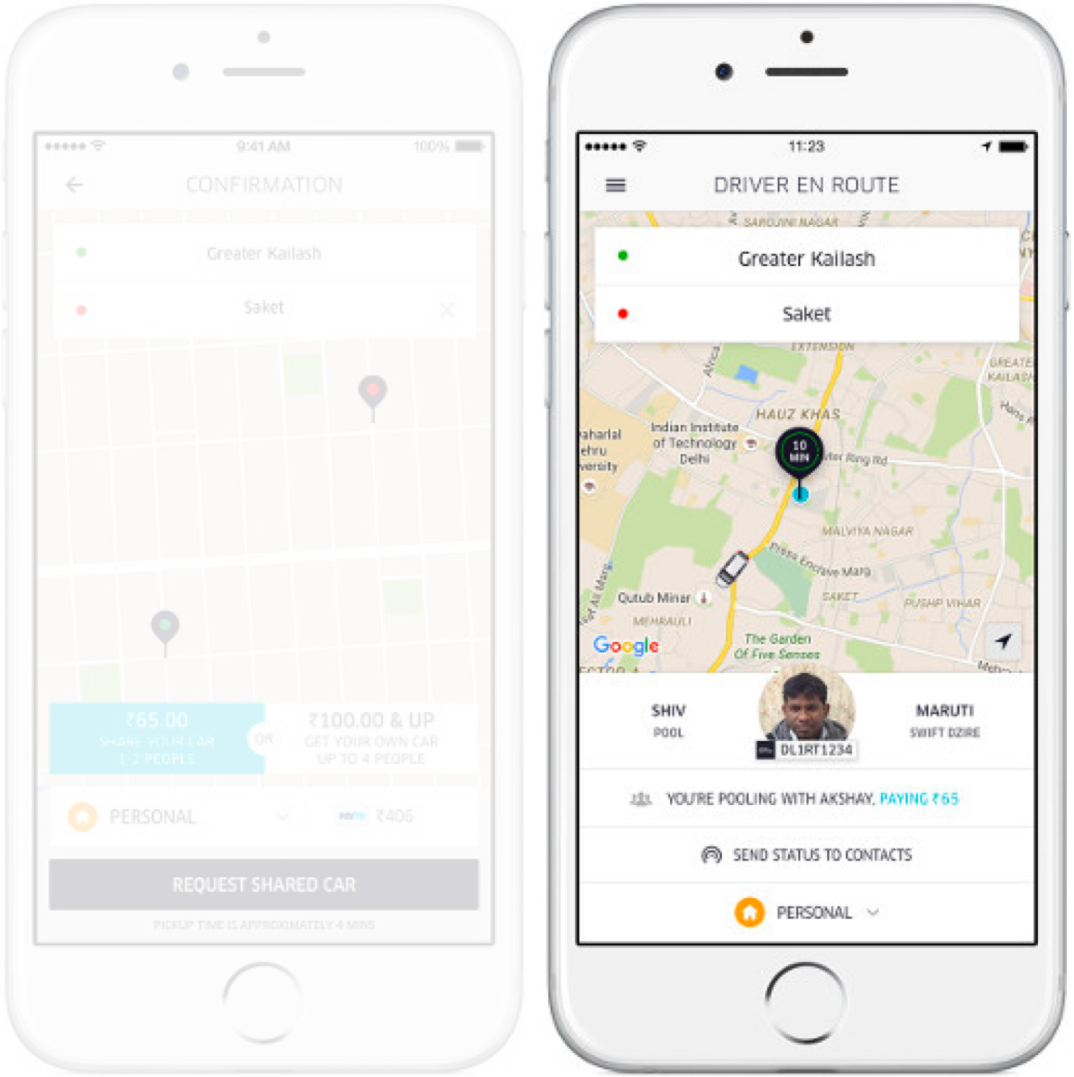
Waiting/”Driver en route”

What **options** do I have?

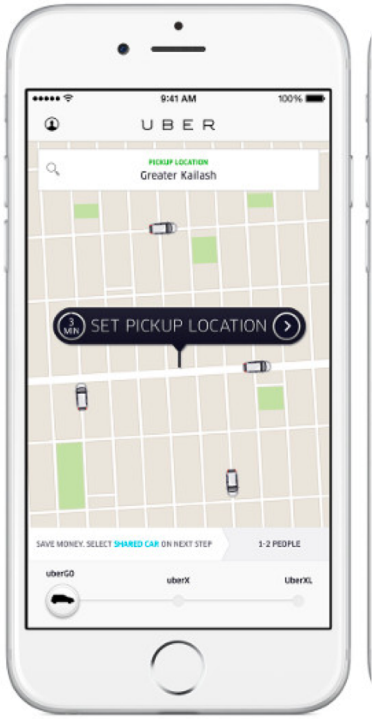
Contact driver

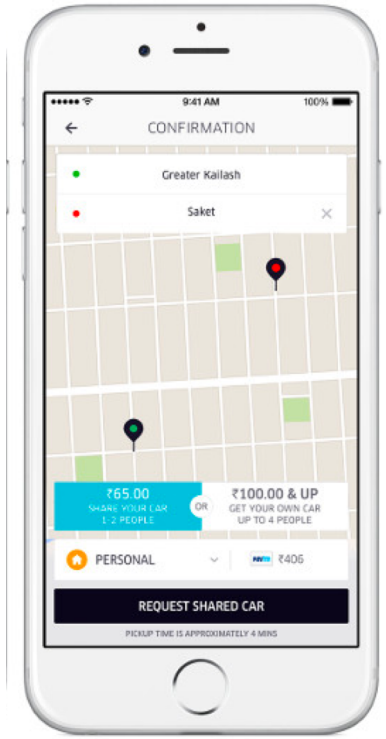
How do I **transition**?

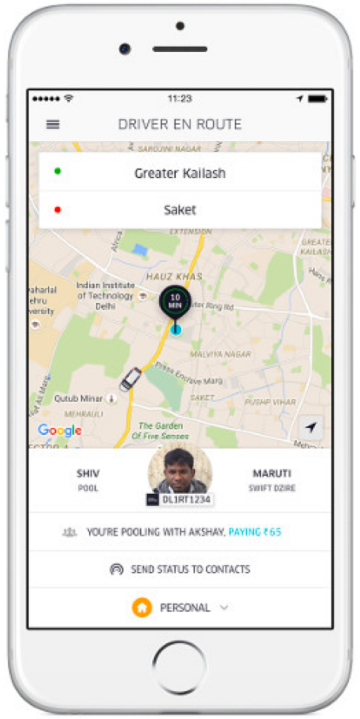
Just wait



For complex goals, break the task into **states**, **options**, and **transitions** to new states.







Goal: Change the font

What **state** am I in?

Selected Text

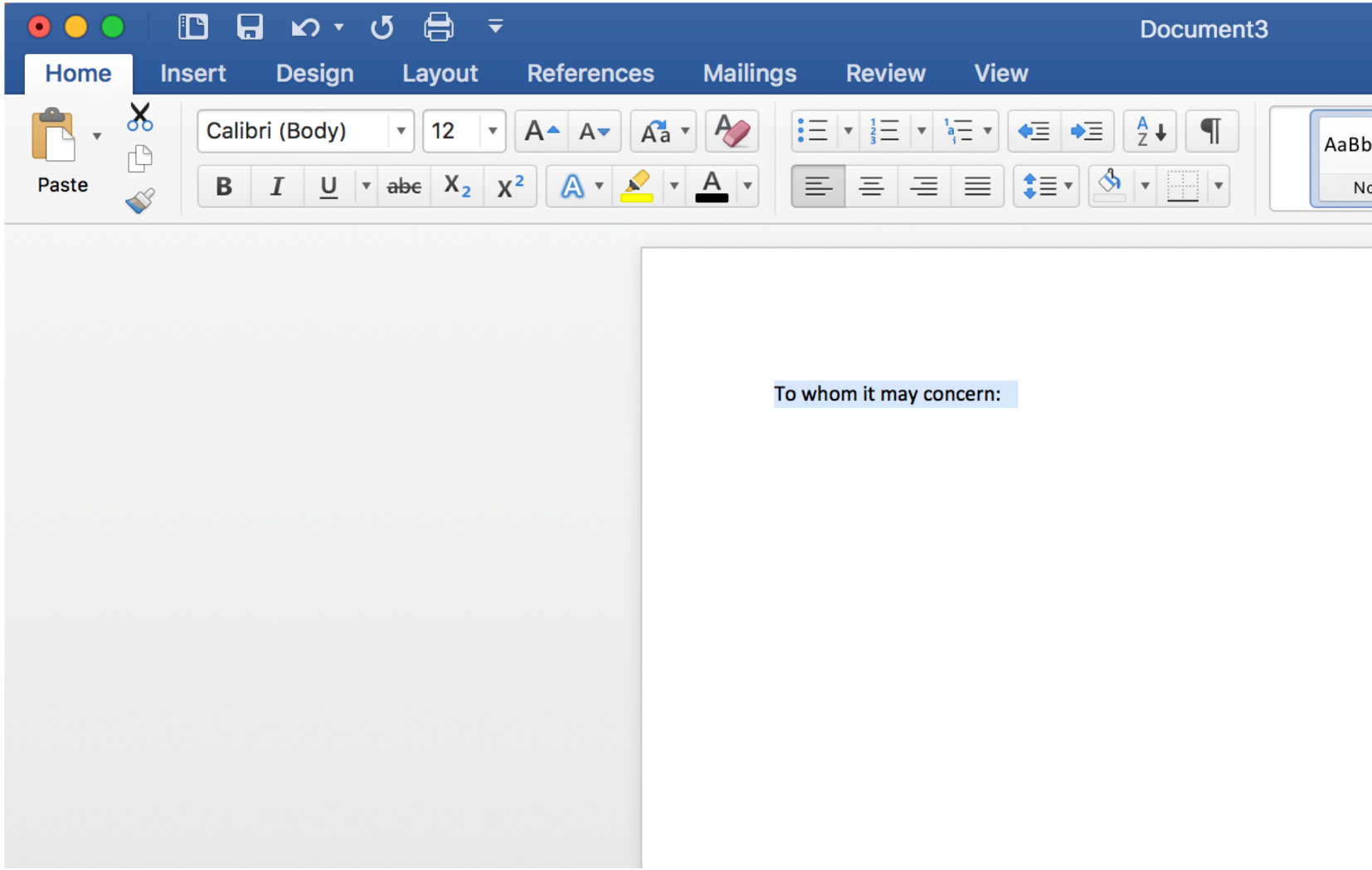
What **options** do I have?

All the menu options –

Font, size, color, bullet pts

How do I **transition**?

Click on the document



Goal: Find a font I like

What **state** am I in?

Font selection

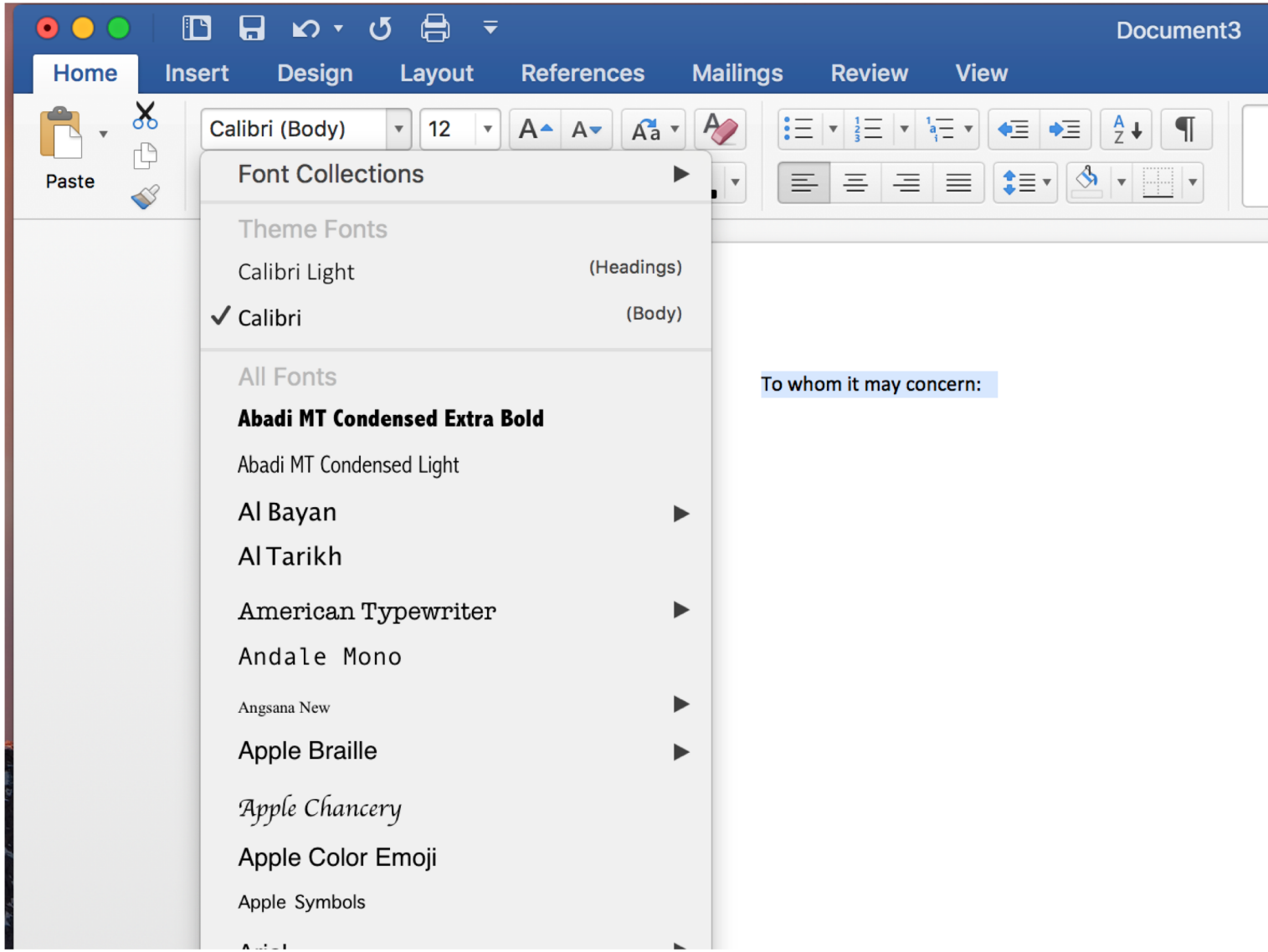
What **options** do I have?

Hundreds of fonts

How do I **transition**?

Select a font OR

Click outside the font menu.



Goal: ?

What **state** am I in?

Selected Text

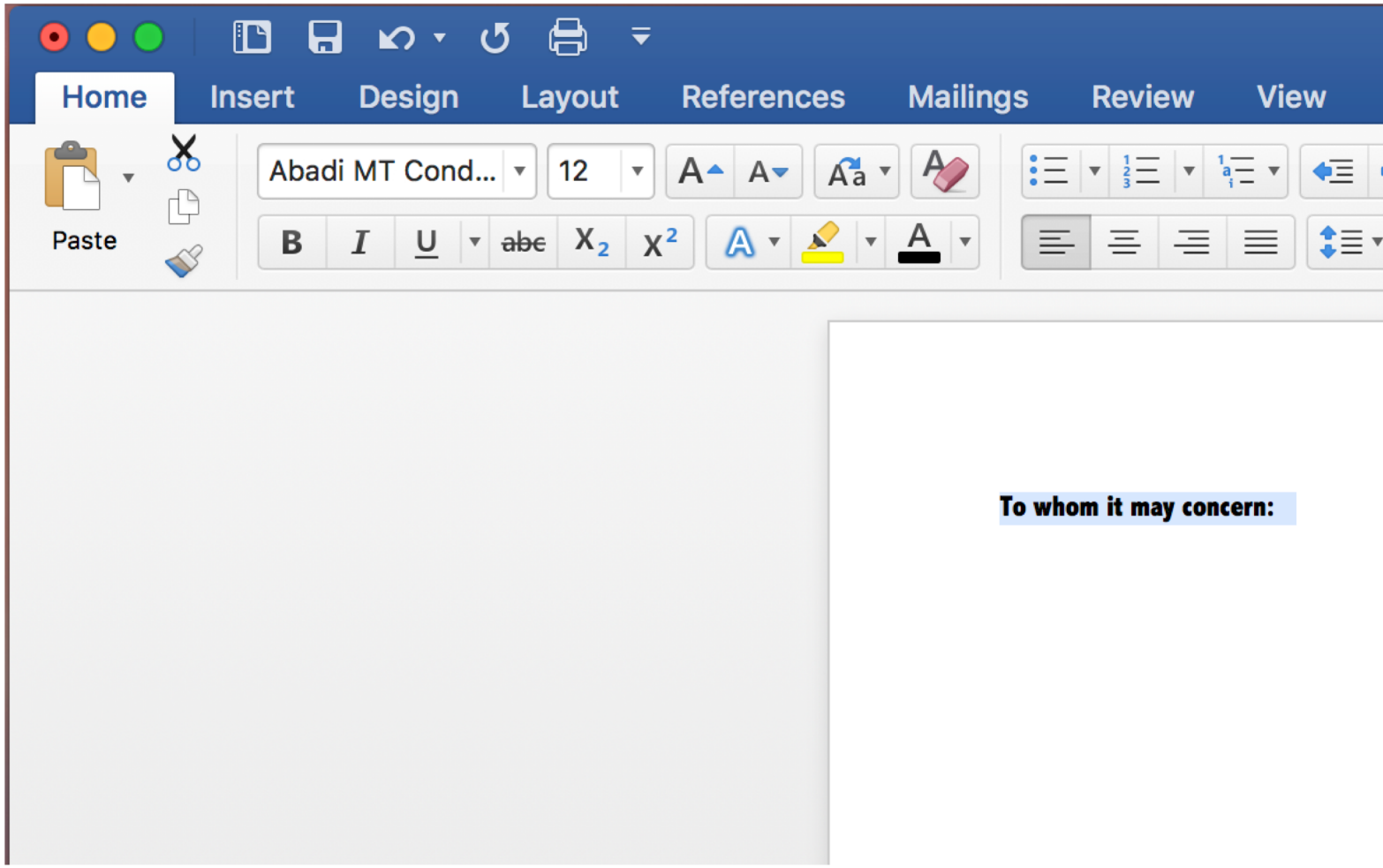
What **options** do I have?

All the menu options

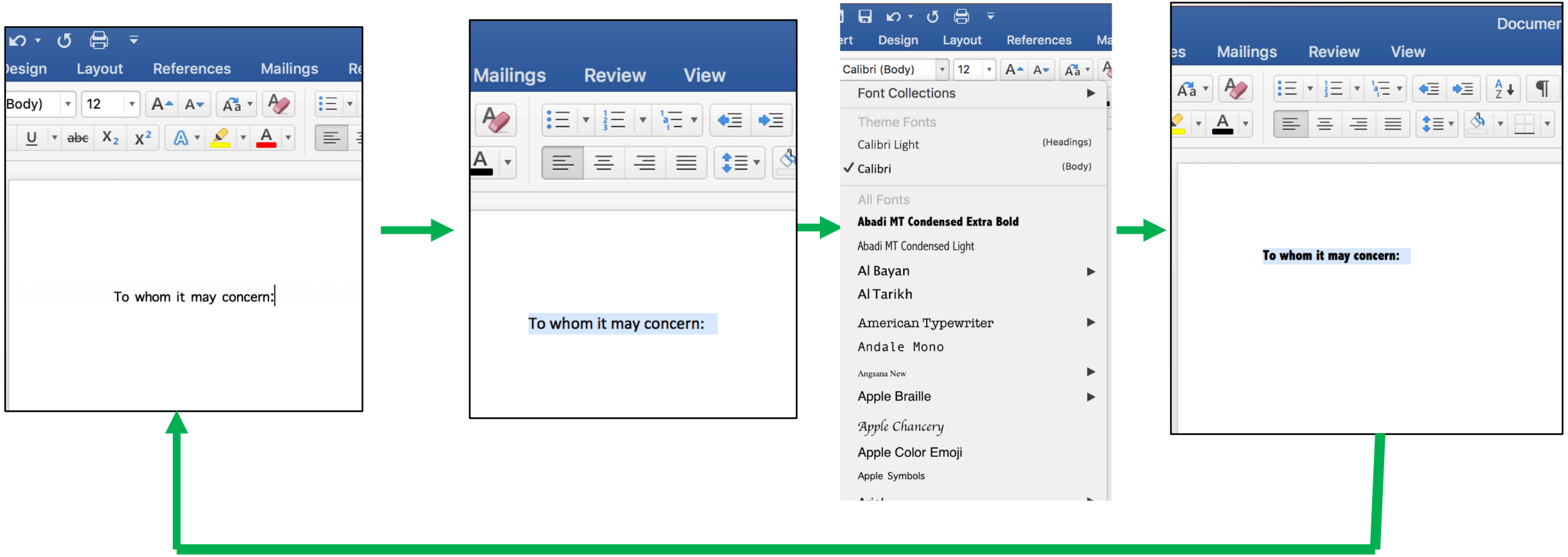
How do I **transition**?

Select a new menu option OR

Click outside the selection

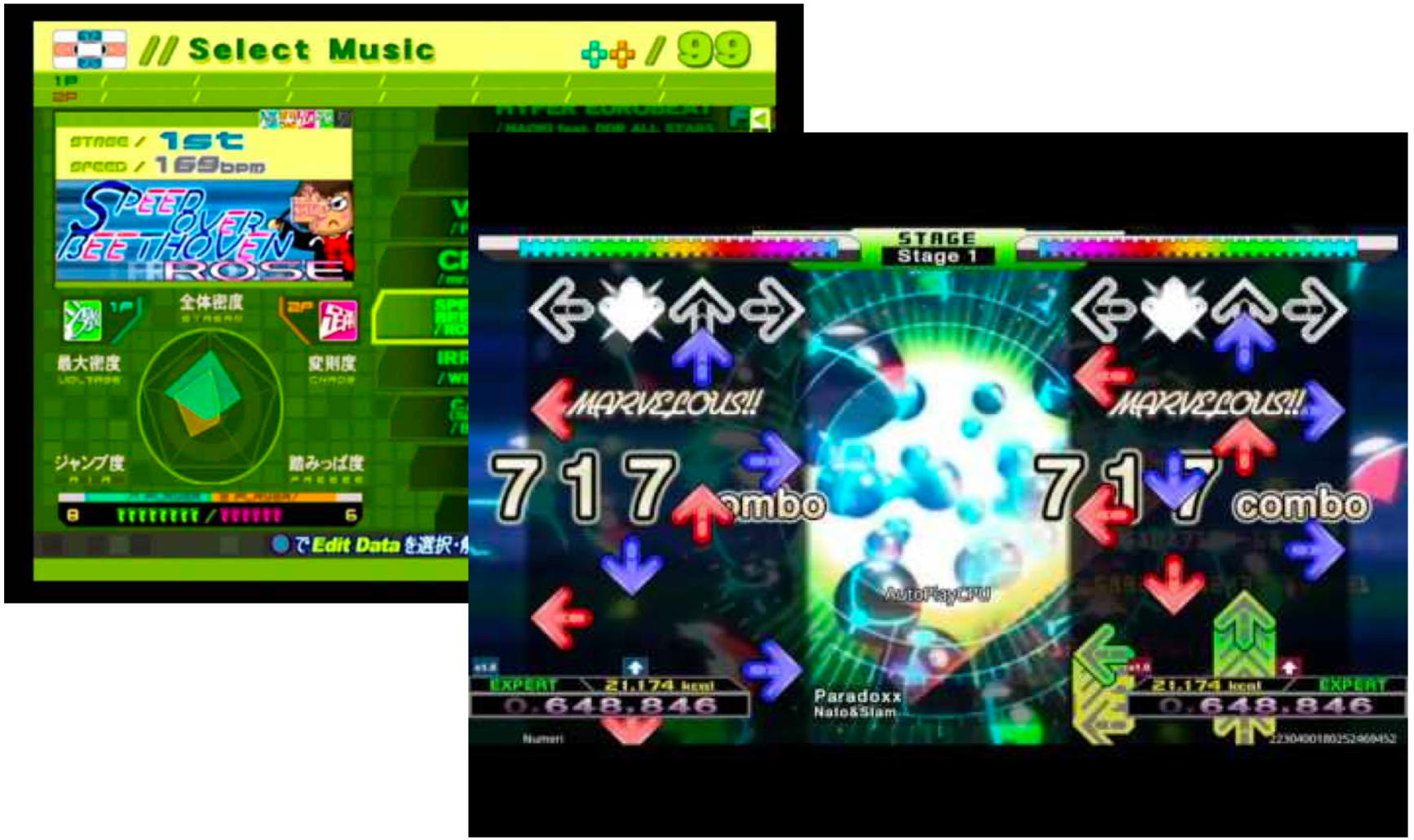


For complex goals, break the task into **states**, **options**, and **transitions** to new states.

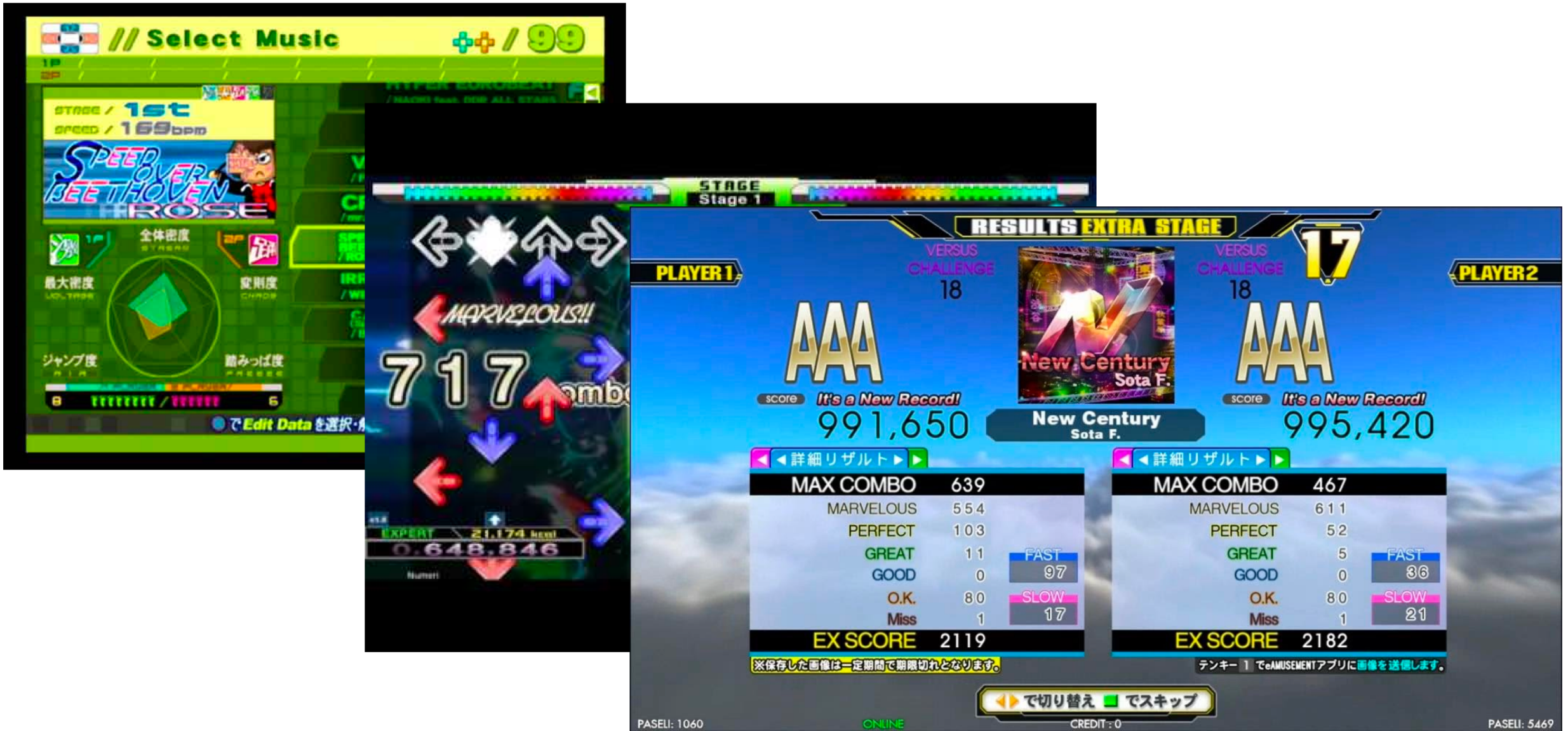


DDR: What state are we in?
What are the options in this state?

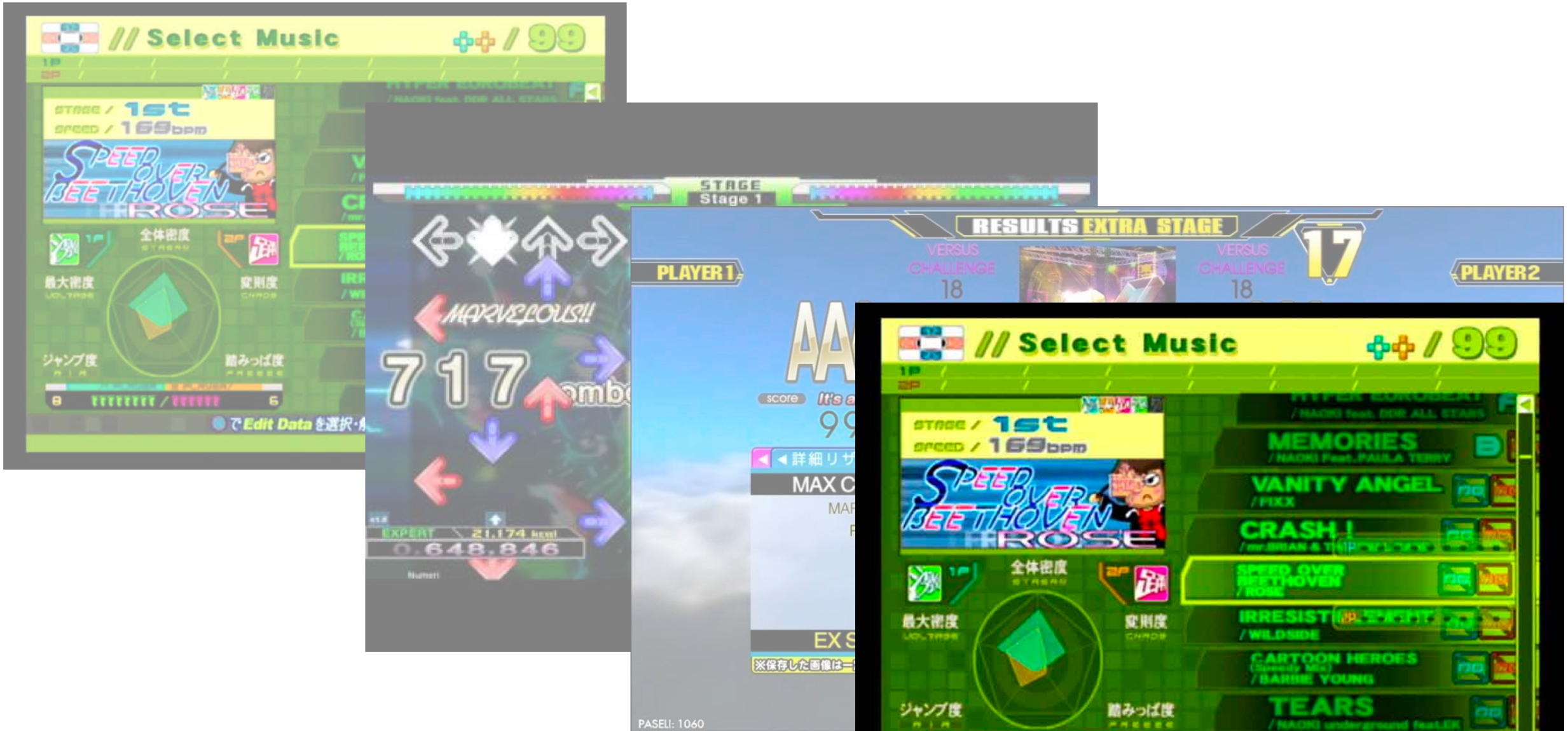
DDR: What state are we in?



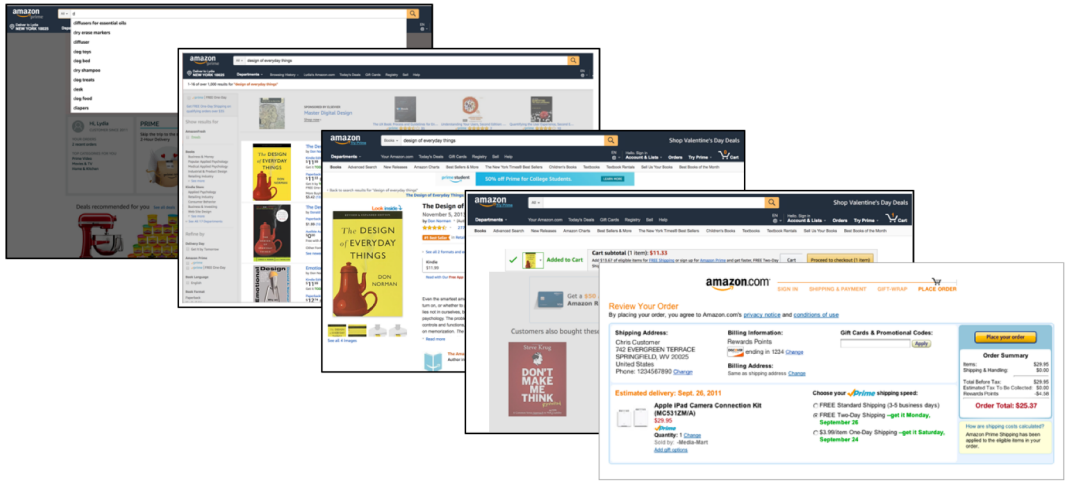
DDR: What state are we in?
What state will we transition to?

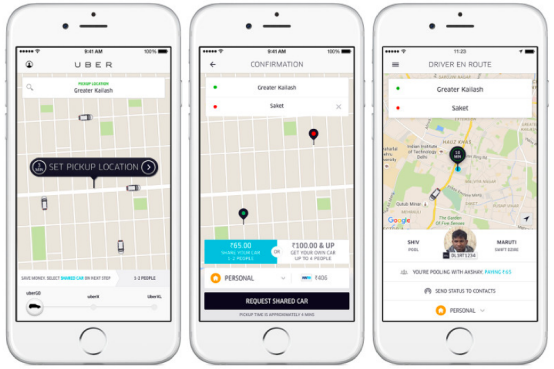


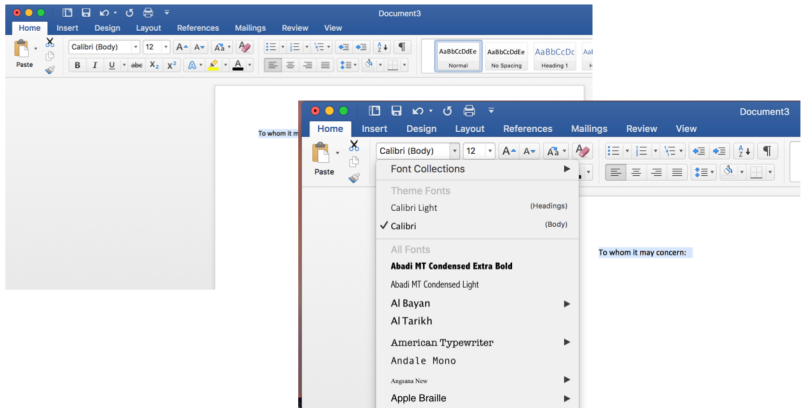
DDR: Returns users to the song selection state.

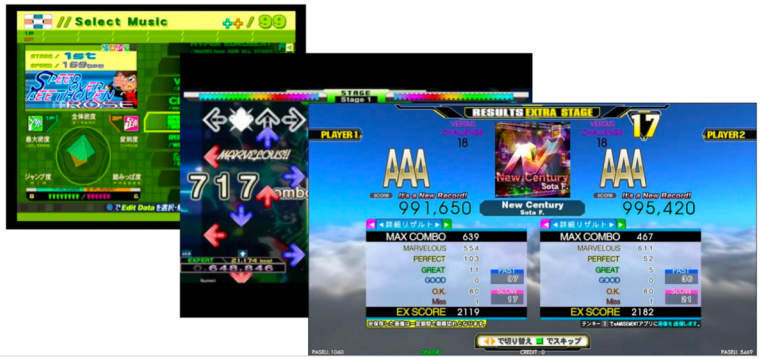


When you have too much information for one screen, **design states, options and transitions** for the user to navigate through to complete their goal.



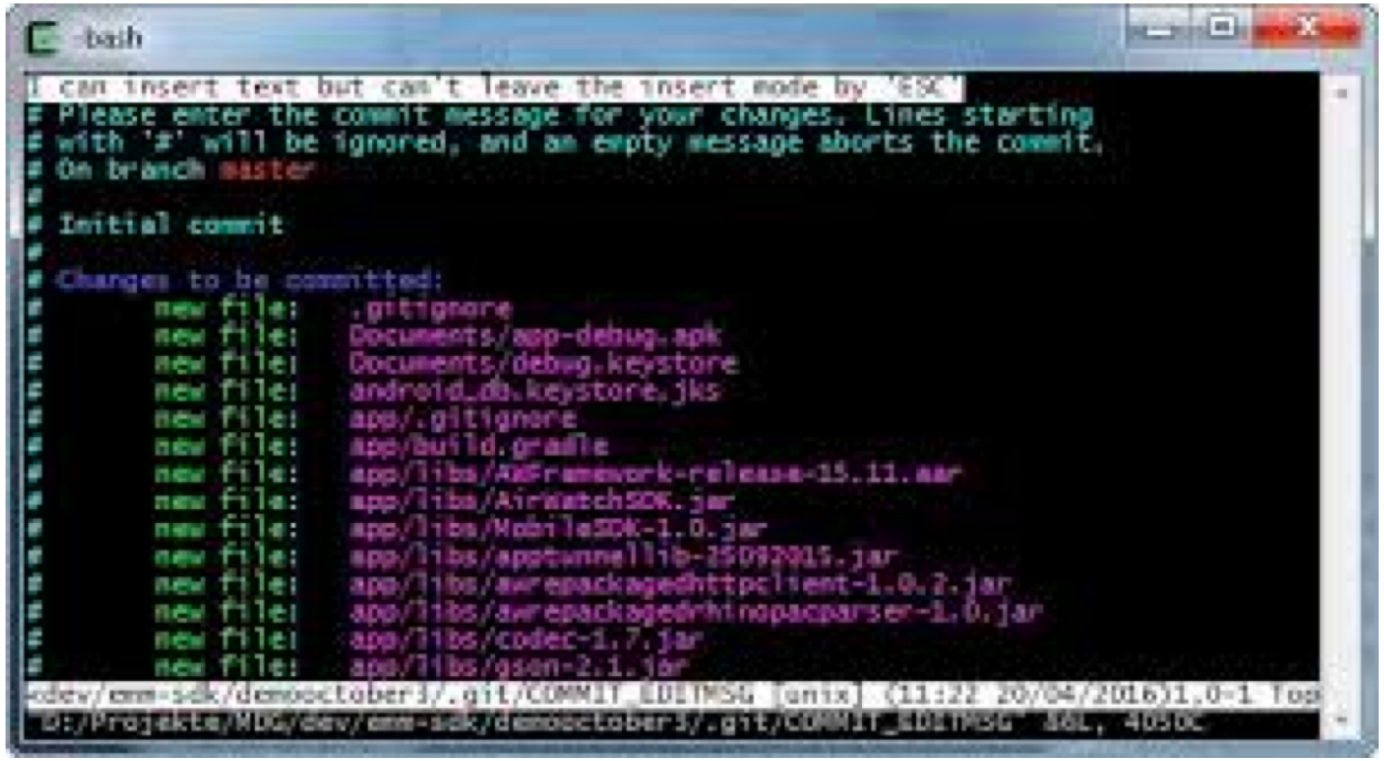


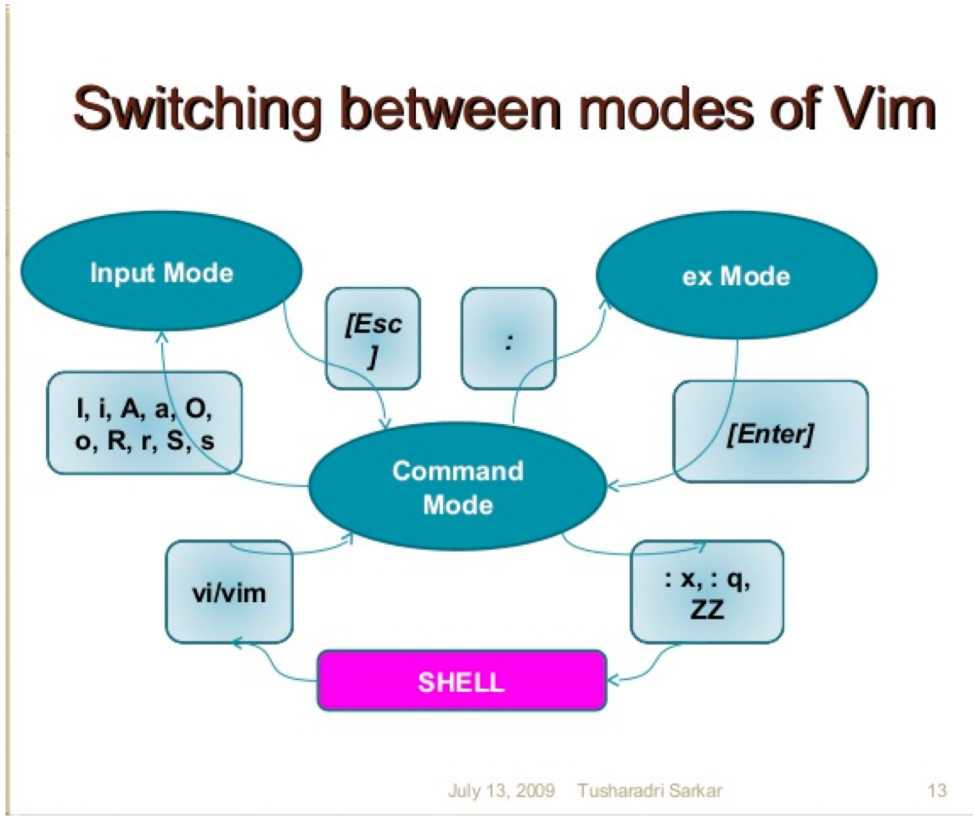




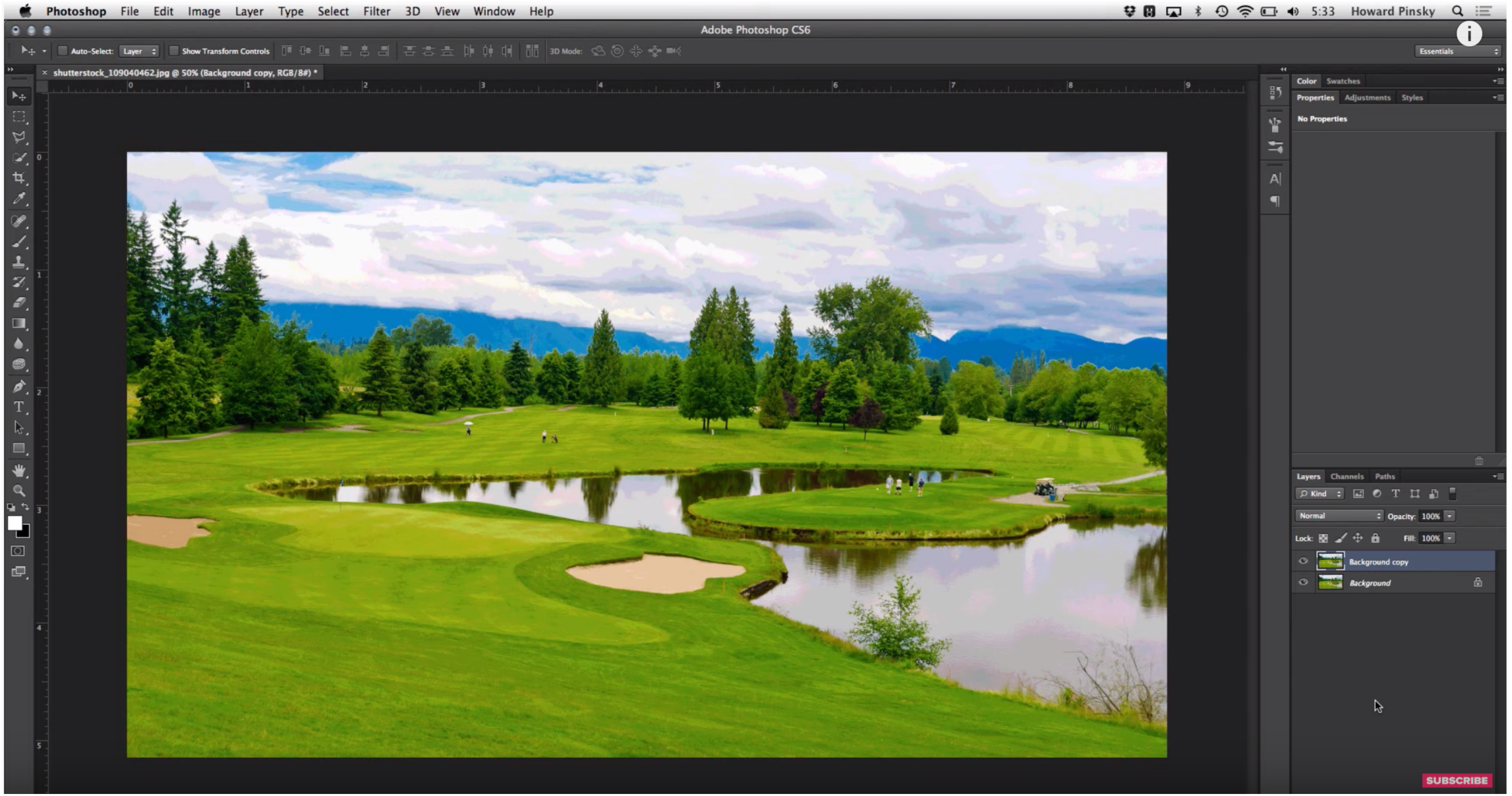
How NOT to structure navigation

What goes wrong in this interface? Why?





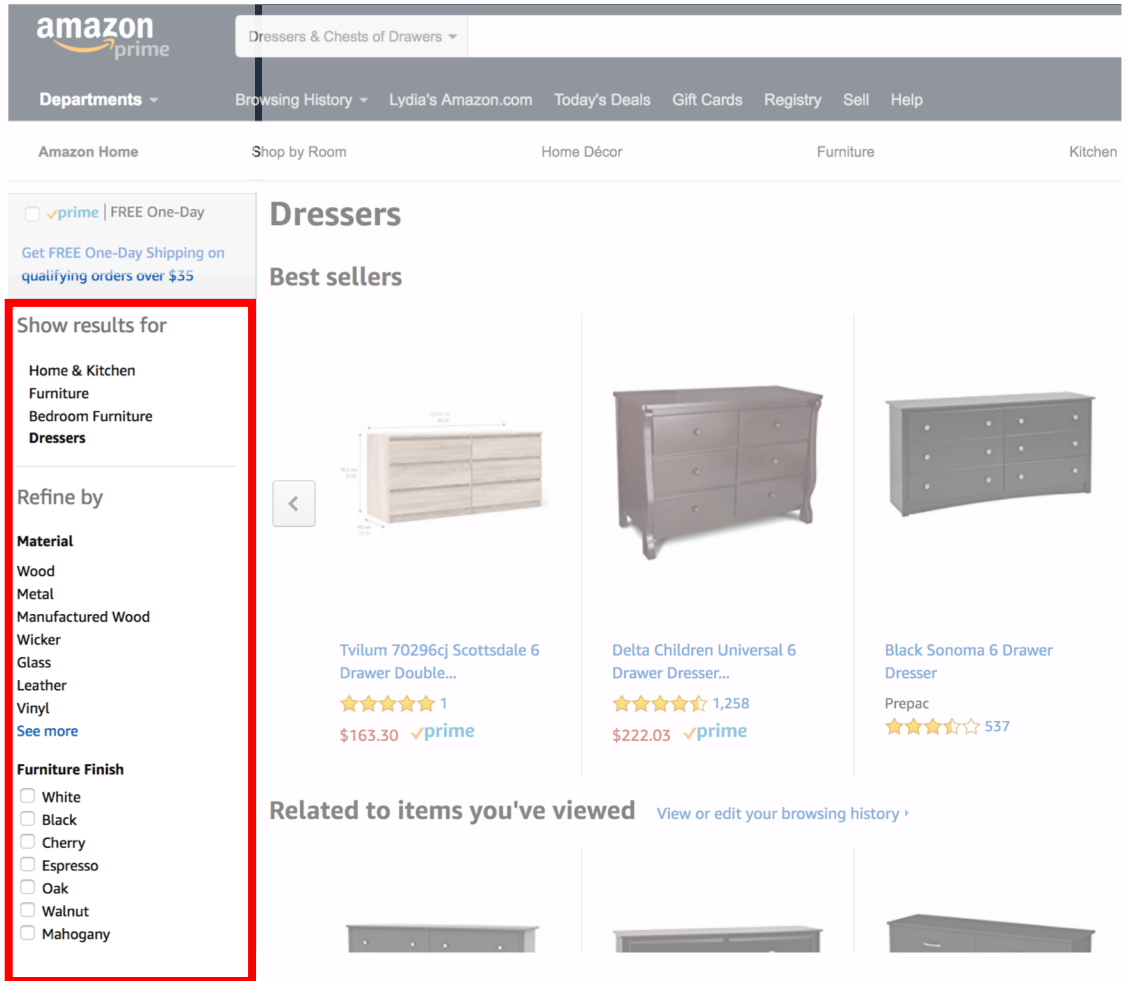
https://www.youtube.com/watch?v=s28g41tSkGg



What usability heuristics does this violate?

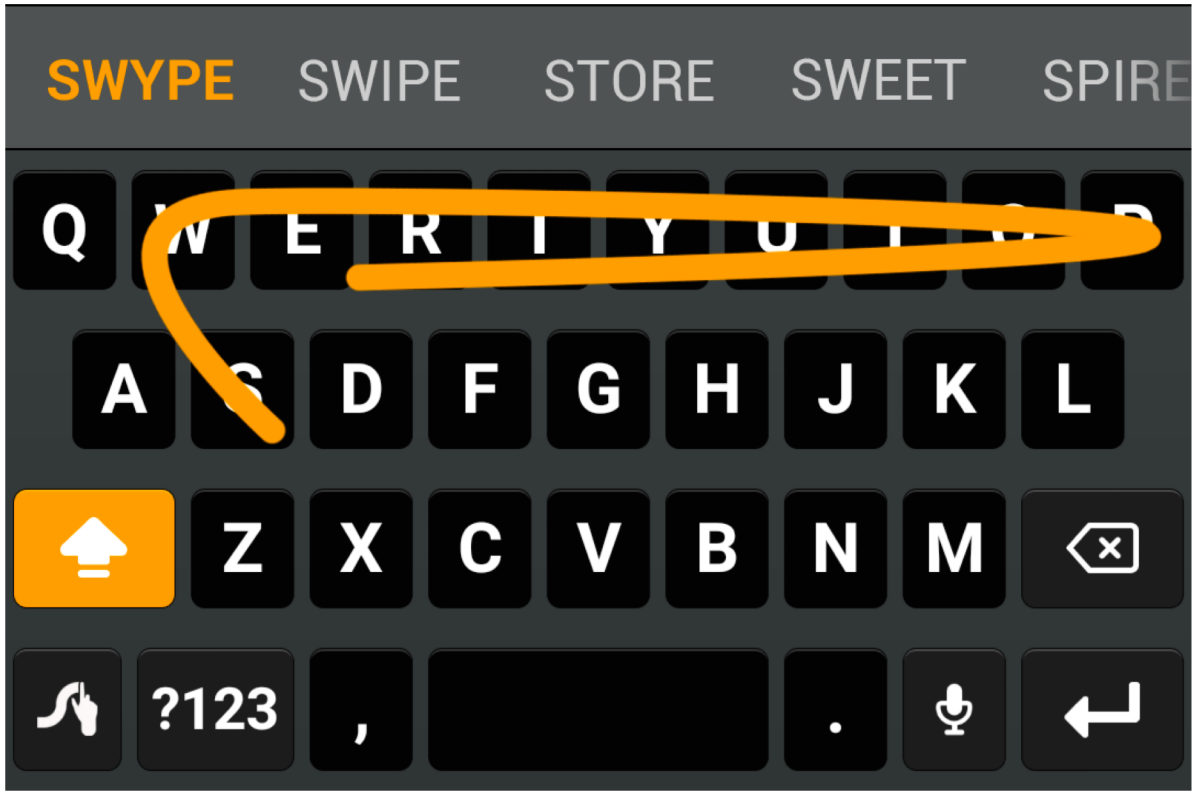
3. User control and freedom (Navigation)

Users often choose system functions by mistake and will need easy ways to fix the mistakes. Support undo and redo.



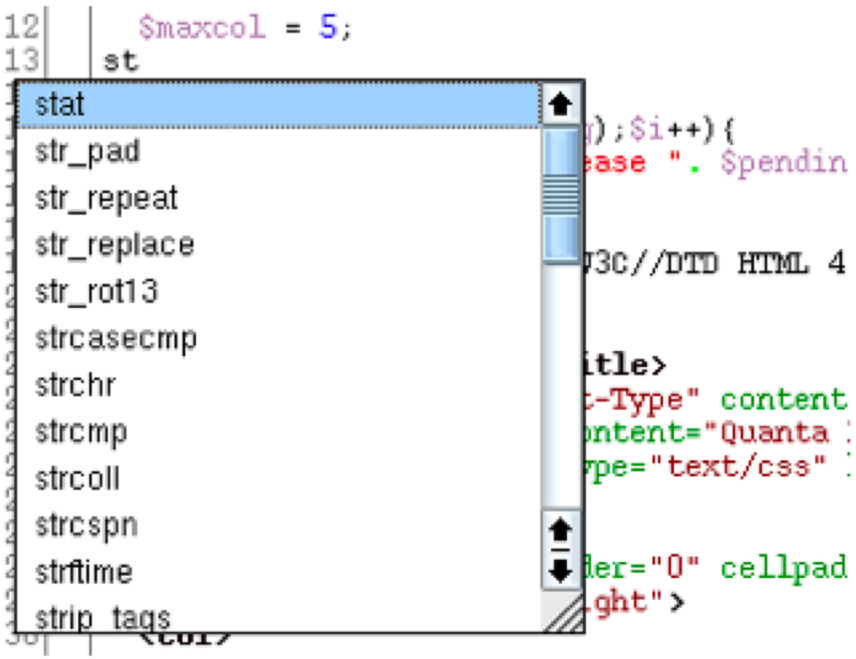
7. Flexibility and efficiency of use

Accelerators — unseen by the novice user — may often speed up the interaction for the expert. Allow users to tailor frequent actions.



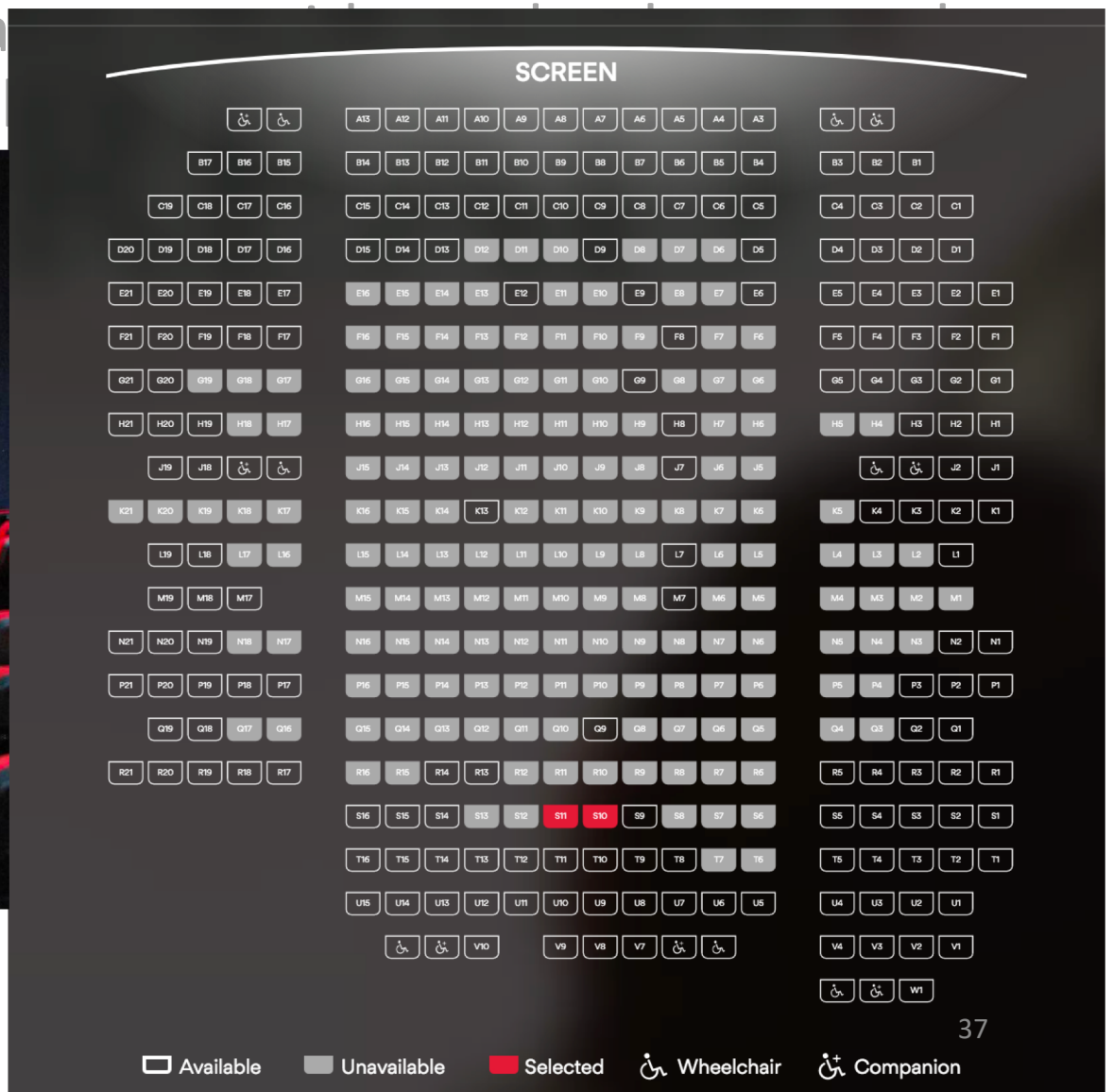
6. Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another.



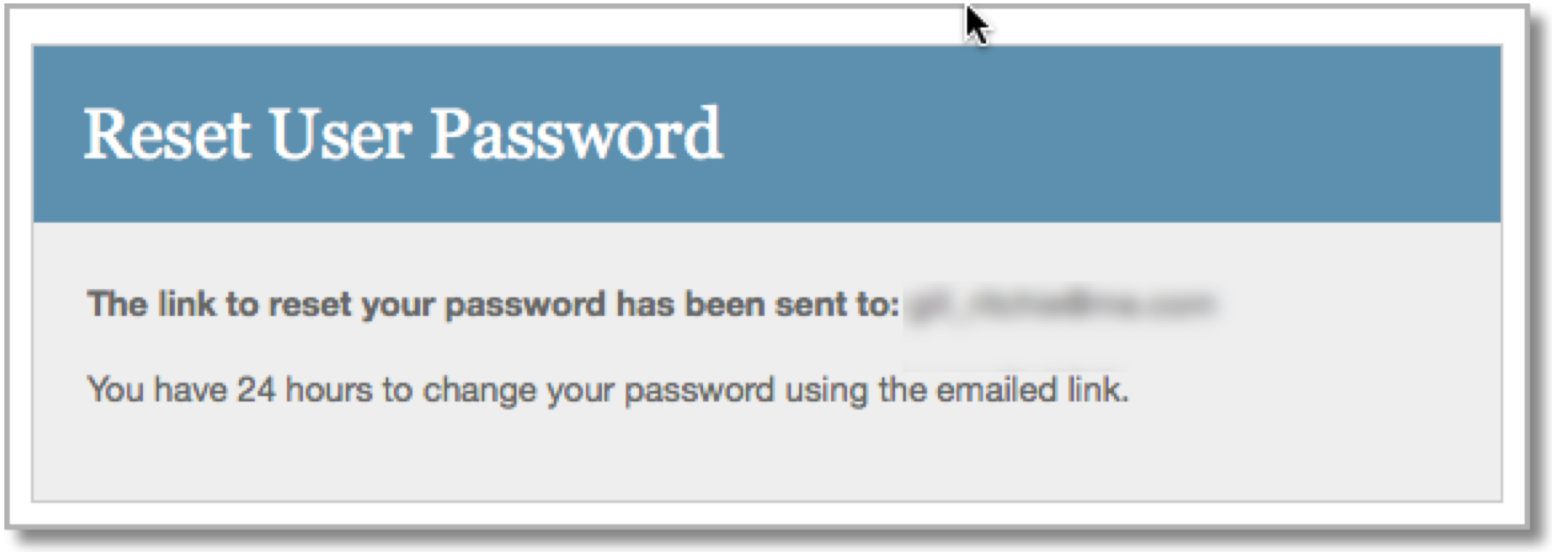
2. Match between system and the real world

The system should speak the users' la
concepts familiar to the user, rather t

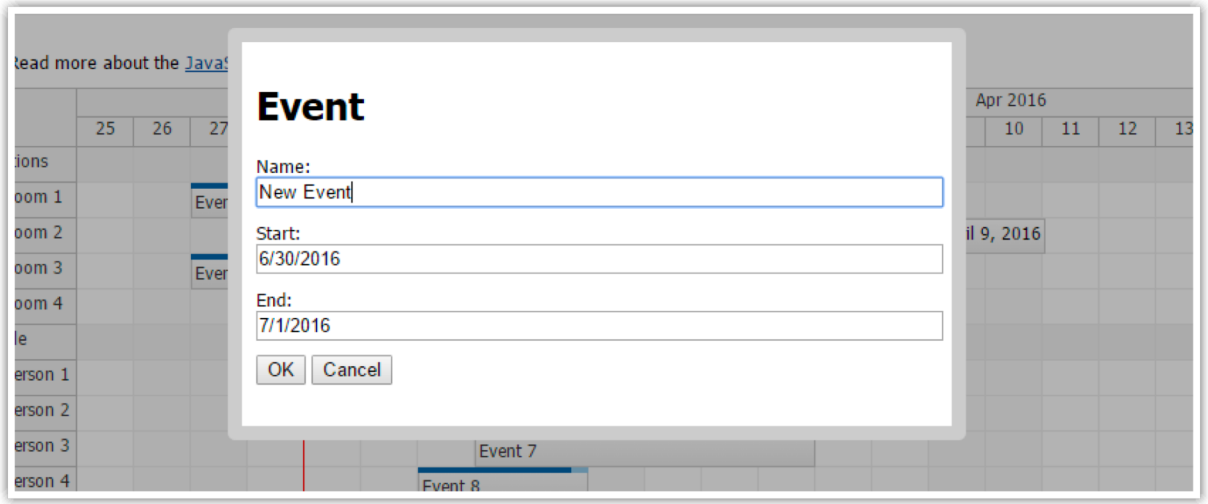


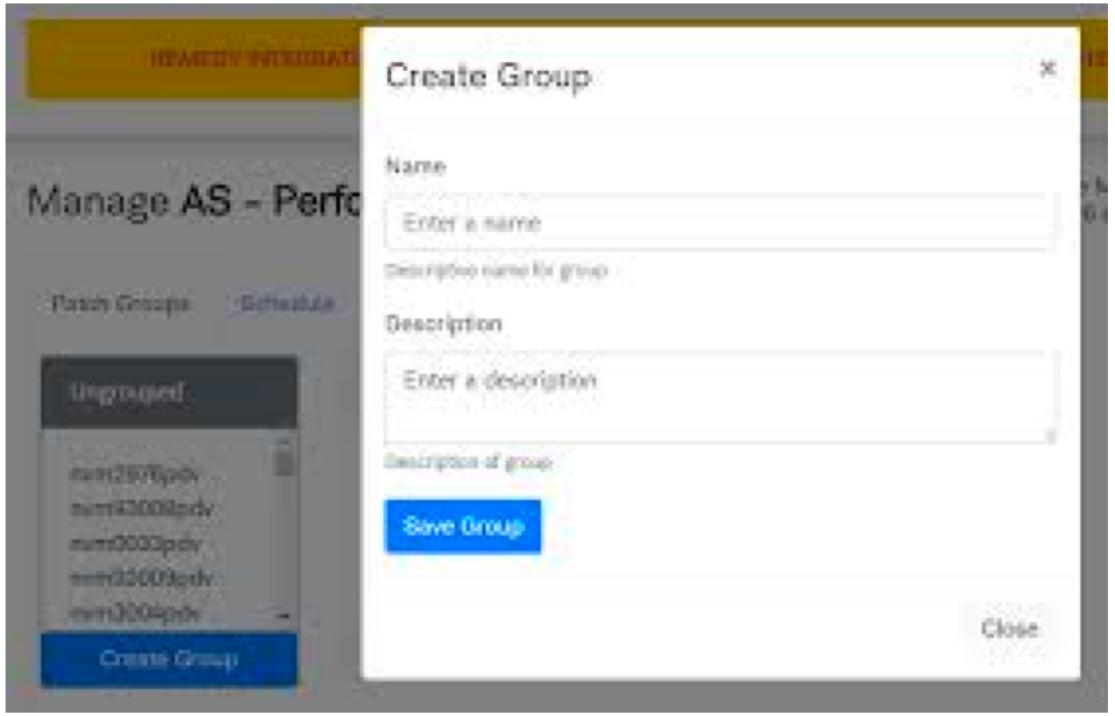
1. Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

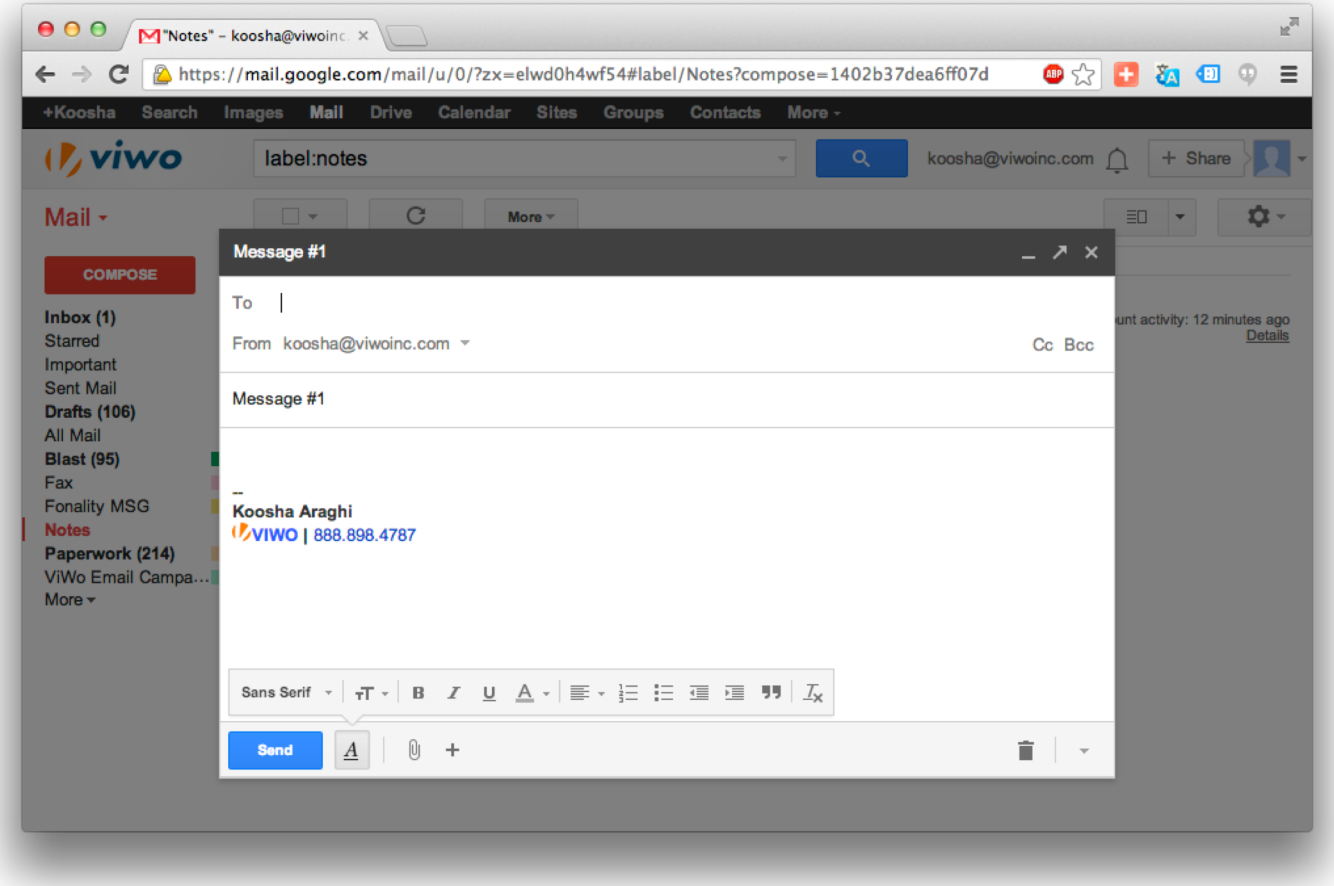


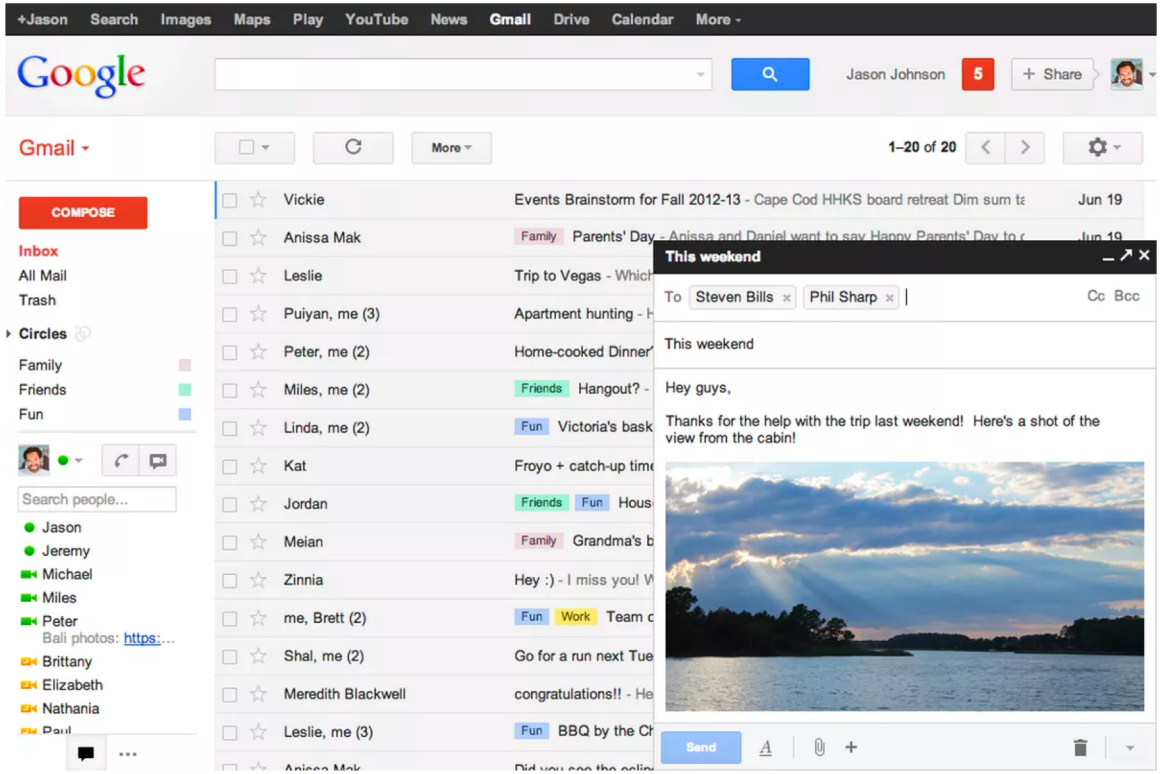
Here is where I see students make the mistake of using modes:



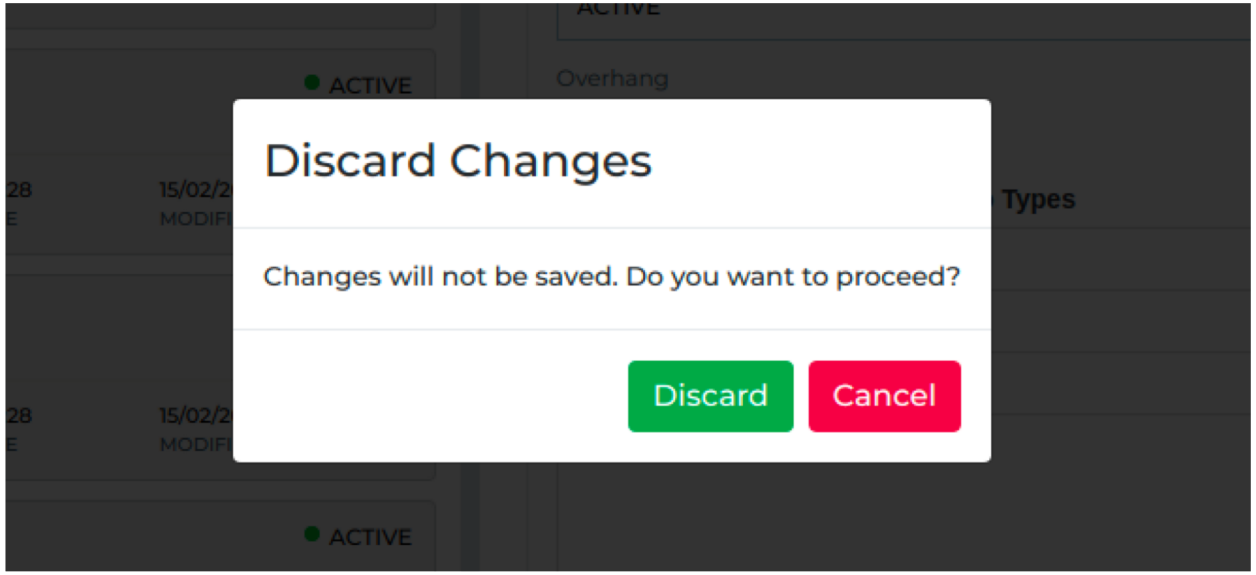


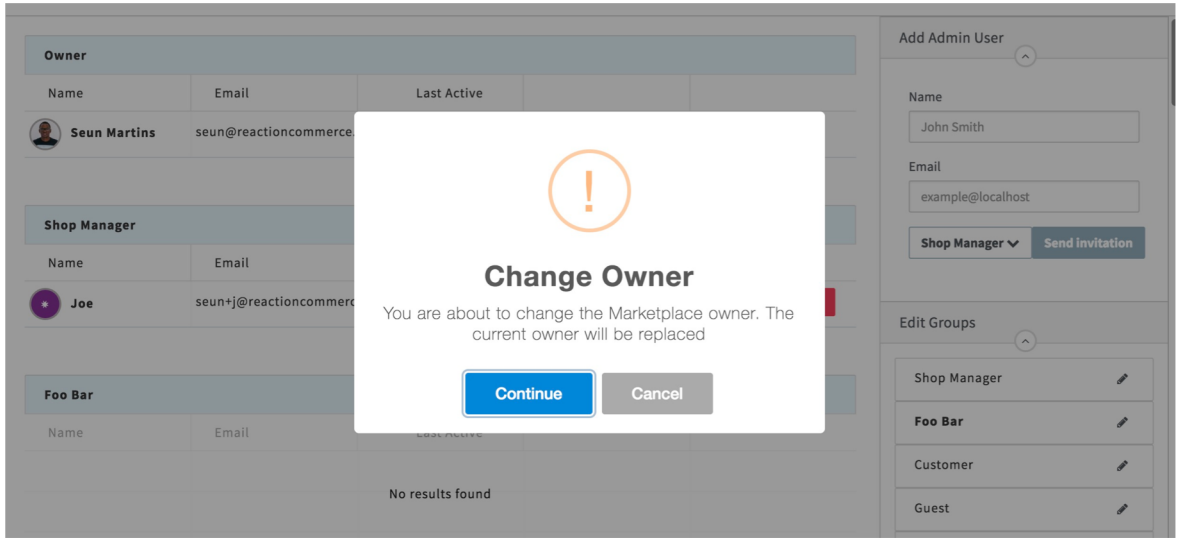
Why did Gmail compose get rid of ”compose mode” as it’s default for compose?





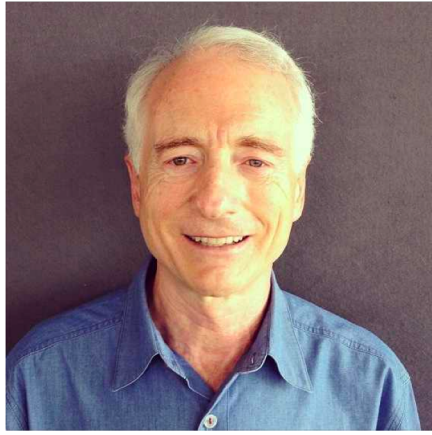
The only acceptable use of modes:





When the user absolutely must make this decision to proceed and needs no other information

In general:

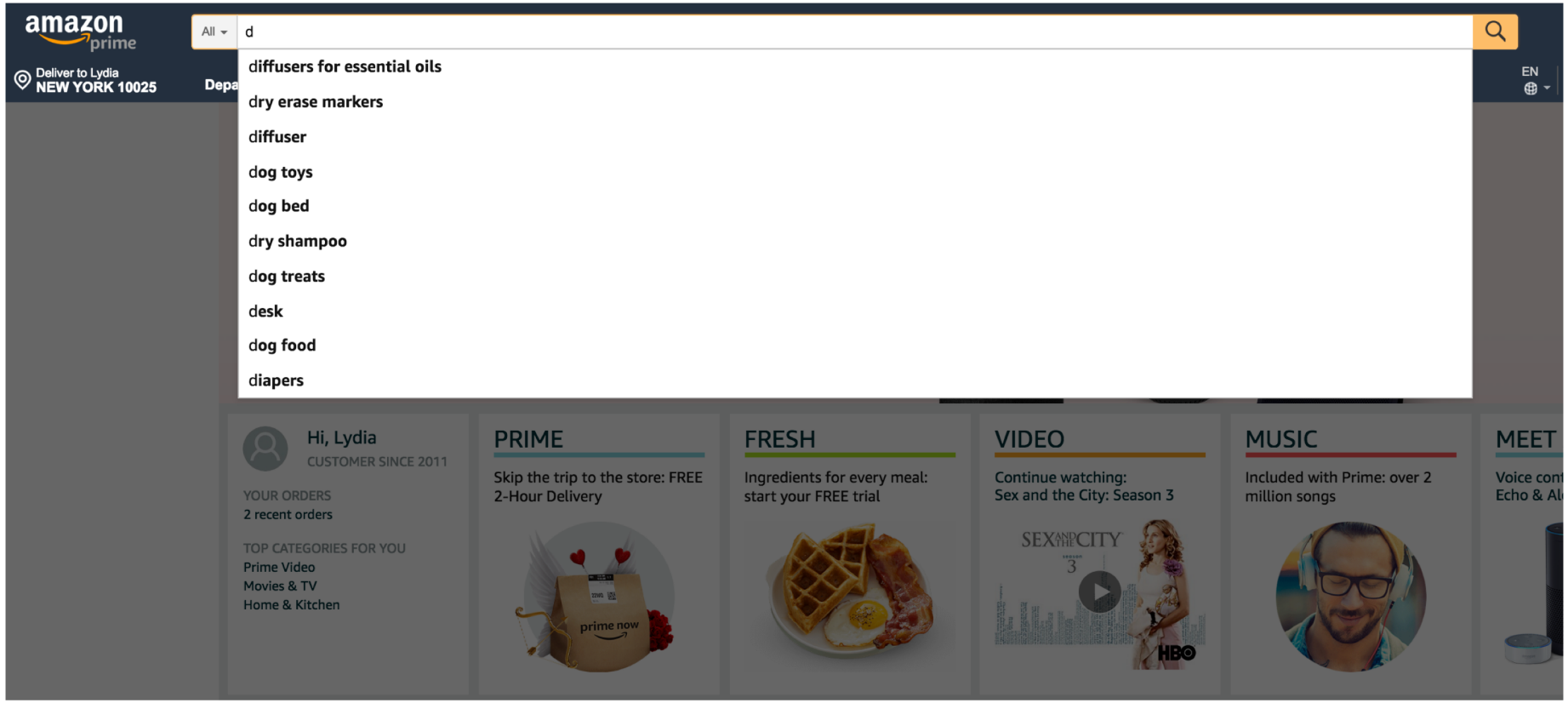


Larry Tesler,
Apple UI pioneer

They violate user control and freedom

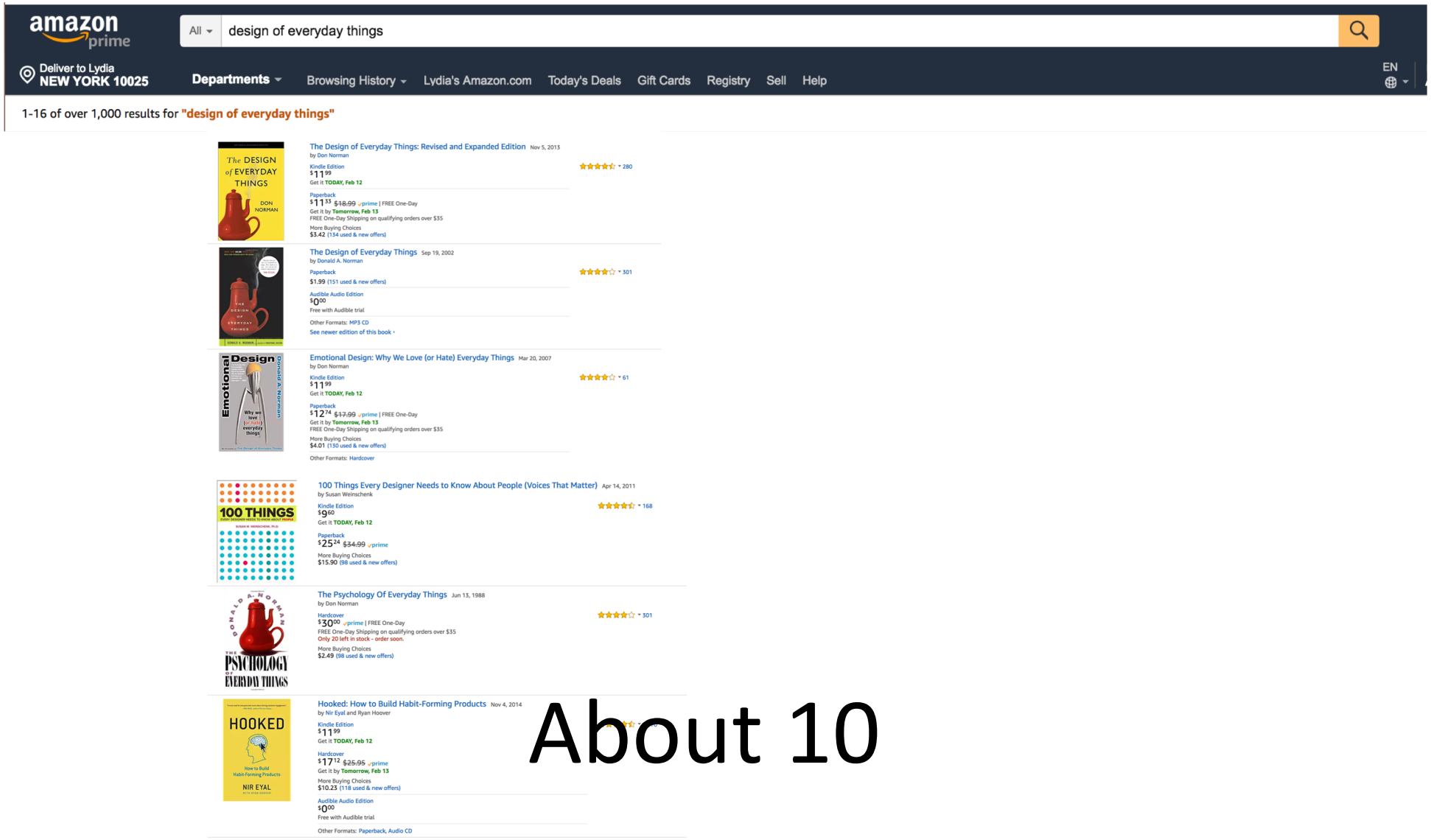
Presenting users with options

Product search: How many options are there?



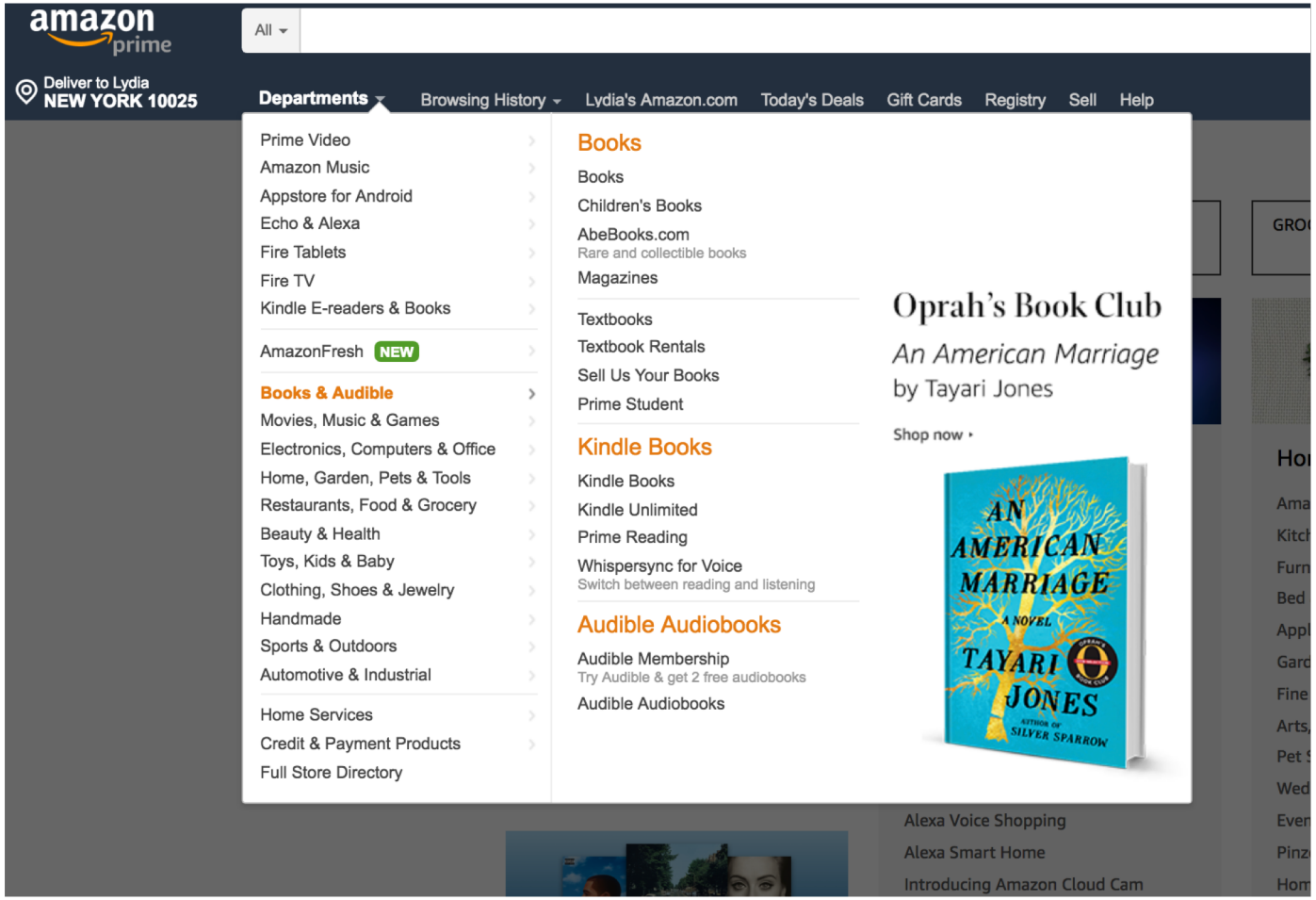
Billions

Search Results: How many (relevant) options are there?



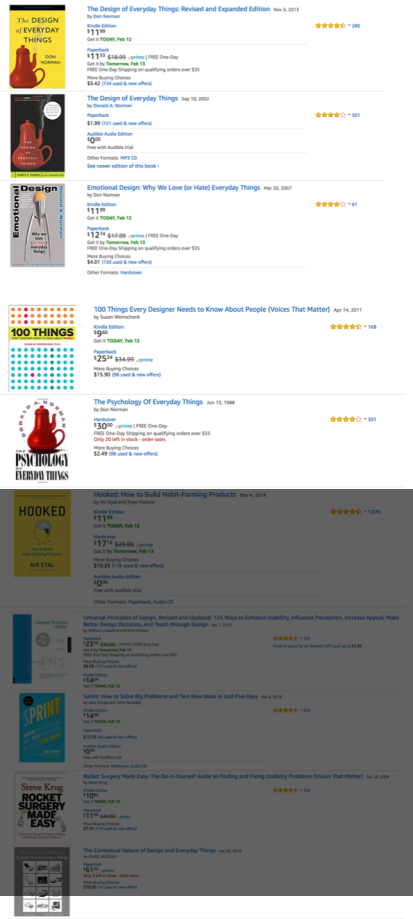
About 10

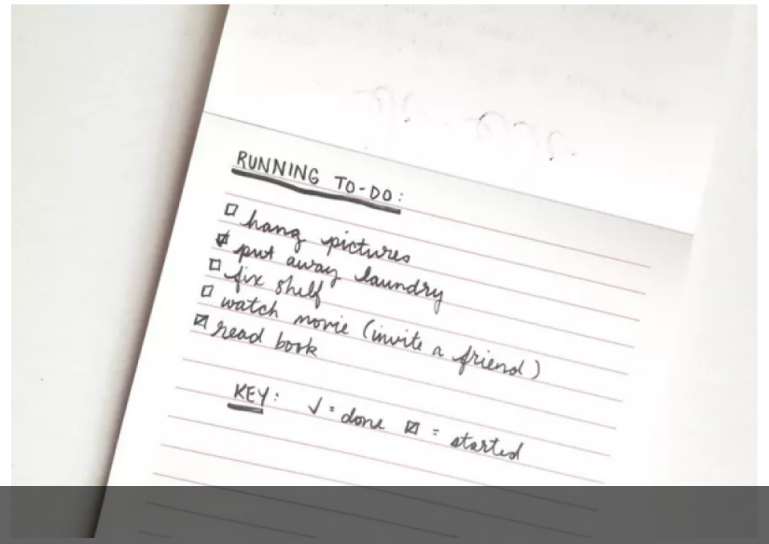
Amazon Departments: How many options are there?



About 100

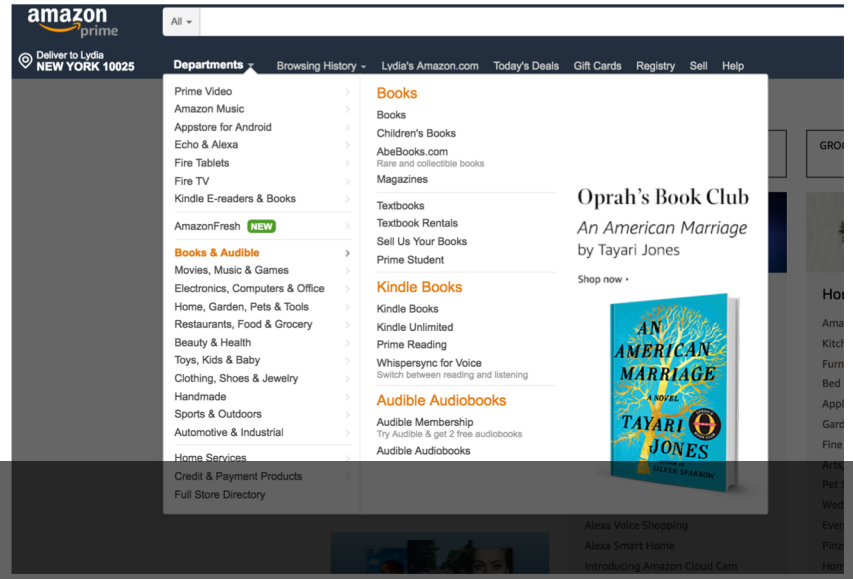
When displaying **~10** options, how do you display them to suit the needs and abilities of people?

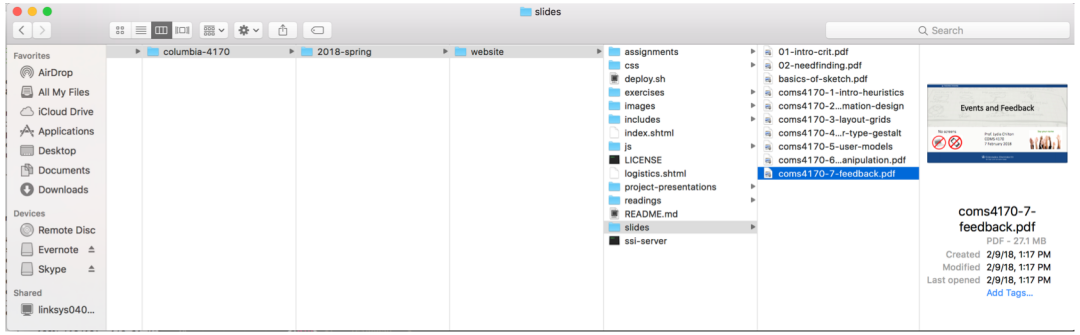


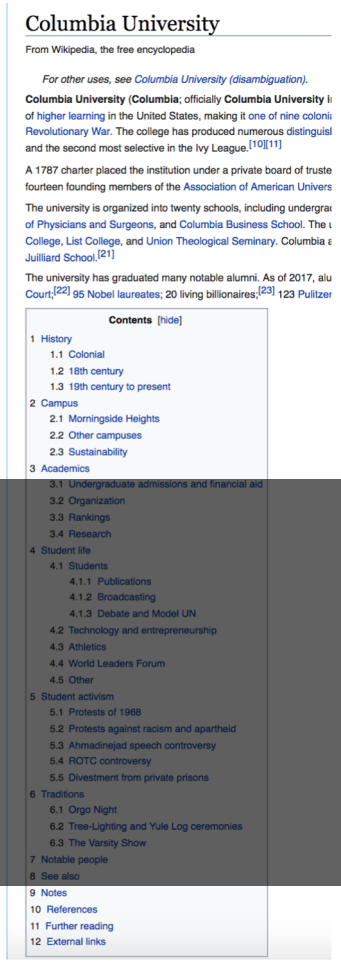


List

When displaying **~100** options, how do you display them to suit the needs and abilities of people?

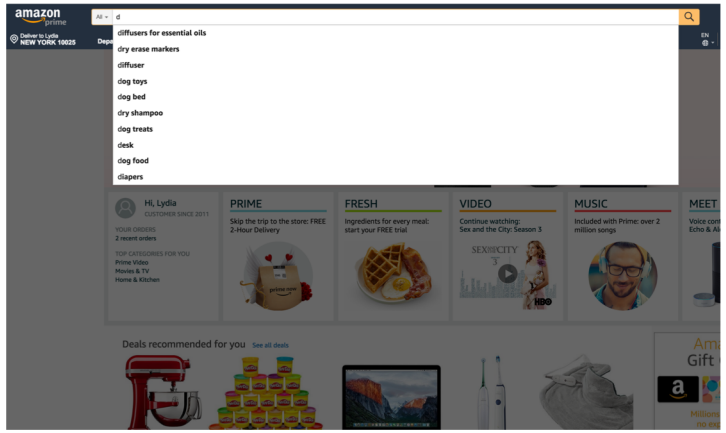


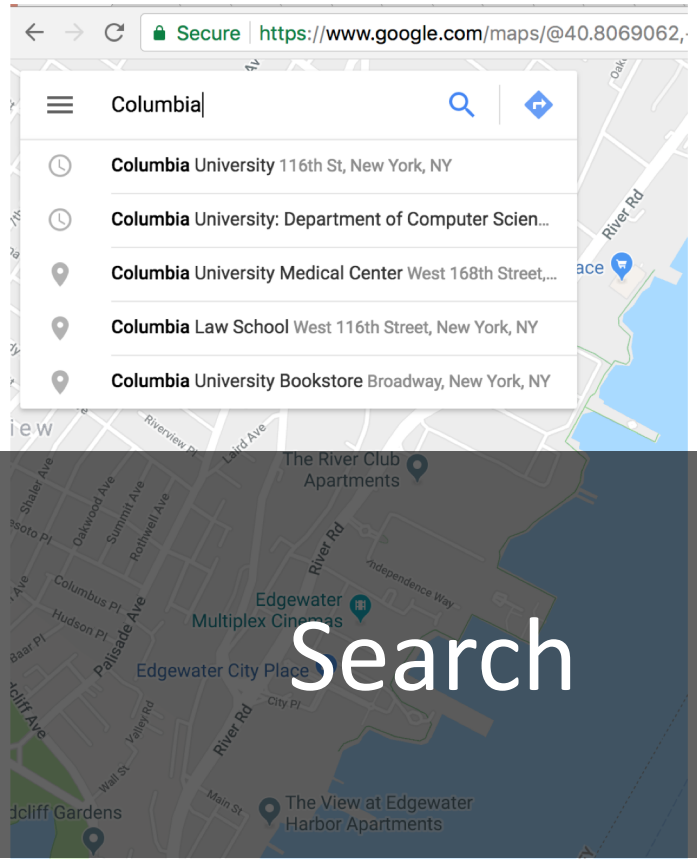


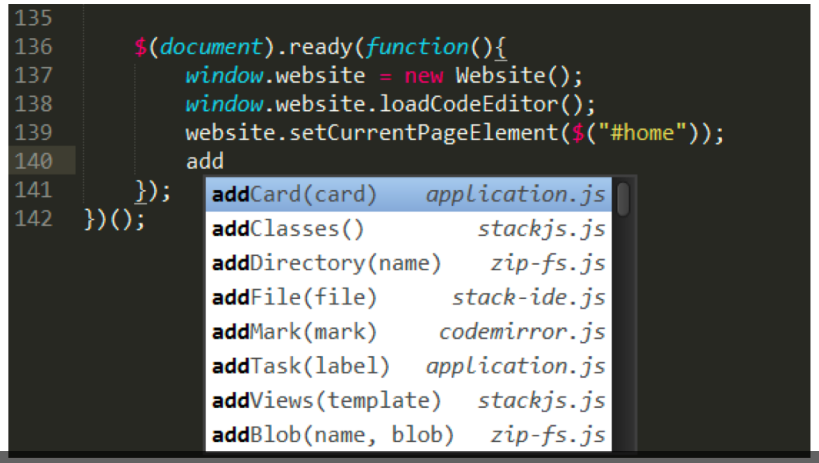


A tree

When displaying **~1000** options, how do you display them to suit the needs and abilities of people?

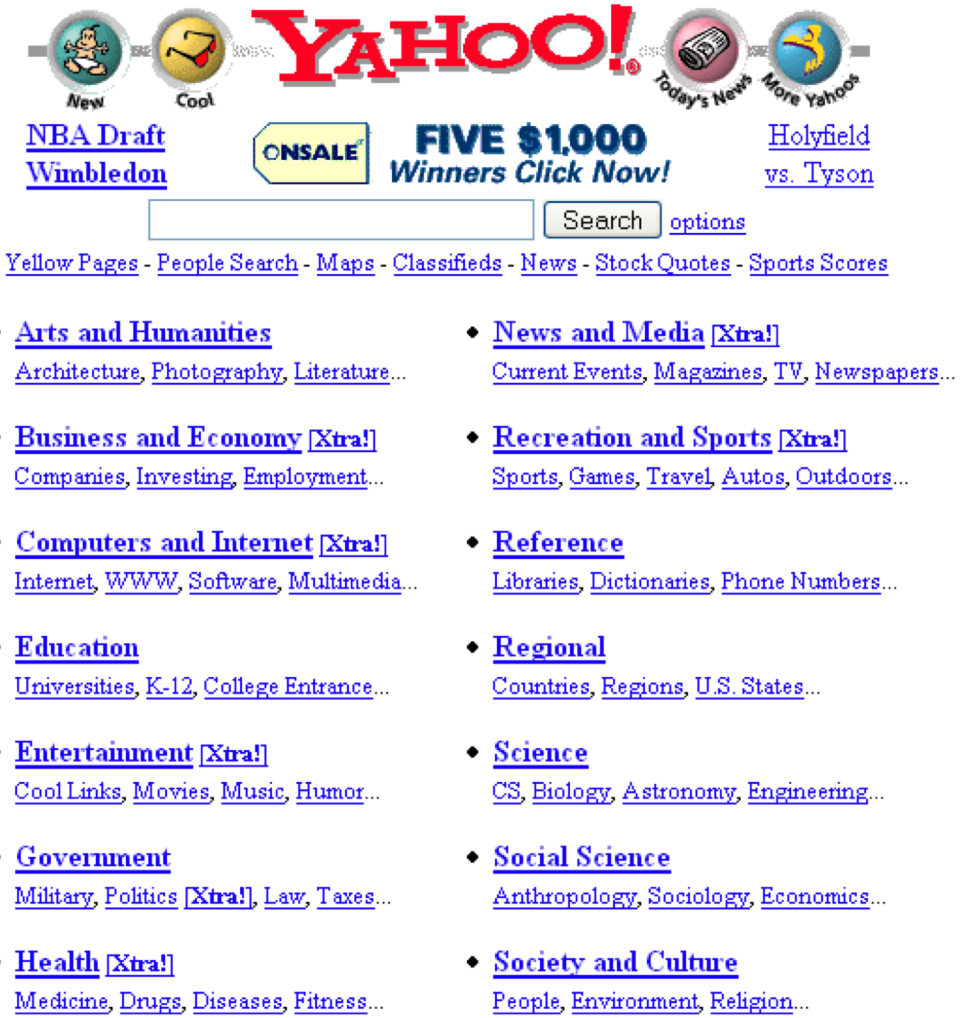




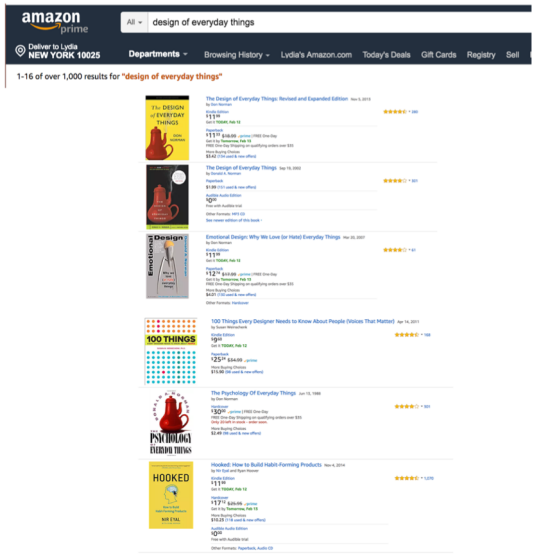


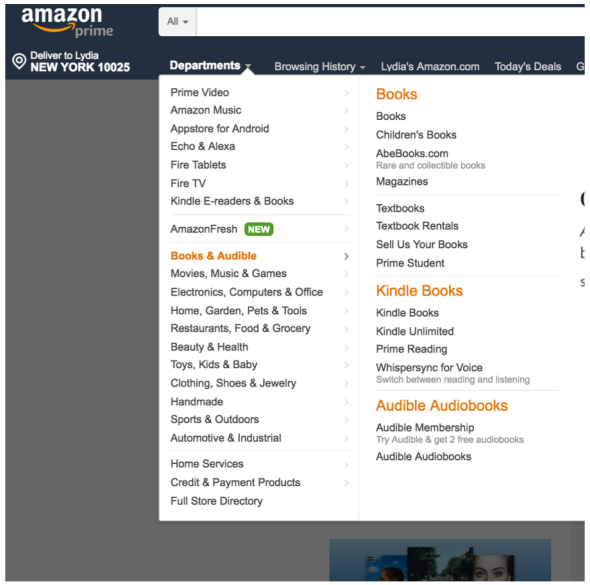
Search

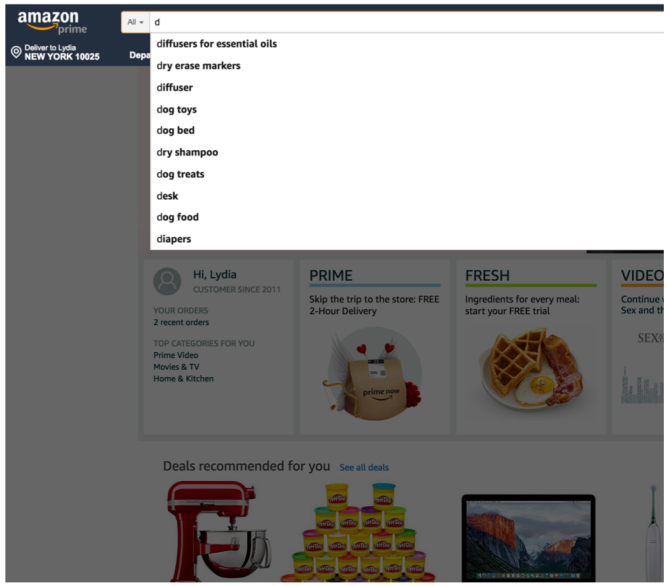
Yahoo 1995: What interaction style is this?



When displaying options, the number of options determines the interaction style.







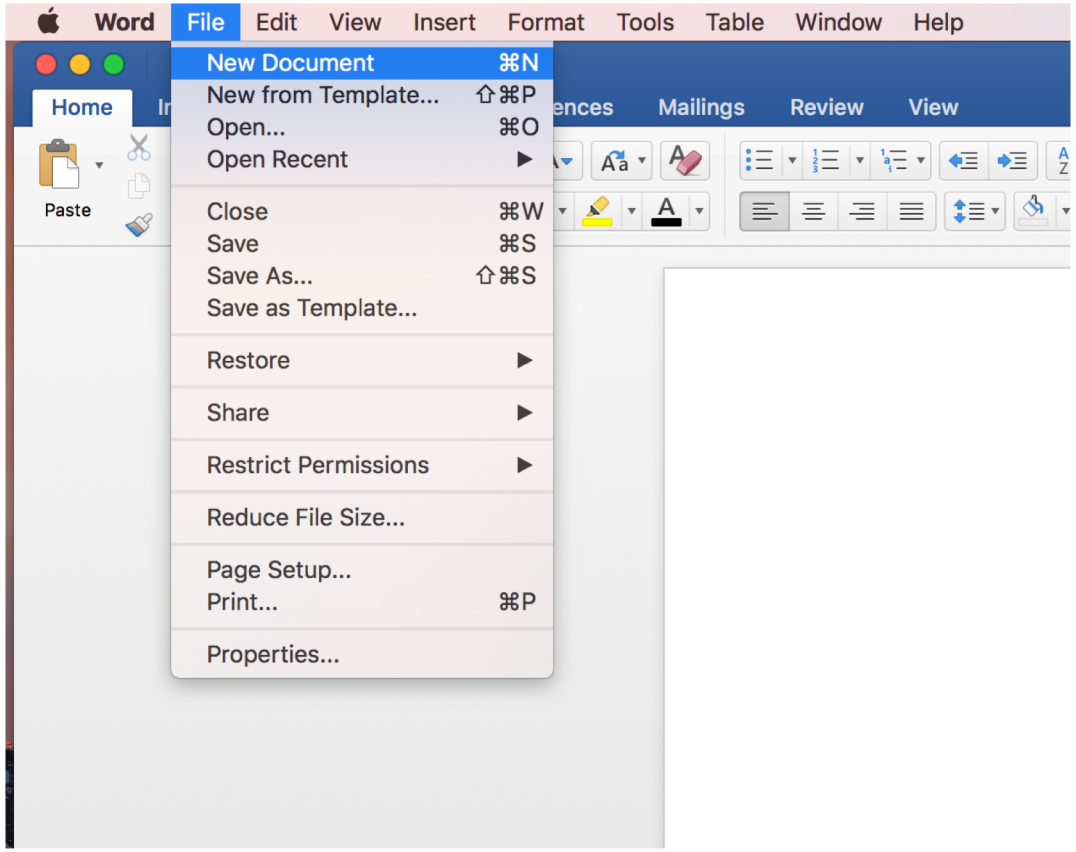
~10 items = list

~100 items = tree

~1000 items = search

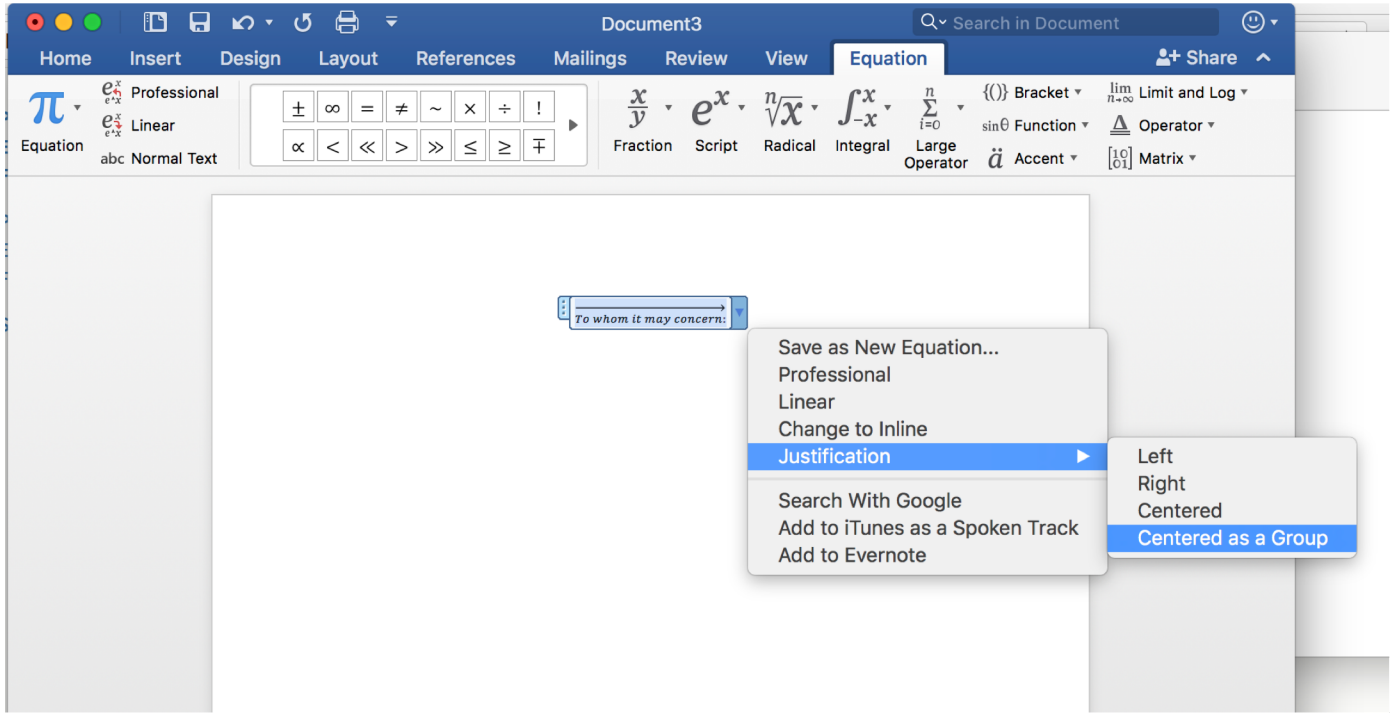
Designing Menu Options

Why is “New Document” the first menu item?



Items that are **frequently** used should be **easy** to access

Why is the function "*Word Equation -> Fraction -> Denominator -> Justification -> Centered as a Group*" buried 4 levels deep in the menu?

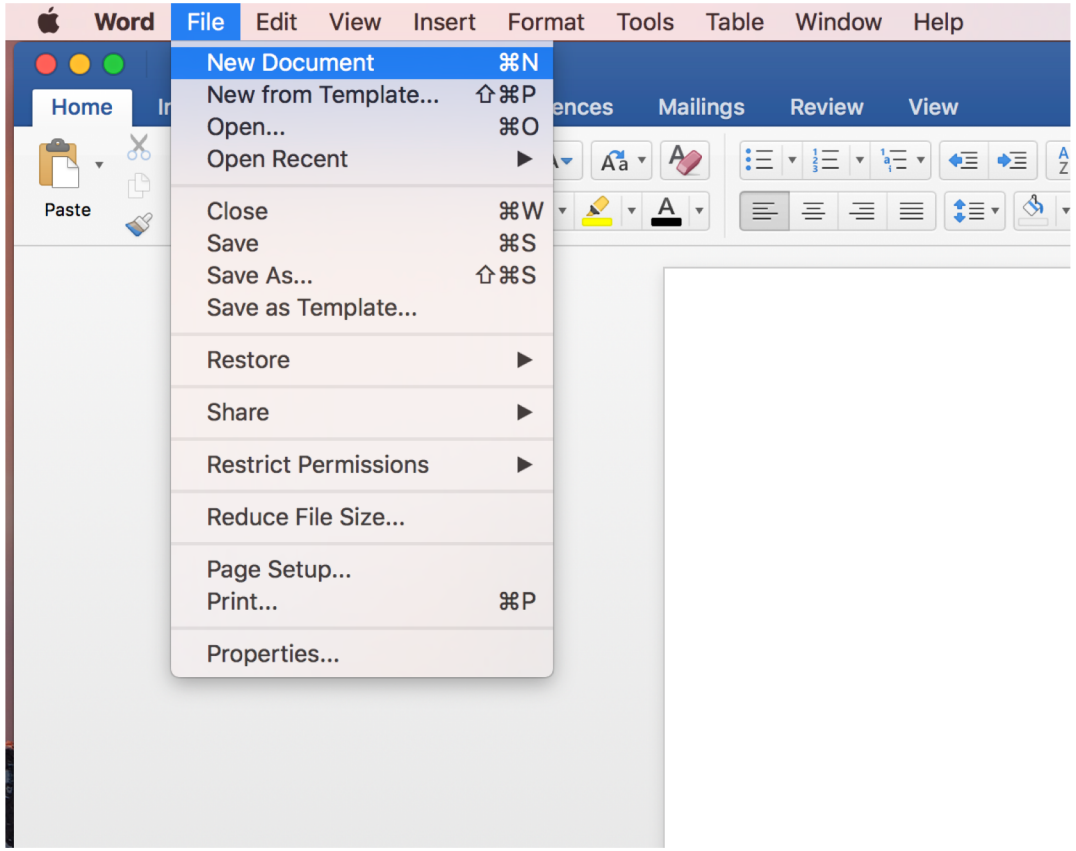


Items that are **infrequently** used can be more **difficult** to access

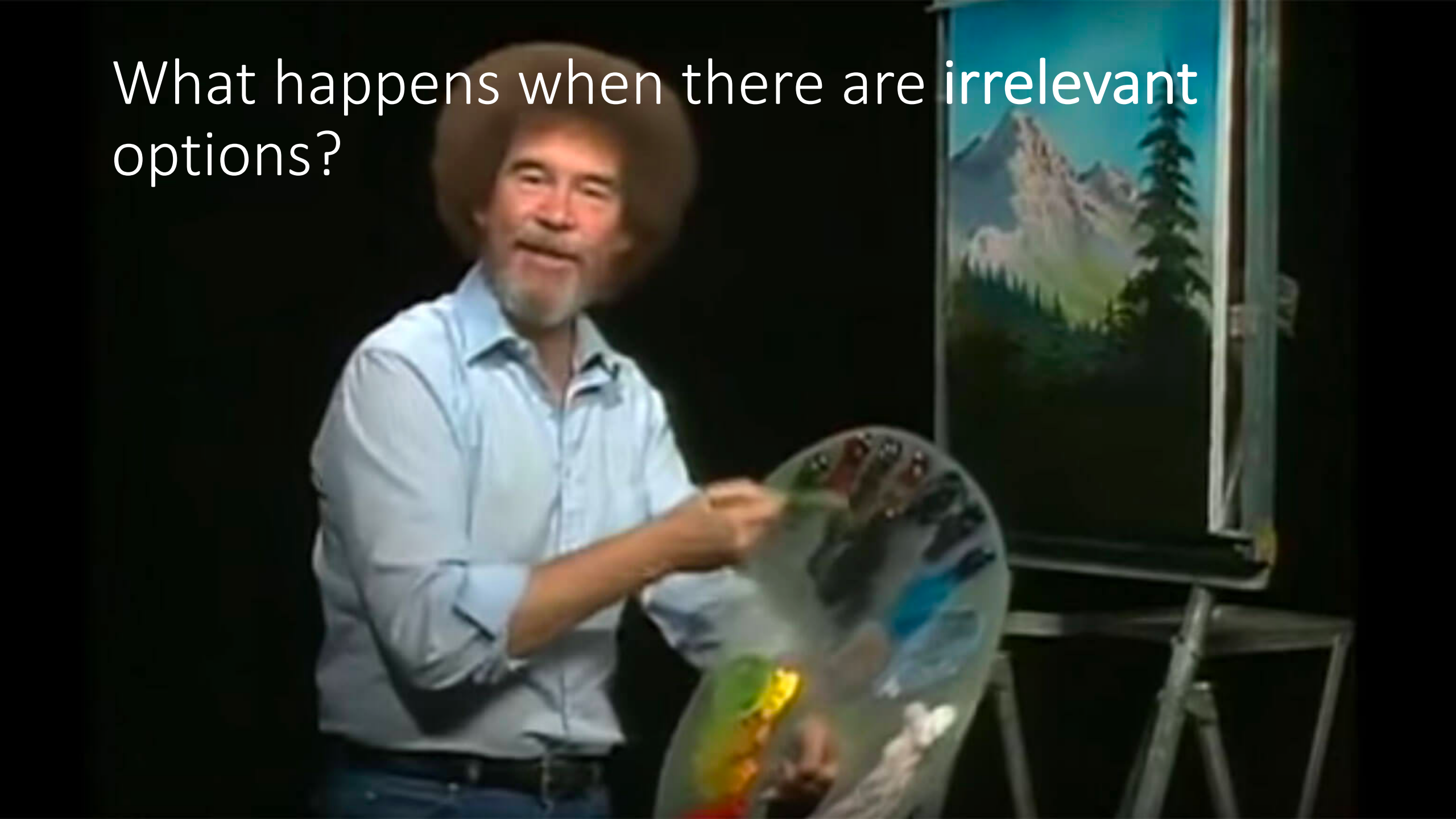
People have limited time.

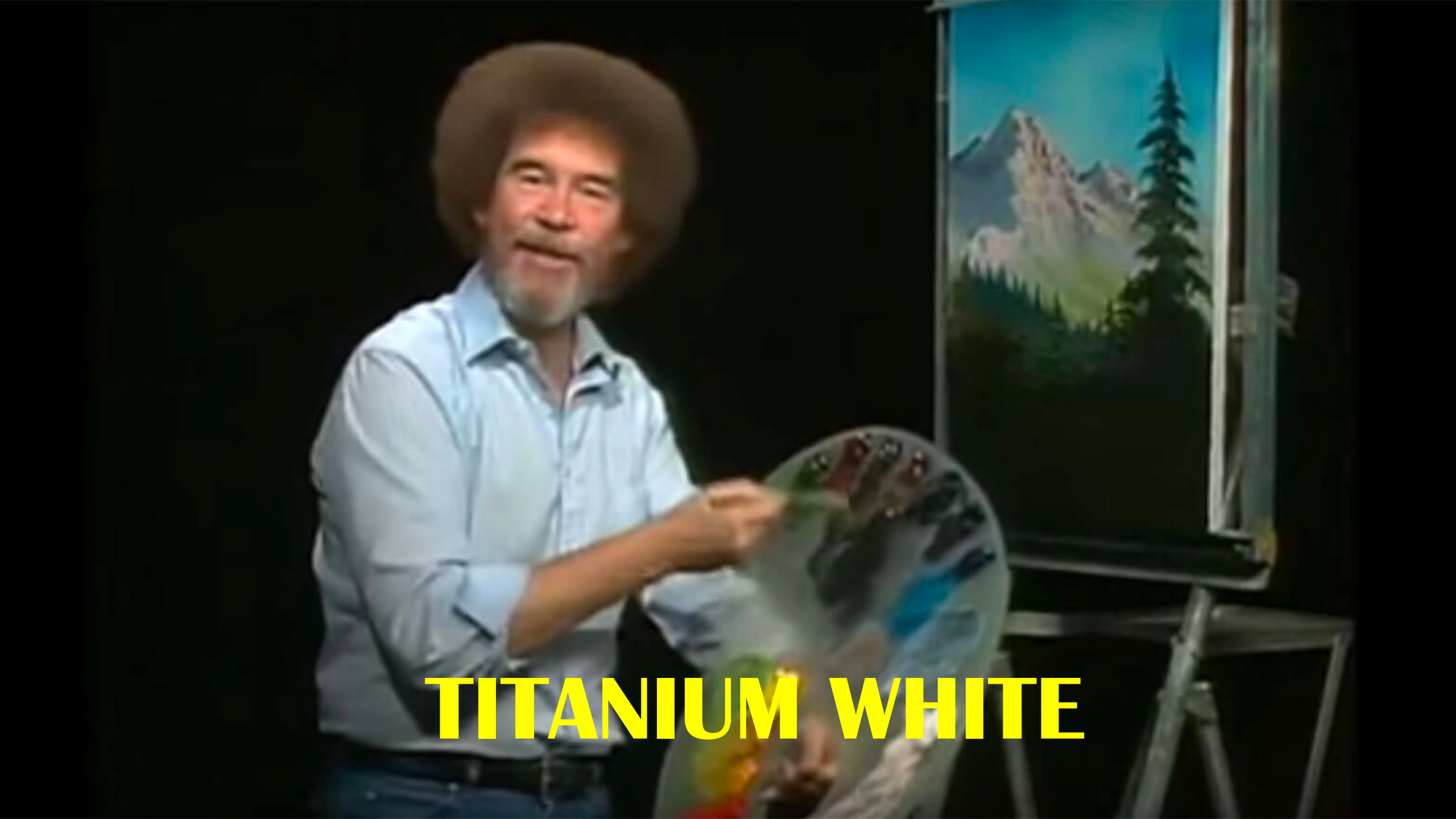
Make frequently used options easier to access

Make rarely used options harder to access



What happens when there are irrelevant options?



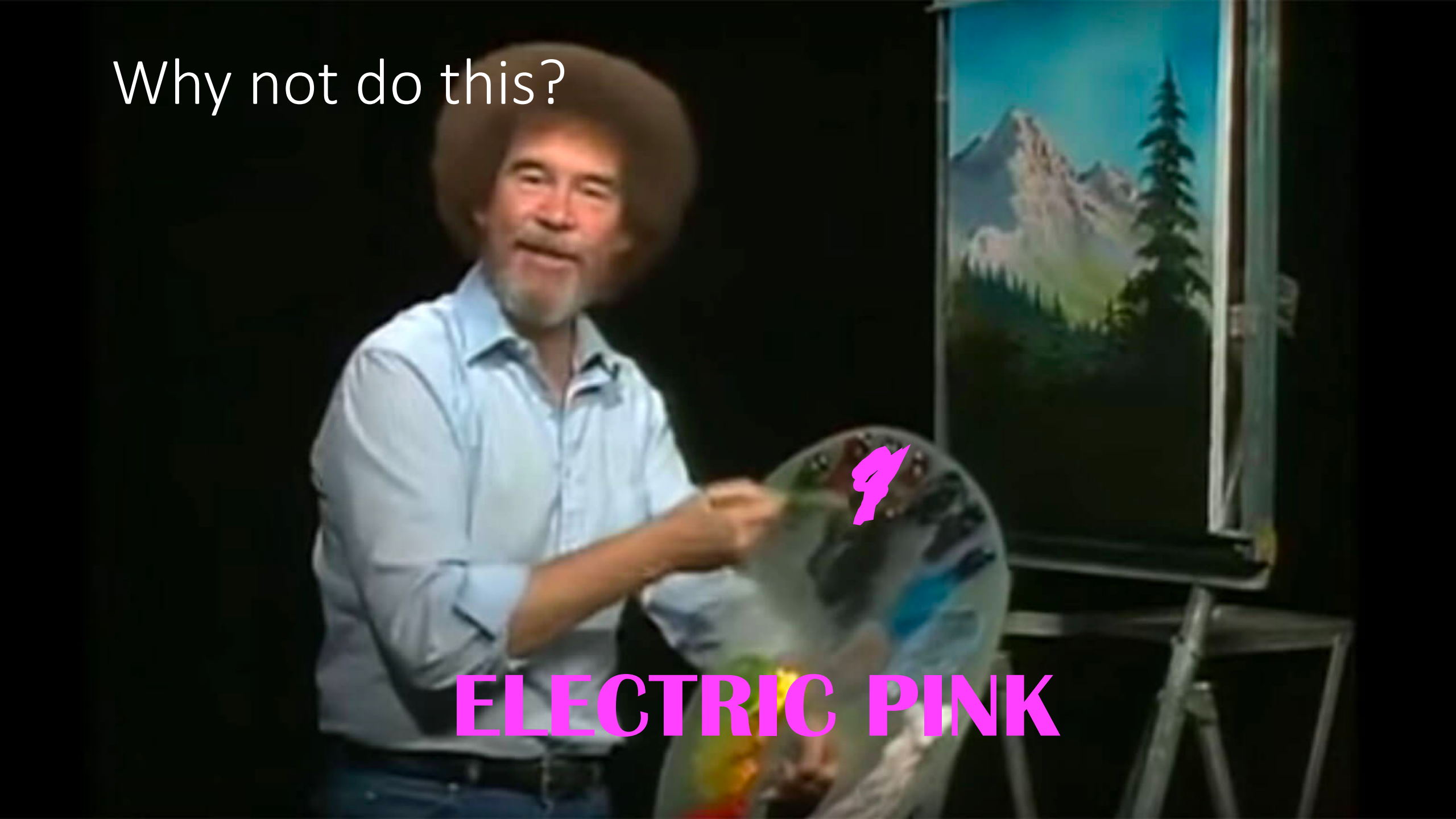

TITANIUM WHITE

CADMIUM YELLOW

SAP GREEN

PHTHALO BLUE

Why not do this?

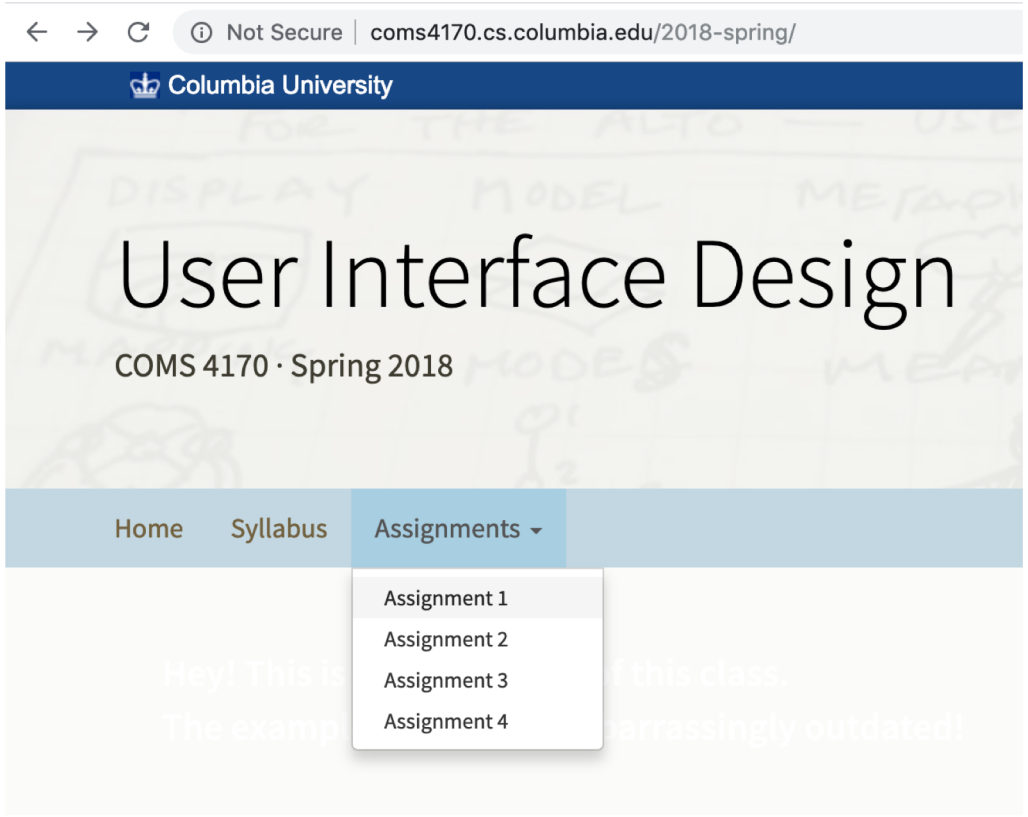


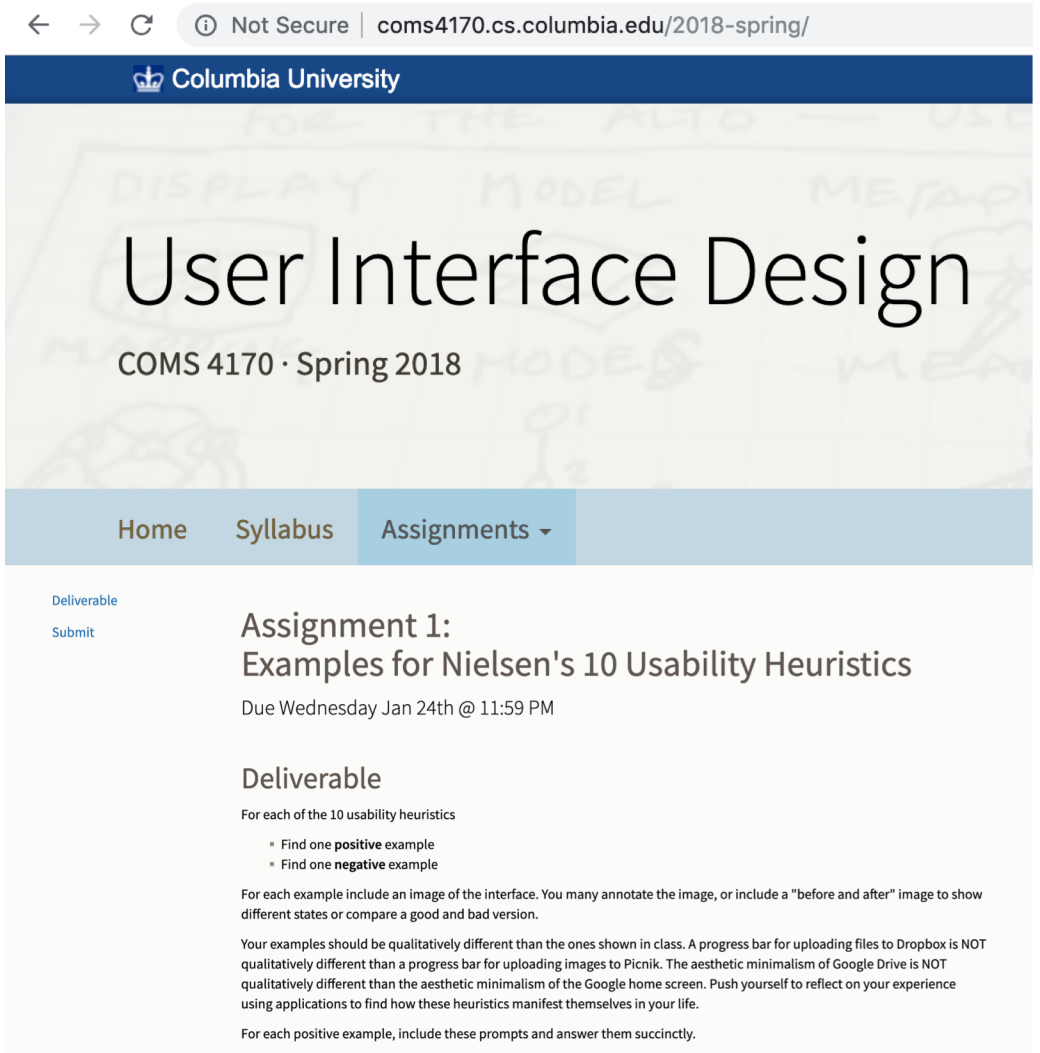
Irrelevant options create distractions

Users will expend energy to focus.
OR **make mistakes**

Menus on the Web

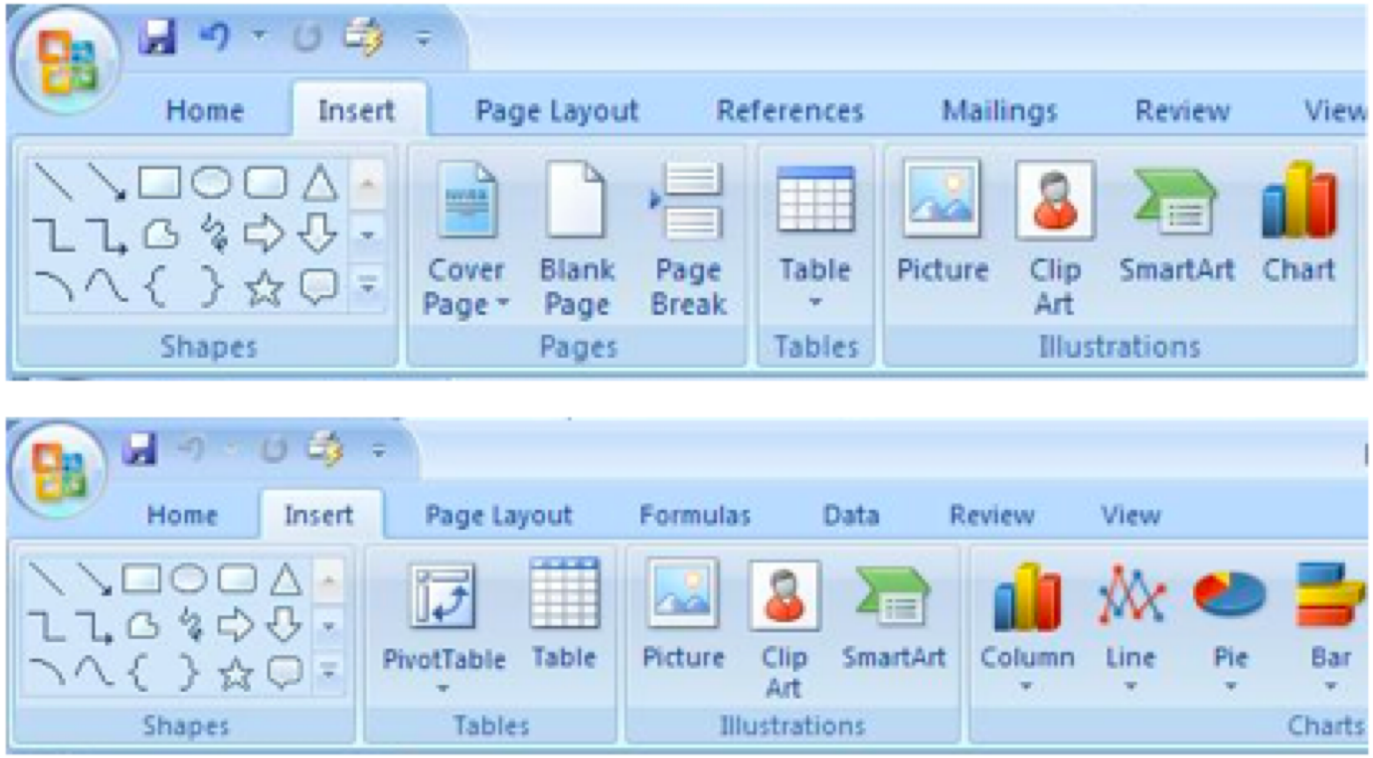
NavBars are the same across all your pages.





4. Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.



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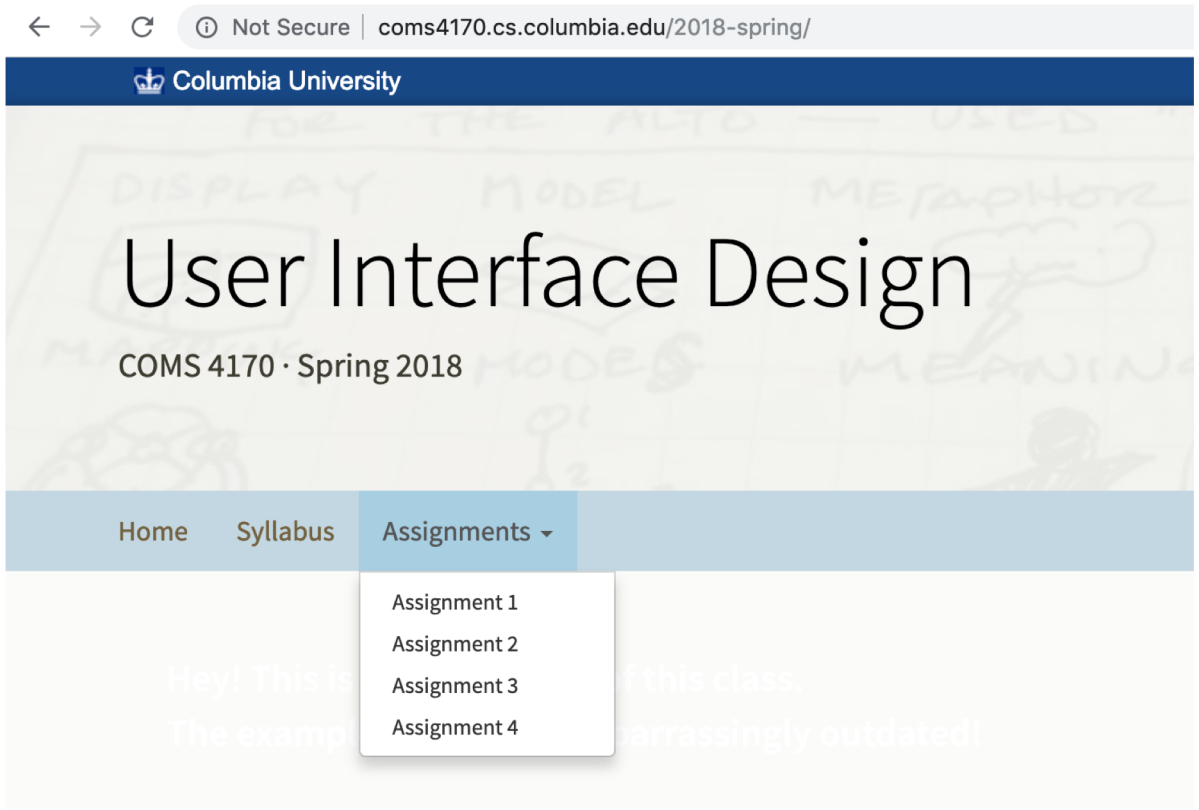
Navbars are a bootstrap widget!




```
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  <div class="container">
    <div class="navbar-header">
      <button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a class="navbar-brand" href="/2018-spring/index.shtml">Home</a>
    </div>
    <div class="navbar-collapse collapse">
      <ul class="nav navbar-nav">
        <li><a href="/2018-spring/index.shtml#calendar">Syllabus</a></li>

        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown" role="button" aria-haspopup="true"
          aria-expanded="false">Assignments <span class="caret"></span></a>
          <ul id="assignments" class="dropdown-menu">
            <!--<li class="disabled"><a href="">coming soon!</a></li>-->
            <li><a href="/2018-spring/assignments/a1.shtml">Assignment 1</a></li>
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            <li><a href="/2018-spring/assignments/a4.shtml">Assignment 4</a></li>

          </ul>
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        <!--
        <li><a href="/2018-spring/project-presentations/index.shtml">Project Presentations</a></li>
        -->
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        btn-su navbar-btn">Piazza</button></a>
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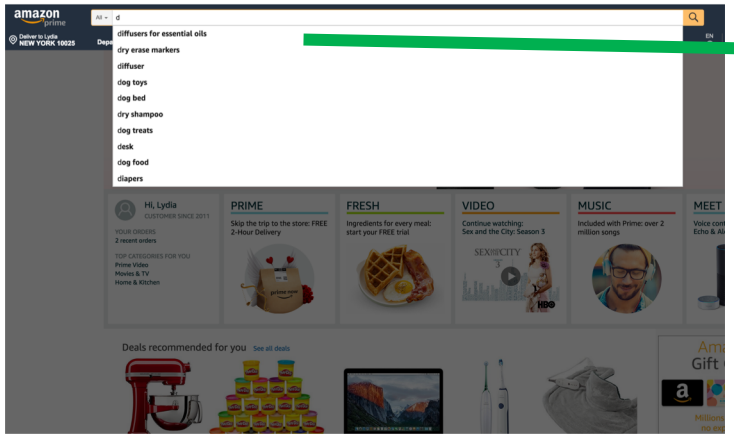
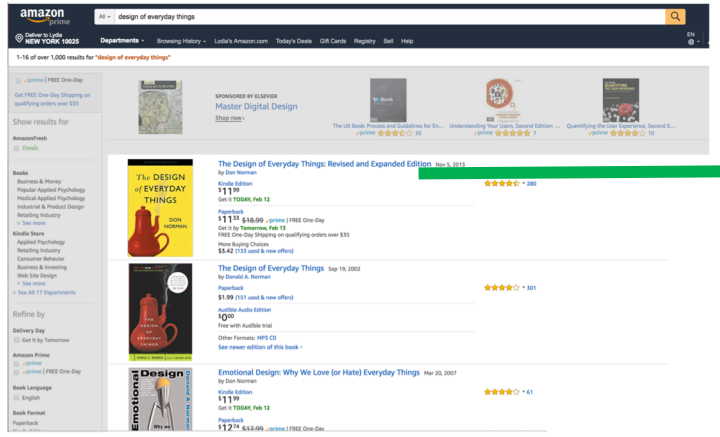
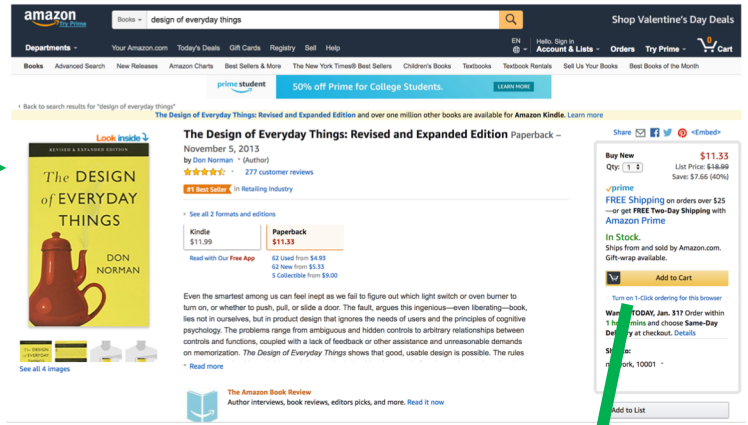
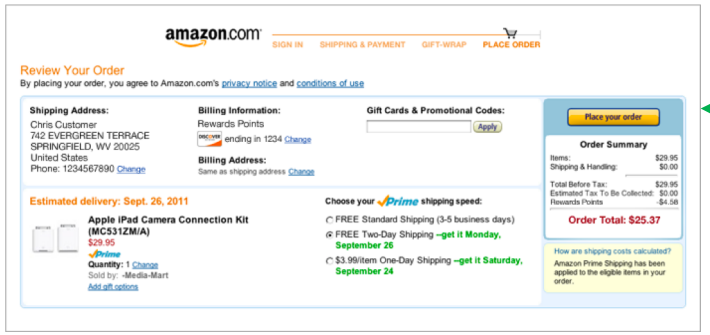
Summary

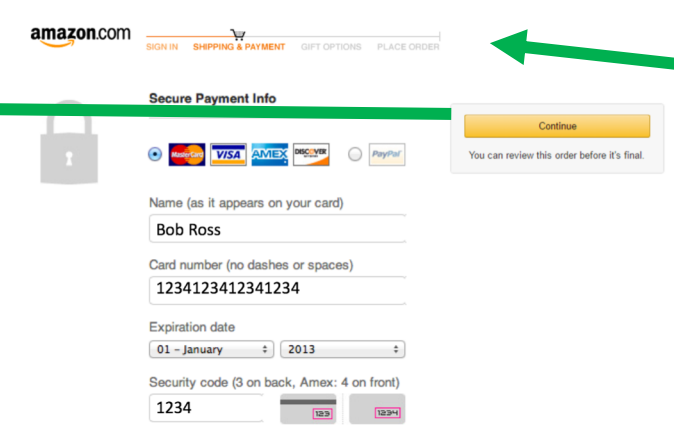
For complex tasks, guide users attention by breaking the task into: **states, options, and transitions** to new states.

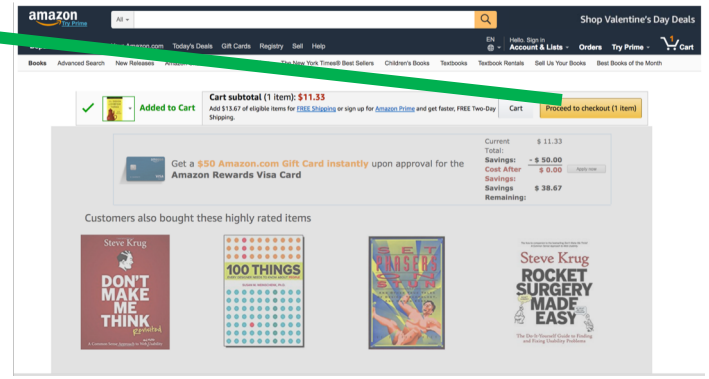












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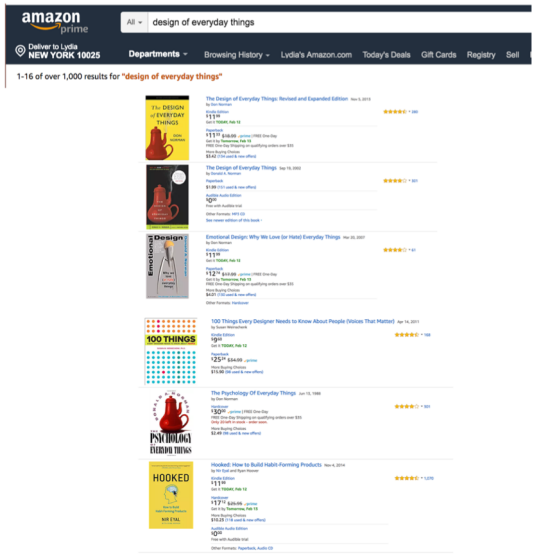

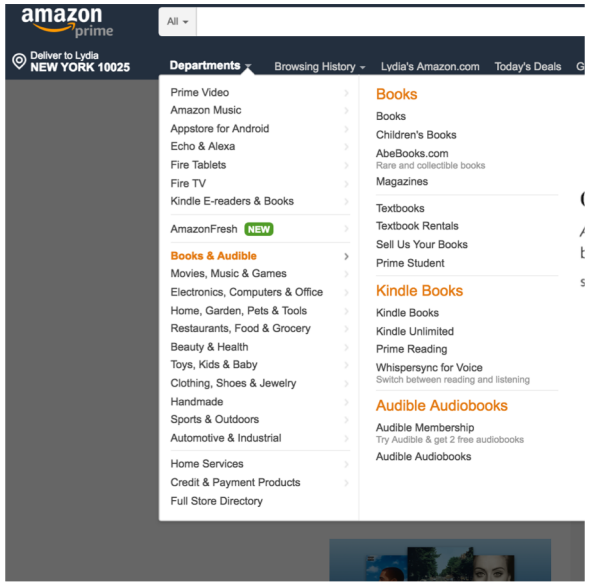

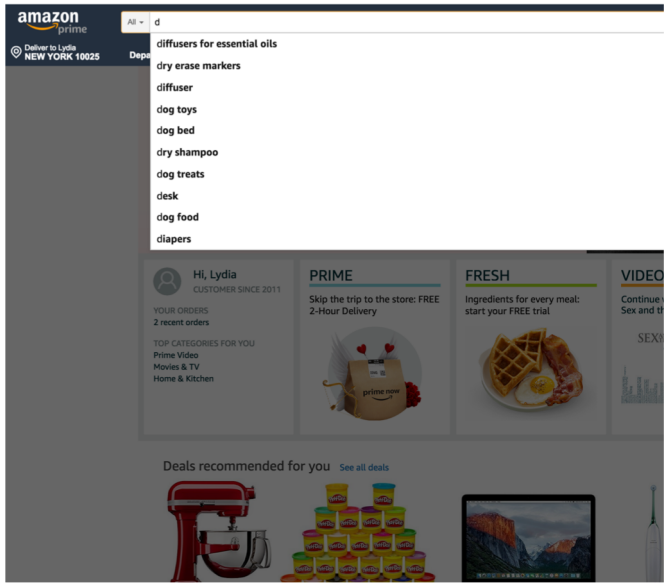

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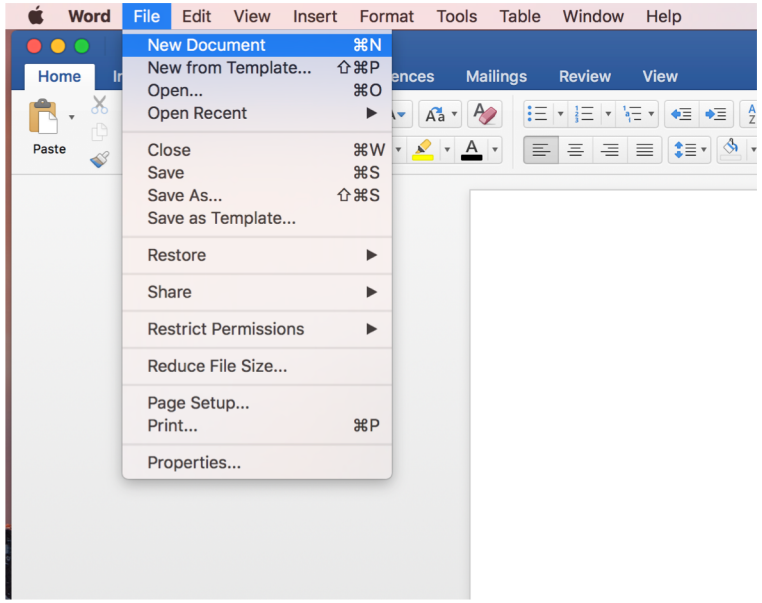
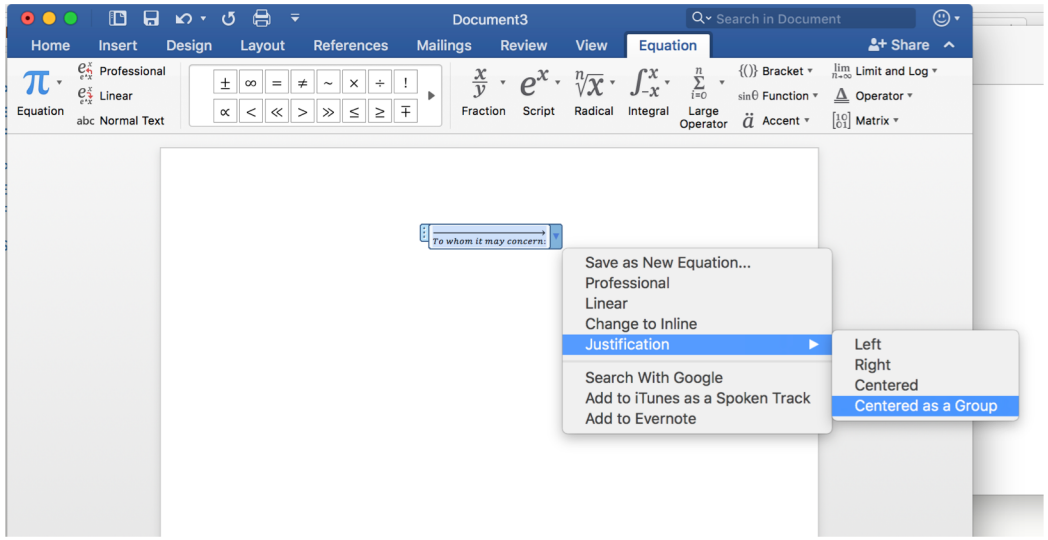




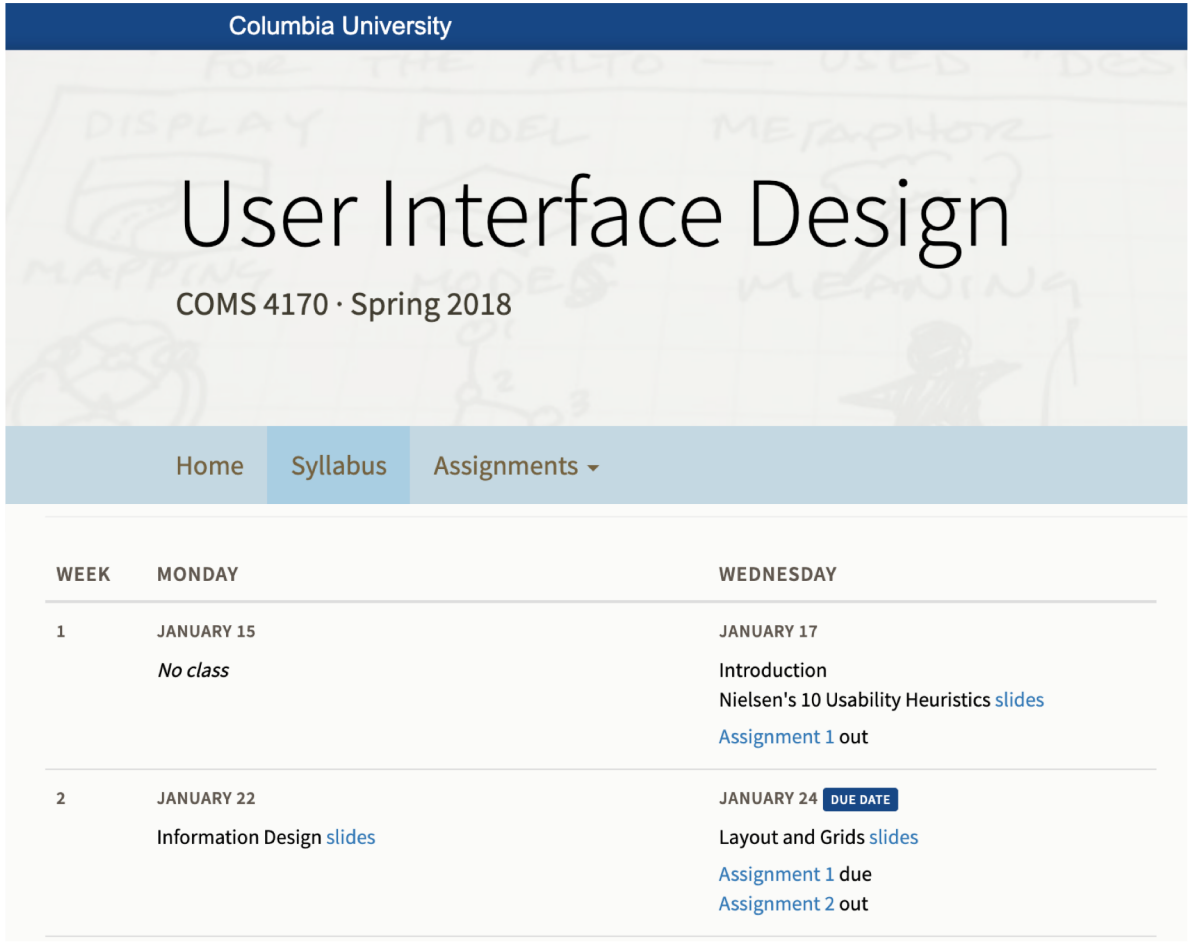
People have limited focus.

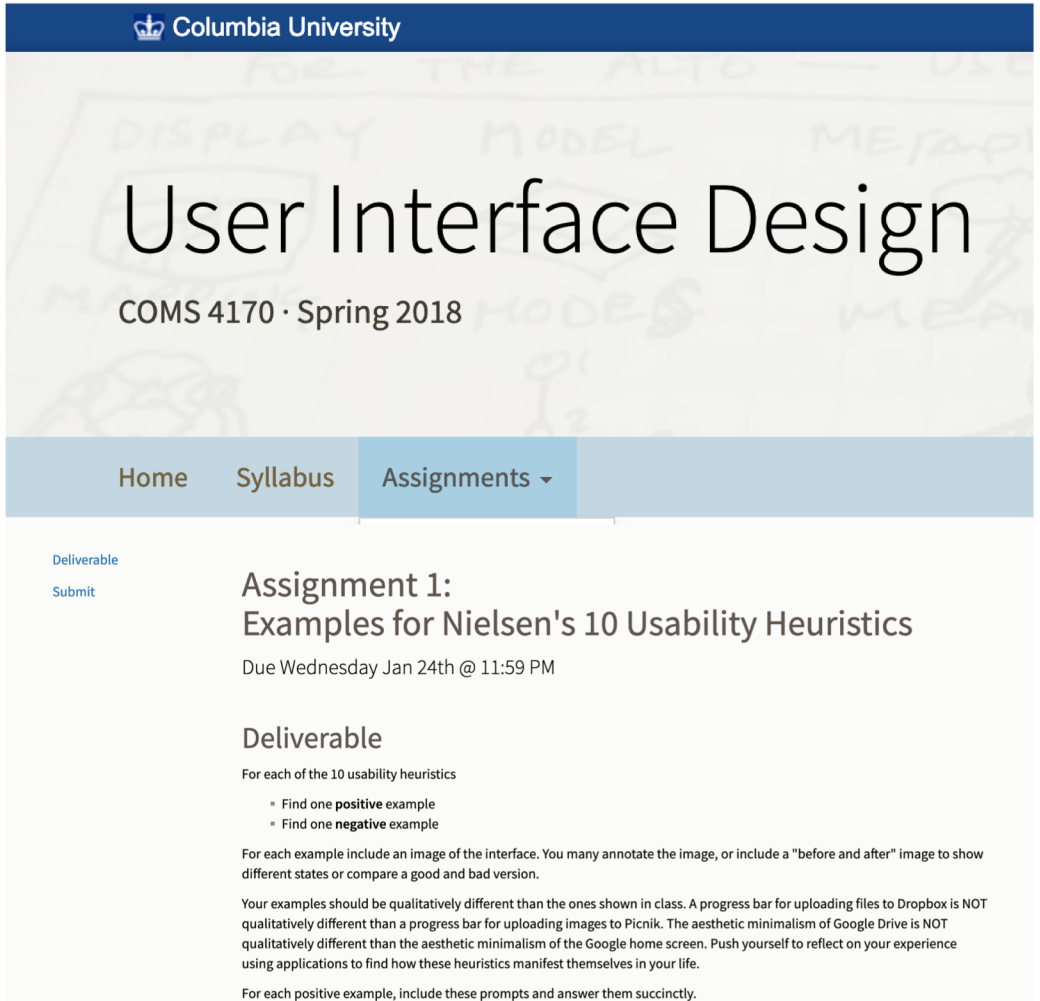
Within a state, provide options that are relevant to the user completing their goal.

YES

NO

NavBars are the same across all your pages.





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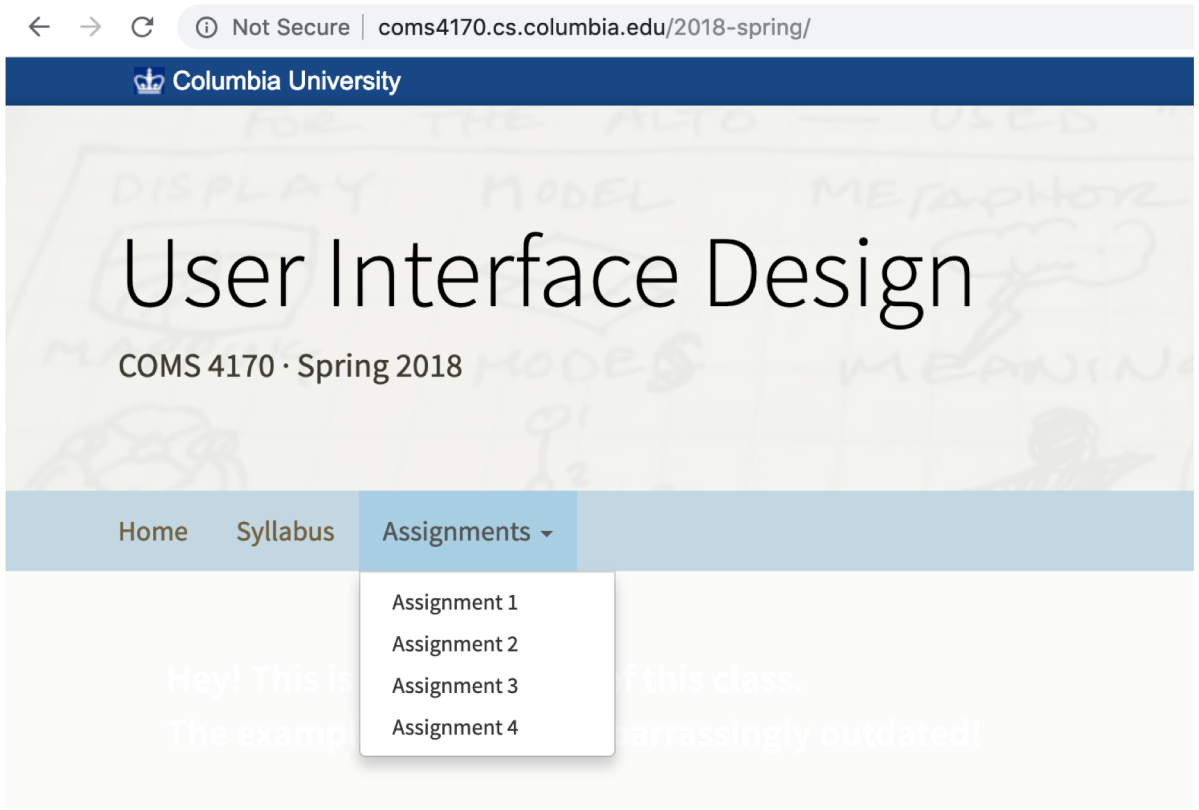


```
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          </ul>
        </li>
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        -->
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        btn-su navbar-btn">Piazza</button></a>
      </ul>
    </div>
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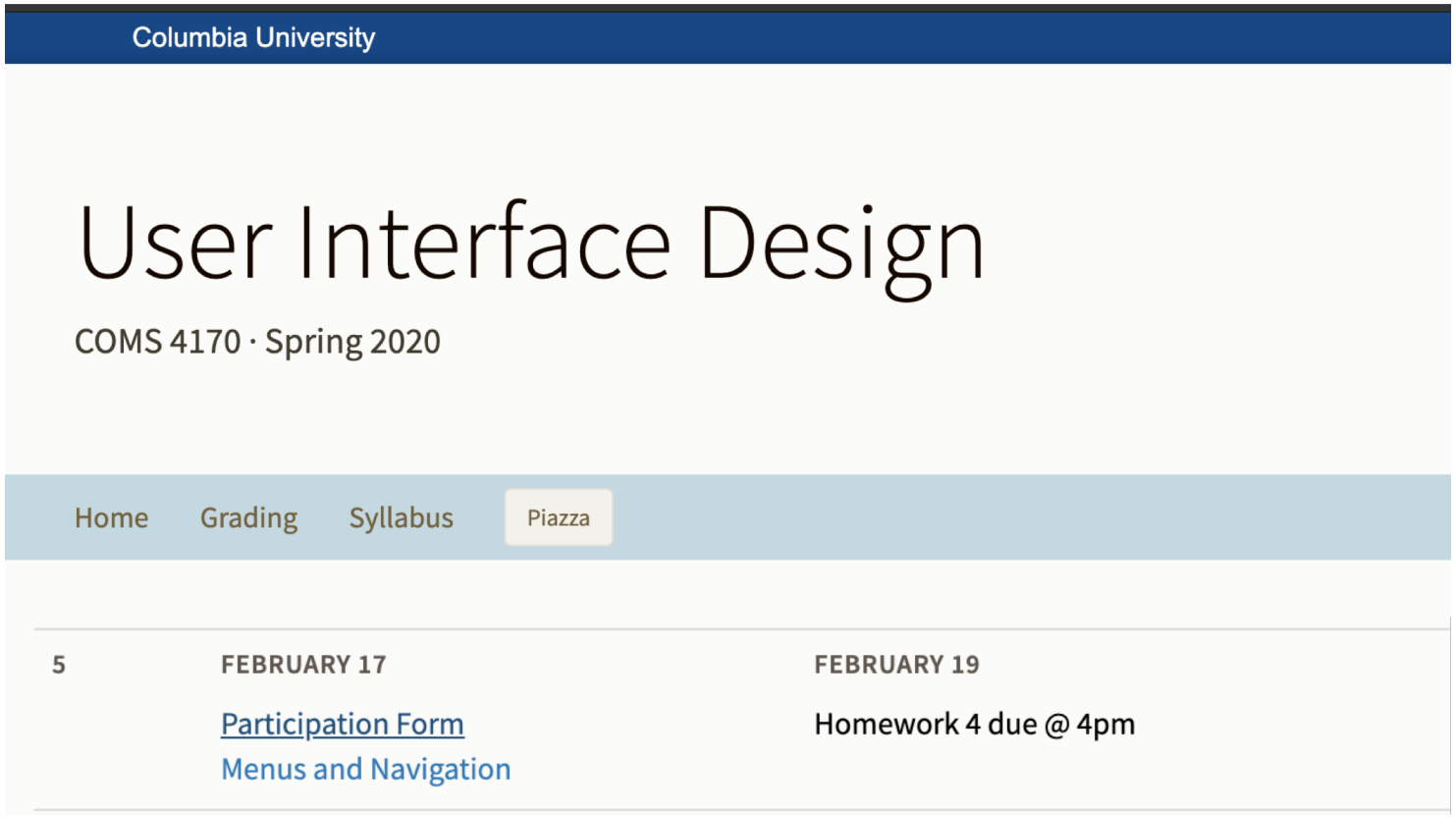
```

When designing user navigation:

Modes violate user control and freedom

Fill out participation now!
HW 4 due Wednesday.