DePaul COL Player

An experiment with the Microsoft Design Language

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Introduction

Why COL Player?

I have been attending DePaul CDM as a remote student for nearly a year now. Living in California, the COL Player is my connection to the academic world of DePaul University.

> My experience with distance learning at DePaul has been nothing short of amazing

My experience with distance learning at DePaul has been nothing short of amazing. The current COL Player software is diverse and has served my needs more than I could've ever imagined. The very best thing about COL Player is that it provides many ways to watch courses, whether it be on my iPad, laptop or desktop computer.

Without the COL Player software, I would not be able to pursue this graduate program. Because of this, I will always hold special regard for the COL Player and the hard work of its development team.

However, being a daily user and an HCI student, I've often wondered how I might make the COL Player better. I felt that this project was the perfect opportunity to exercise this challenge.

Why Microsoft?

I make my living as a Microsoft developer and software designer. Therefore, I'm hugely invested in the direction of Windows and all other Microsoft products. Thankfully, roughly 91% of consumer PCs run Windows. While it's true that other software manufactures (Apple and Google most notably) have gained market share (and in some cases *mind* share), it cannot be denied just how pervasive Microsoft products still are.

With its introduction of Windows Phone and subsequently Windows 8, Microsoft has ushered in a completely new design philosophy. Personally, I find that this to be an exciting time to be a Microsoft developer.

However, Microsoft's new design philosophy is radically different and developers are now required to understand and implement it correctly. I decided to use this project as an opportunity to continue my exploration of the new design language.

Some have referred to the current time in computing as the "post PC era". Microsoft chooses to suggest that PCs have simply evolved to include tablet form factors. Interestingly, Microsoft often refers to these tablets as "slate PCs."

With Windows 8, Microsoft has responded to industry demands by creating a "no compromises" solution. Their vision is that a PC device could be both a tablet *and* a computer. Therefore, the new design language tries to employ a "touch first" approach. Essentially, Microsoft has attempted to create a UI that is friendly to touch as well as efficient for traditional mouse and keyboard input.

At this time, it's my understanding that the College of Digital Media has no plans to pursue developing a Windows 8 version of the COL Player. My desire is for this project to serve as a possible concept of what it might look like.

Microsoft Design

What do we call Microsoft's Latest Design?

Believe it or not, Microsoft has been refining this new design language over the last 15 years. Starting back with Encarta 95 and solidified in Microsoft's Zune music players, Windows 8's design has had a long evolutionary process.

Internally, the design was known as the "Metro Design language" as it was inspired by signage found in and around metro transit stations within the Seattle area. With its Swiss influence, it embraces space, clean lines, and minimalism.

Recently, there has been a bit of confusion surrounding the proper naming of the design philosophy. When Windows Phone was introduced in Barcelona, Spain back in 2010, the design was introduced as Metro. This name carried over the next couple of years and became synonymous with describing the "new" way Microsoft was designing its applications.

> Internally, the design was known as "Metro Design Language"

With the introduction of Windows 8, the design borrowed heavily from the Windows Phone platform (and the Zune platform before it) so it was also referred to as Metro. However, months before Windows 8's official release, Microsoft announced that it would no longer refer to the design language as Metro. They did not officially reference what it should be called, although subsequent materials released from the company use terms like: "Windows 8-style applications", "Windows Store applications", and "Modern UI."

The most recent reference, direct from the Microsoft Design Team, refers to the design philosophy as the "Microsoft Design Language". For the purposes of this report, I'll refer to the design used in my prototype as Microsoft Design Language (MDL).

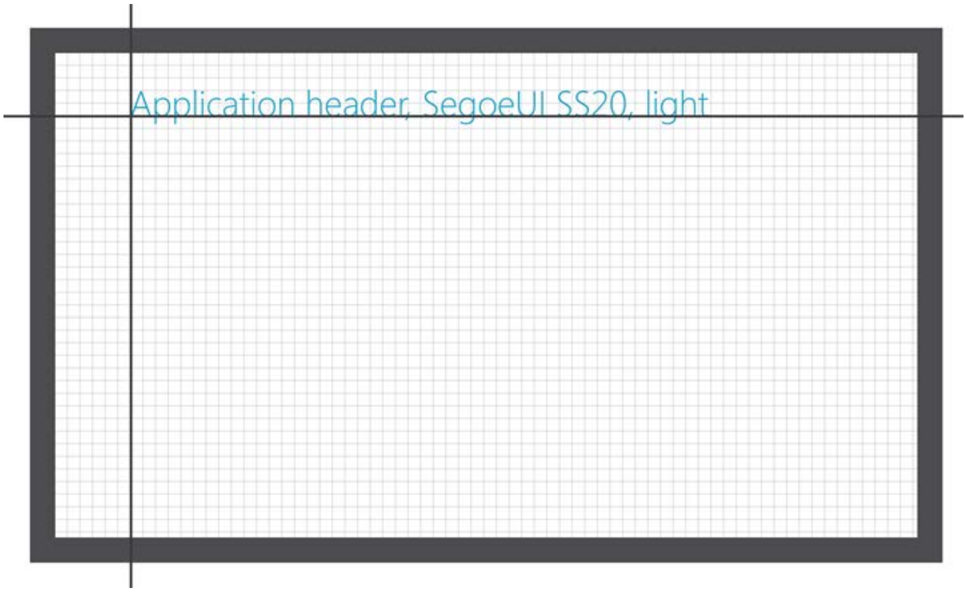
What elements make up the Microsoft Design Language?

MDL focuses on "content over chrome". In other words, Microsoft is urging developers and designers to make the content of their applications the focus. By eliminating things like title bars, windowing, and other system UI elements, MDL provides an interface that is clean and void of any superfluous distractions. The irony is that, with its previous versions of Windows, Microsoft is the one who introduced and promoted many of the design paradigms they are now trying to demote. For instance, the minimize/maximize/close buttons, start menu, hierarchical fly out menus, scroll bars, and other chrome has been eliminated with Windows 8's full screen application experiences.

The use of space also plays a significant role in MDL. The design principles encourage the use of large text and "white space". Microsoft has requested that applications rely on navigational hierarchy rather than complex screens crowded with too much information.

In other words, if you were to have a screen with three different informational sections, Microsoft would prefer that you create *three individual screens* and use navigation to cycle through them. While this may seem like common-sense, many developers struggle with this concept. White space is commonly seen as "wasted space" and the developer's impulse is to fill it with something "useful".

Microsoft is clear in their guidance. They prefer that applications "breathe" even if it means having screens with very little information on them. In fact, each Windows 8 application uses the "Windows Silhouette" which has a top and left margin of six units (120px). That is a pretty wide margin relative to other application styles.

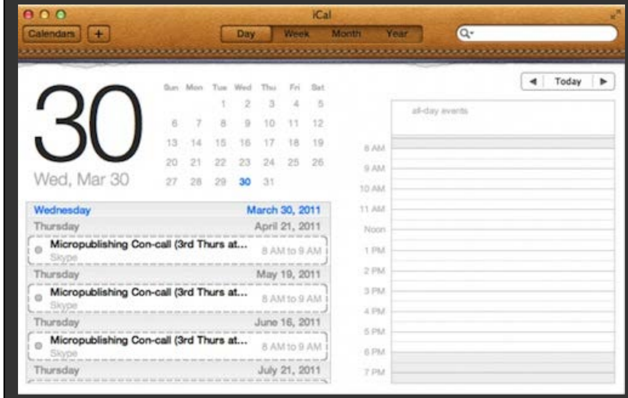
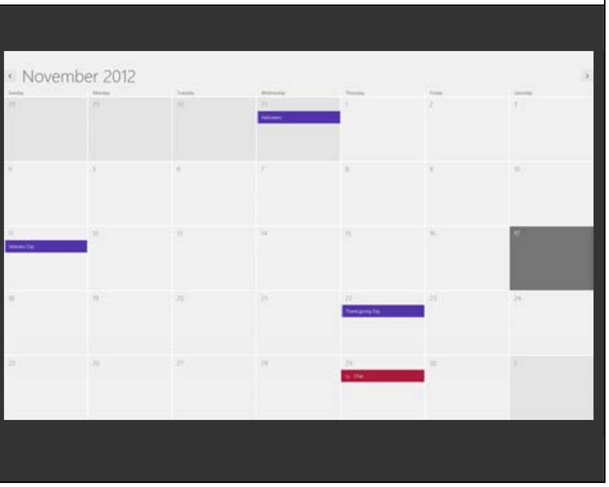


The Windows Silhouette

In MDL, it's acceptable for content to "fall of the page" and the system encourages users to pan from right-to left to reveal new content in the application. The system of panning is referred to as a "panorama" and applications are often seen as a small window of a larger view.

The typography used in MDL is from Microsoft's own foundry. It's called Segoe UI and has various weights (light, semi-light, regular, **semi-bold**, and **bold**). The typeface was inspired by other Swiss graphic designs. Segoe is a sans-serif font with clean lines that express a sense of minimalism, ease, and focus.

Finally, bright colors and a flat UI are also hallmarks of MDL. While other designs promote skeuomorphism, or digitally simulating an analog representative, Microsoft encourages being "authentically digital". Essentially, by removing distractions from the content, it allows the user to focus on the purpose of the application. In the example below, the MDL calendar puts the appointments at the center of focus, whereas the skeuomorphic calendar emphasizes a design that mimics an analog daily planner.

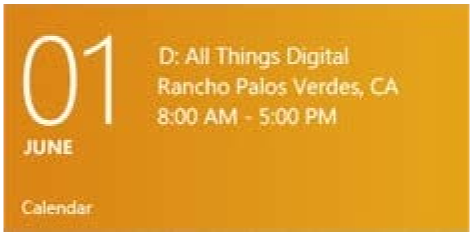
A skeuomorphic calendar example	An MDL calendar example
	

Skeuomorphic Design vs. Microsoft Design Language

This report is not making a declaration of which approach is better, however it should be noted how significantly different each approach is.

Movement and Animation

Due to the nature of the relatively "flat" design of Microsoft's Modern UI, it's vitally important that a sense of movement is experienced by the user. Microsoft refers to this as making applications "feel alive". One way a developer can achieve this, is by instituting a "Live Tile". Essentially, Microsoft



01
D: All Things Digital
Rancho Palos Verdes, CA
8:00 AM - 5:00 PM
JUNE
Calendar

has done away with the traditional icons, found in other operating systems*. In its place, they have instituted tiles that update with relevant application information. Ideally, developers use this mechanism to make their applications feel "personal" as the user's content is dynamically shown without having to load the application. In the example of our calendar, one way a developer might use a Live Tile, is by showing users an upcoming appointment.

Microsoft believes this creates value for users, because it allows them to see pertinent information, at a glance, without having to drill into each application.

Additionally, Microsoft asks that applications feel "fast and fluid". In other words, applications should have subtle animations that show the progress of one screen to the next. Also, when applications display information that is off the screen, subtle indicators (i.e. a slight bump animation revealing hidden content) should be used to notify users of the additional content.

*Technically, icons are still available through the traditional Desktop, but the highly-visible Start Screen promotes tiles.

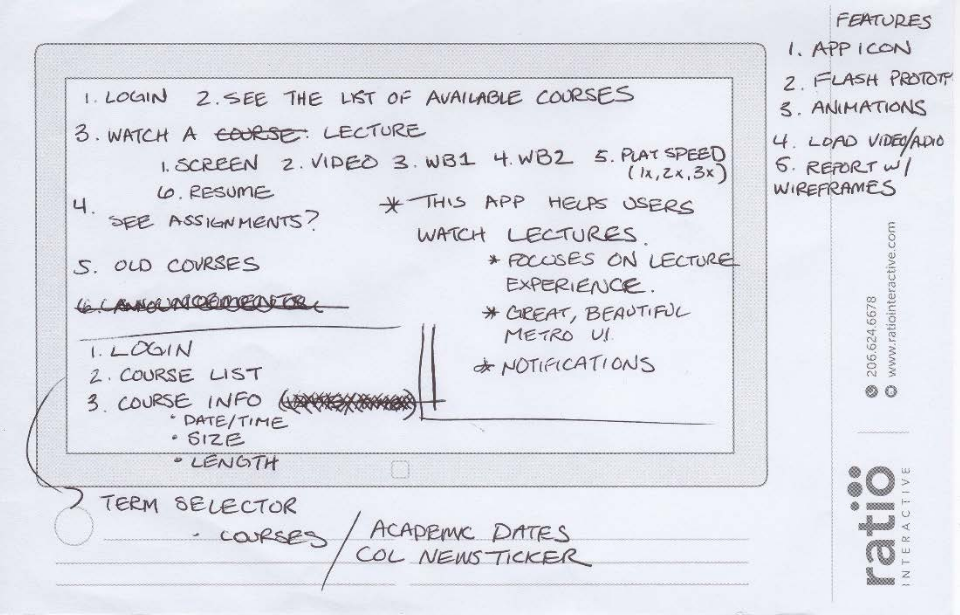
The COL Player Prototype

Early design concepts and wireframes

Being a daily user of the COL Player, I already had a few ideas of how a Windows 8 COL Player should look. The first step in my design was the process of sketching certain elements that would be used in the application. Because time was limited, I decided not to spend a great deal of effort making advanced wireframe models. My belief was that simple sketching would be more efficient rather than trying to achieve perfection with wireframing software.

I also had access to a Windows 8 sketchpad. The layout of each paper mimicked a Windows 8 tablet which lent itself to getting my ideas out much quicker.

First, I started by listing features that I felt the application should have. This helped me start considering my application's focus:



1. LOGIN 2. SEE THE LIST OF AVAILABLE COURSES

3. WATCH A ~~COURSE~~ LECTURE

1. SCREEN 2. VIDEO 3. WB1 4. WB2 5. PLAT SPEED (1x, 2x, 3x)

6. RESUME

4. SEE ASSIGNMENTS?

5. OLD COURSES

~~6. ANNOUNCEMENTS~~

* THIS APP HELPS USERS WATCH LECTURES.

* FOCUSES ON LECTURE EXPERIENCE.

* GREAT, BEAUTIFUL METRO UI.

* NOTIFICATIONS

1. LOGIN
2. COURSE LIST
3. COURSE INFO
   - DATE/TIME
   - SIZE
   - LENGTH

TERM SELECTOR

- COURSES / ACADEMIC DATES

COL NEWSTICKER

FEATURES

1. APP ICON
2. FLASH PROTOTY
3. ANIMATIONS
4. LOAD VIDEO/ADIO
5. REPORT w/ WIREFRAMES

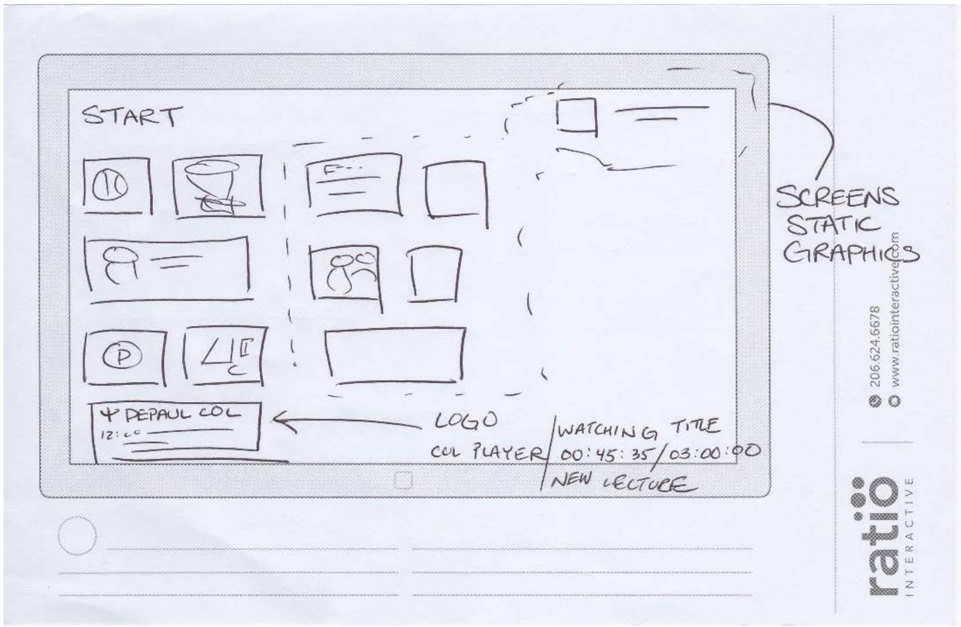
Early List of Features

These features were the features I decided were most important:

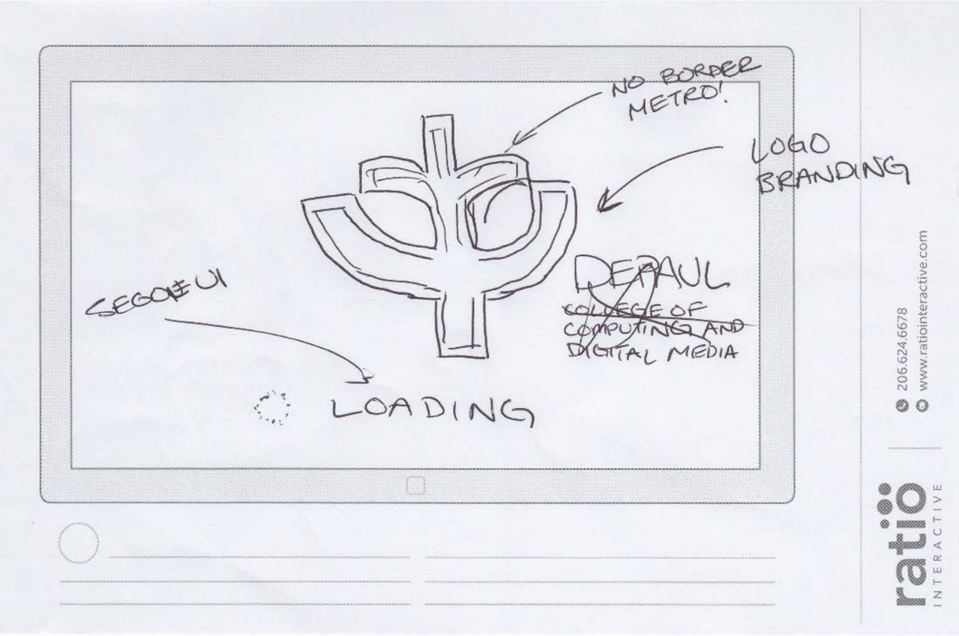
- A Live Tile showing the latest lectures

- Loading animation
- Ability to choose a quarter and course
- Verification that the correct course was chosen
- Ability to view lecture videos, projector slides, and white boards

I began to sketch out the user experience. First I started with the Start Screen and Live Tile:

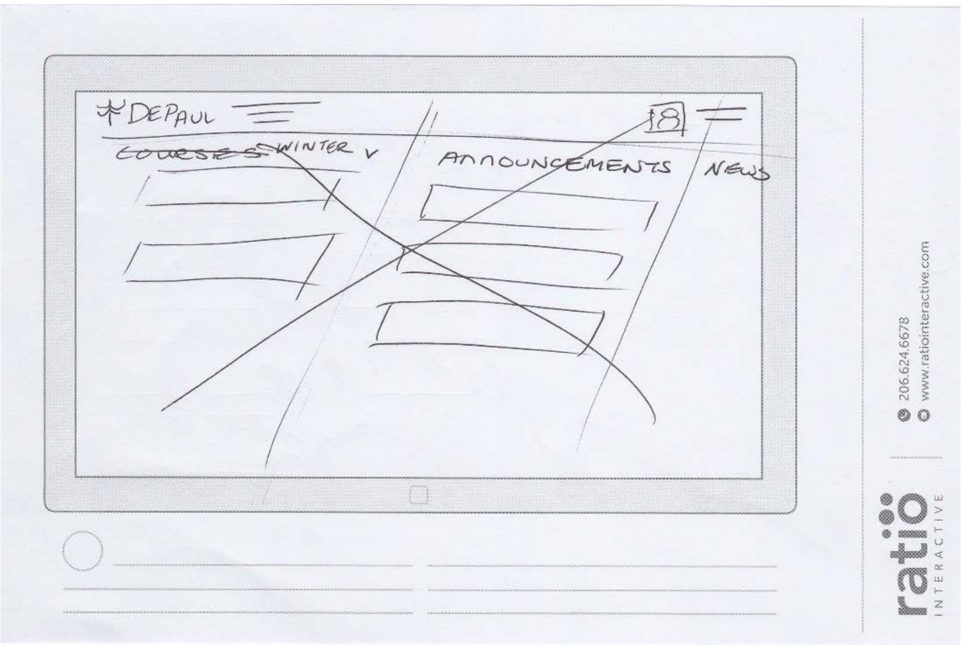


Then, the Loading Screen:



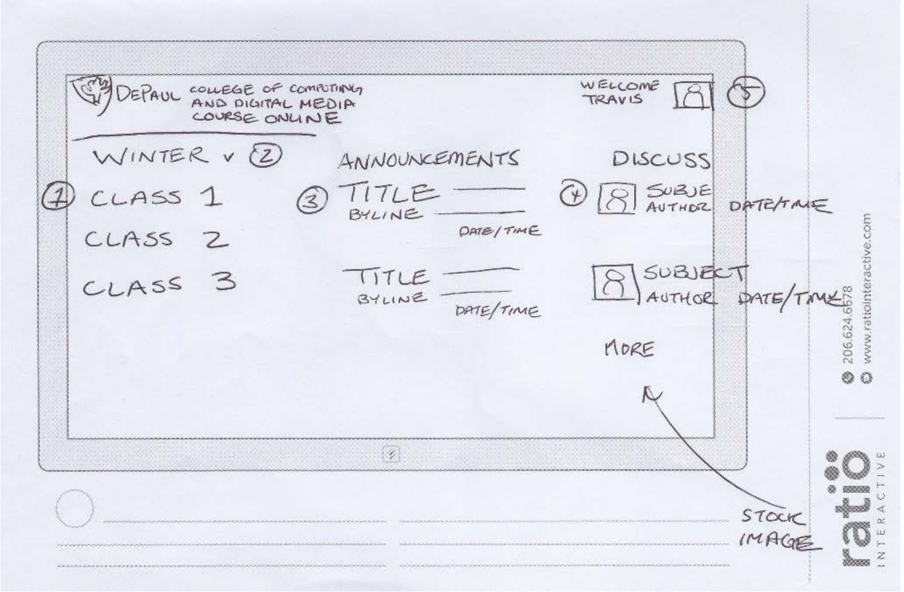
Arguably, the most challenge screen was what I refer to as the "Application" screen. Essentially, this is the crux of the application as it has the most content to display. Ideally, this screen would function as the user's "main hub" of information, by showing them the latest lectures and content. I wanted to make sure that this screen embraced MDL, but I also didn't want to lose DePaul's iconic branding. Therefore, I ended up drawing three iterations until I came to a design that I wanted to pursue.

The first design was the most radically divergent from MDL. Initially, I thought about using rather aggressive diagonal lines to separate sections of the screen, but ultimately this design felt too challenging and started to veer too far from the MDL design principles:



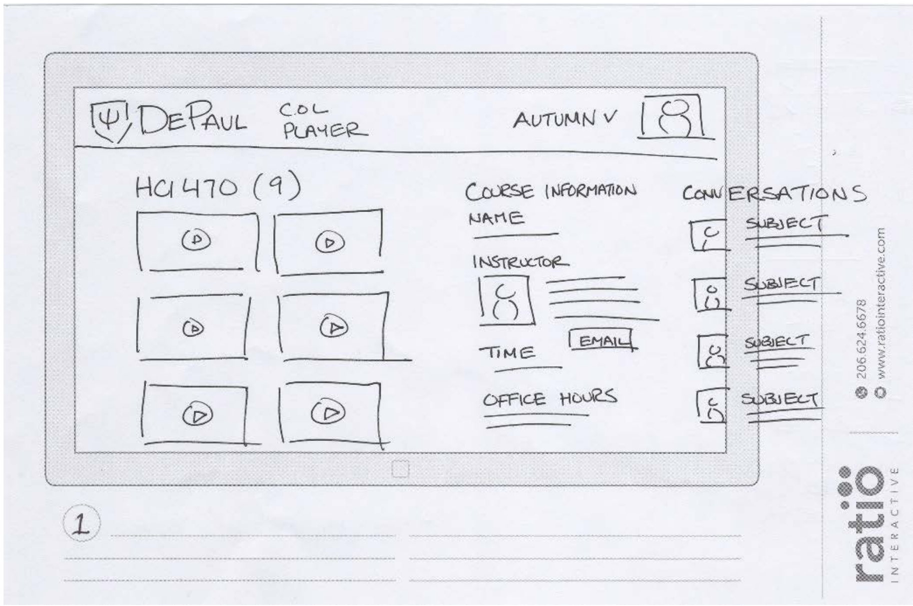
Application Screen Design #1

I then explored a very rigid following of MDL. By looking at the basic templates provided through Microsoft's design portal, I sketched out an experience that was more in line with MDL's specific guidelines. However, I felt this design went too far in the opposite direction. In other words, it felt too "sterile" and it wasn't immediately obvious what the application's value was. Particularly, I struggled with how a user would select courses. In this design, I felt that course selection was given too high of a priority. I believe that the COL Player should be a fantastic *course player* above all else. This design demoted watching videos in favor of selecting courses. At the end of the day, it felt unbalanced:



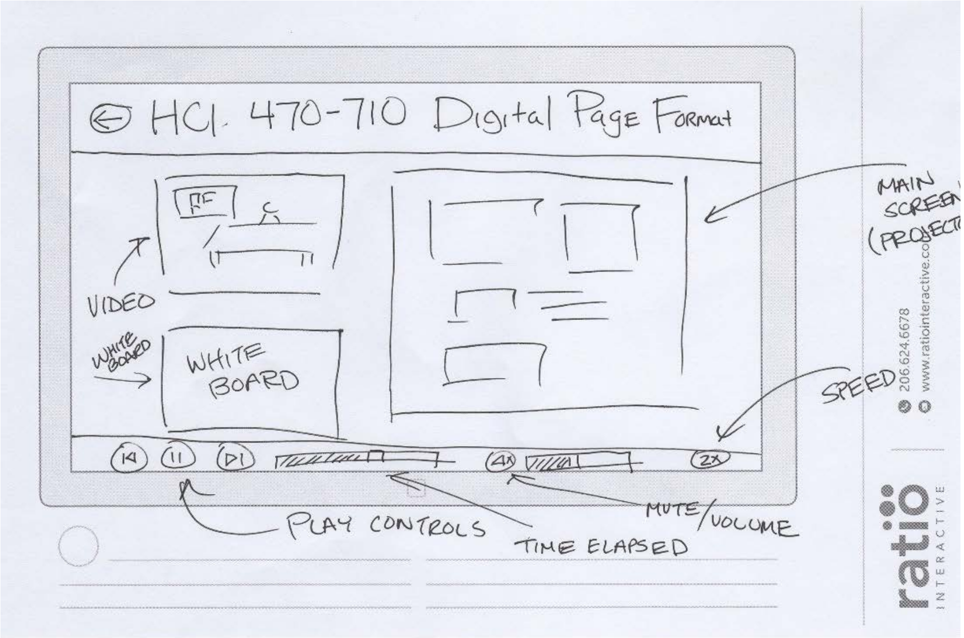
Application Screen Design #2

I eventually settled on a design that melded both earlier sketches. By moving the selection of courses to the upper-right corner, this made space available for thumbnails of lecture videos. Additionally, moving the course selection to the upper-right corner, helped me focus on what the header might look like. I discovered that this was a great space for branding and I began to think of how I might use distinct colors to give the application a distinctive DePaul look and feel:



Final Application Screen Design

Finally, I sketched a drawing of the video player. This did not prove as challenging, as it was pretty evident what components were required (camera view, projector view, white board, player controls, etc.):



Video Player

High fidelity designs and early feedback

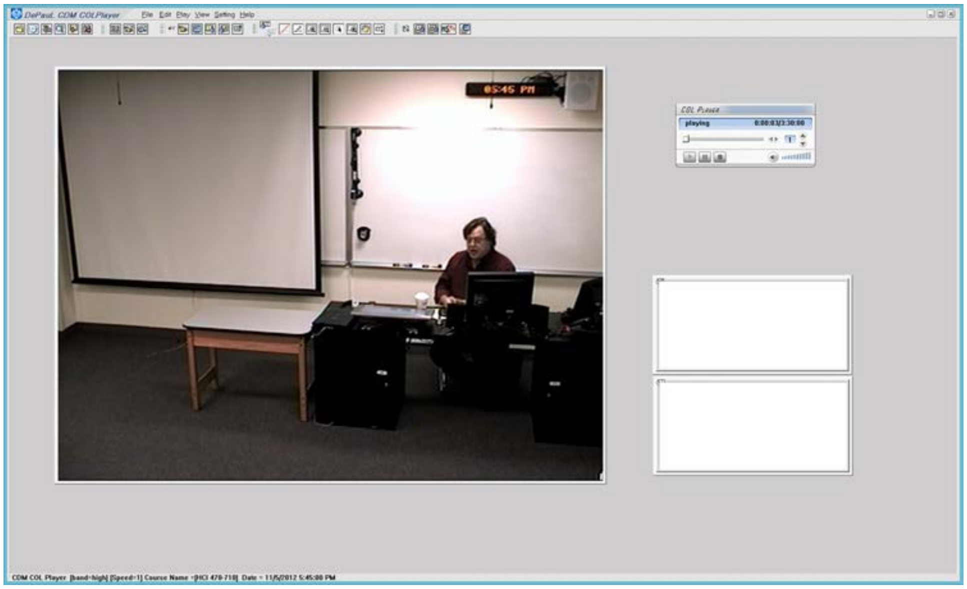
It took roughly a week and a half to design all of the components used in the final prototype. Using the collection of my sketches, I began to create detailed Photoshop compositions. The Microsoft design portal provided a series of Photoshop document templates that saved me a considerable amount of time.

The areas I struggled most with were branding and course selection. In regards to course selection, I wanted the application to be informative about which course was selected. I had concerns that users would “get lost” within the application and that it wouldn’t be clear what course they were watching. Additionally, I needed an easy way for users to switch to another class.

One of the biggest challenges with MDL is discoverability. It relies heavily on user intuition and willingness to press items to discover their purpose. Unlike traditional Windows Applications, I could not rely on a menu bar to nest a variety of options and functions.

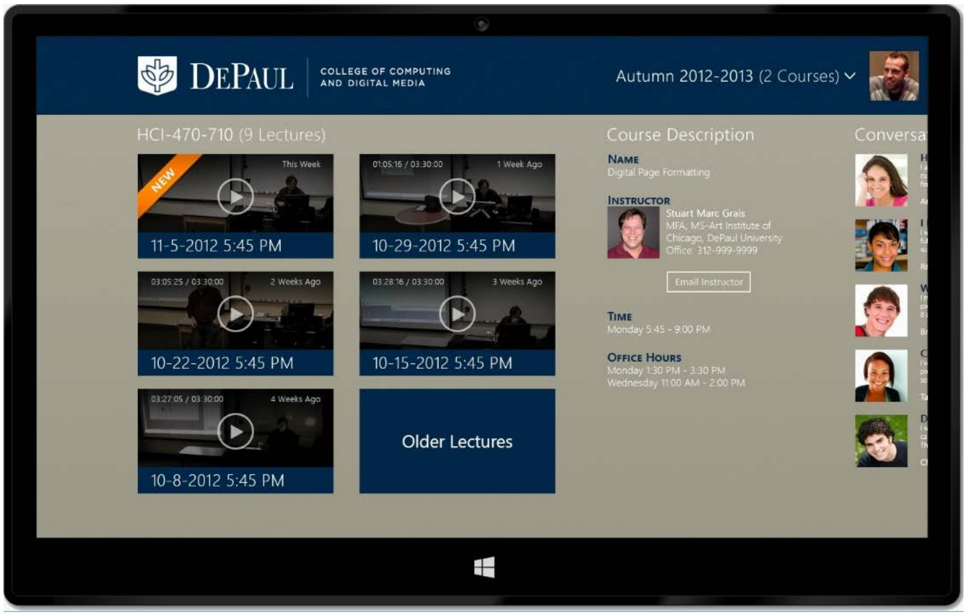
I created multiple iterations of designs and used my wife as a usability subject. She was completely unfamiliar with how the traditional COL Player worked and my goal was to create a layout that felt intuitive to her. I began modifying the design and paying close attention to her ability to discover and explain the purpose of each component. I also made notes of comments or areas that created confusion.

I finally came to a design that required very little instruction on how it should be used.



CDM COL Player [band=high] [Speed=1] Course Name =[HCI 470-710] Date = 11/5/2012 5:45:00 PM

Traditional Windows COL Player



Autumn 2012-2013 (2 Courses)

HCI-470-710 (9 Lectures)

This Week
11-5-2012 5:45 PM

01:05:16 / 03:30:00 1 Week Ago
10-29-2012 5:45 PM

03:05:25 / 03:30:00 2 Weeks Ago
10-22-2012 5:45 PM

03:28:16 / 03:30:00 3 Weeks Ago
10-15-2012 5:45 PM

03:27:05 / 03:30:00 4 Weeks Ago
10-8-2012 5:45 PM

Older Lectures

Course Description

Name
Digital Page Formatting

Instructor
Stuart Marc Grais
MFA, MS-Art Institute of Chicago, DePaul University
Office: 312-999-9999

Email Instructor

Time
Monday 5:45 - 9:00 PM

Office Hours
Monday 1:30 PM - 3:30 PM
Wednesday 11:00 AM - 2:00 PM

Conversa

New Windows 8 COL Player

Another area I spent a great deal of time with was color and contrast. I had settled on using DePaul blue early on, but I encountered issues when using it with other colors from the design template. Most notably, Windows 8 encourages the use of black and white with bright colors. It creates a great contrast, but because the blue I wanted to use was equally dark, it was not working. I tried several iterations and combinations of blue and even sent out screenshots over Twitter to collect feedback.

One of my Twitter followers suggested using a lighter color for the background. I began playing with muted greys and blues and eventually settled on a khaki color for the background. I felt that it embodied an academic feel and it also created a great contrast amongst the blue and white elements.

Conversations

After settling on a definitive design for the Application screen, I decided that I needed a third column of content for the application. I referenced the COL website from my account and tried to decide what content would be appropriate for the available space.

Following MDL, I knew the content should be something that augmented watching videos because that was the Application screen's purpose. Anything that would detract from the focus of playing lectures (e.g. a list of assignments, or campus news) would be against the guidelines.

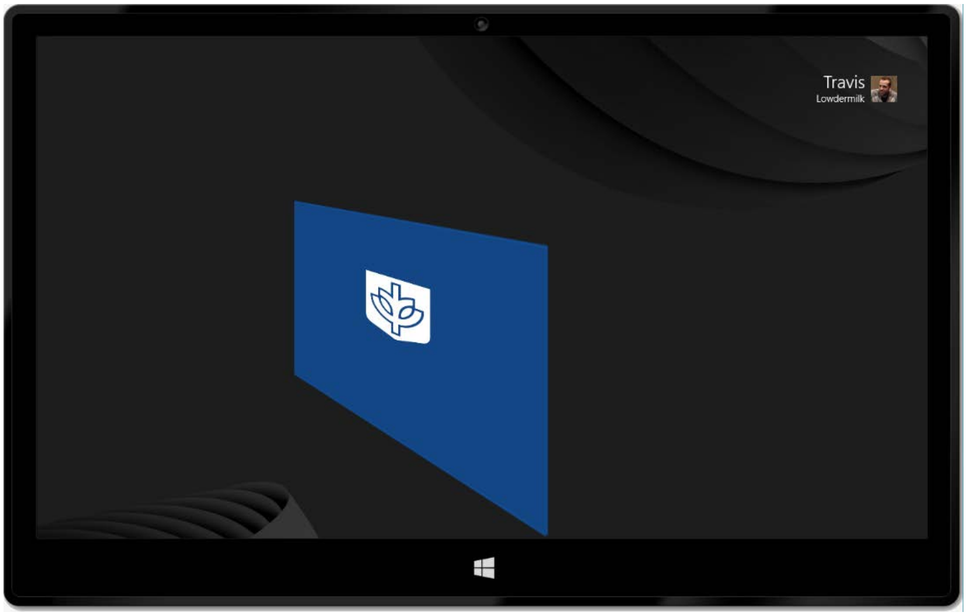
Therefore, I decided to take some artistic liberty and create my own feature. I thought about features that could enhance watching lectures and decided that a list of conversations between other classmates would be interesting.

Using some stock images of students, I simulated a thread-like conversation section.

Movement and Animation

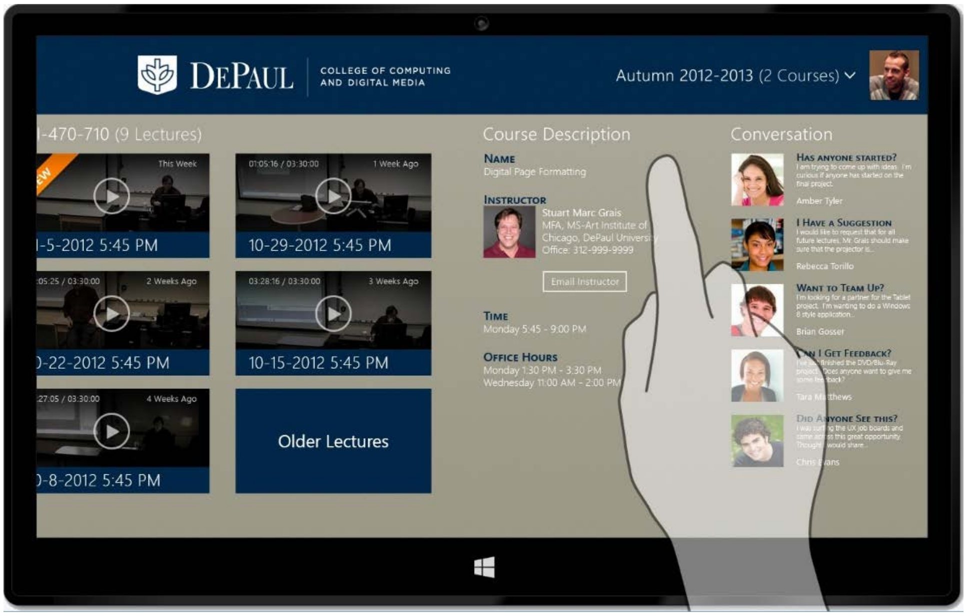
As stated earlier, animation and movement was going to be important in my prototype, but this proved challenging to create in Flash.

The most frustrating aspect was that Windows 8 animations are so subtle, yet incredibly difficult to create. For instance, the loading animation features the Live Tile flying toward the user and rotating in a 3-dimensional space. This animation is barely noticeable to the user, but took several attempts to perfect. Without the animation, the transition would've felt flat and uninspired.



COL Player Loading Animation

Other animations I employed were an updating Live Tile (displays the latest available courses) and transitions between screens. Also, by clicking the Conversations section of the screen, an animated hand becomes visible and demonstrates how the application pans from right to left:



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Conversation

Has anyone started?
I am trying to come up with ideas. I'm curious if anyone has started on the final project.
Amber Tyler

I Have a Suggestion
I would like to request that for all future lectures, Mr. Grais should make sure that the projector is...
Rebecca Torillo

Want to Team Up?
I'm looking for a partner for the Tablet project. I'm wanting to do a Windows 8 style application...
Brian Gosser

Can I Get Feedback?
I've just finished the DVD/Blu-Ray project. Does anyone want to give me some feedback?
Tara Matthews

Did Anyone See this?
I was surfing the UX job boards and came across this great opportunity. Thought I would share...
Chris Evans

Panorama Animation

While many more elements could've been animated, time was a significant constraint. Therefore, I decided to animate the core elements of the application. Overall, I feel like I was able to achieve an appropriate balance for a prototype. Essentially, the application still feels alive without the need for every piece to be animated.

Final Thoughts

While I consider myself rather versed on Microsoft's design philosophy, this was the first Windows 8 application I've designed from sketch to concept. I learned a great deal about the benefits and challenges of Microsoft design. Here are a few things that stood out:

Content is King

Although this is certainly not a new idea, the notion of having great content is paramount in Windows 8 development. Many times, I thought how difficult designing this application would be without access to rich content. For instance, without profile pictures, course details, and other supplemental information, the application would've looked plain and boring.

I took artistic liberty with the video thumbnails used in the Lectures column. In a real application, my guess is that these thumbnails would not exist. Most likely, the application would just list the dates of the available lectures. Obviously, not having video thumbnails would dramatically reduce the visual effect of the application.

In the end, having a beautiful Windows 8 application requires that you not only have engaging content, but content that presents well when made the center of the application's focus. I'm sure this is often missed by developers until they find themselves well into the process of creating their Windows 8 application.

My recommendation for any developer that might want to consider making an MDL style application would be that they carefully consider the content their application will provide. Additionally, they should explore the visual quality of their content. In Windows 8 design, it's not enough to have images, they must be high quality images, so they can be used as the focus of the application.

I think that content is the biggest barrier to development on Windows 8. Up to this point, developers and designers could hide behind flashy chrome to make their applications engaging for users. With the removal of chrome in favor of substance, it's impossible to ignore when an application lacks good content.

Movement Matters

I never realized just how nuanced Windows 8 animations were. Having to painstakingly re-create animations in Flash, I have a whole new appreciation for the Windows Design Team. This is incredibly difficult work. The worst part is that, these animations are so subtle, most users are unaware of their presence. However, without them, Windows 8 would feel dull and flat. Interaction design is such an essential part of the Windows 8 experience and I now have even more respect for what it provides. This project has made me more cognizant of this type of design and the overall effect it has on the user experience.

I have a whole new appreciation for the Windows Design Team

More than any other element (tiles, colors, contrast, typography), my belief is that interaction and animation plays the largest role in the look and feel of Windows 8.

Going Forward

I'm incredibly excited about the opportunities and challenges that Microsoft's new design language provides. As the personal computer industry shifts to more pervasive devices (large screens, surfaces, tablets, phones, and convertibles) it's becoming necessary for developers and designers to adapt. Now, more than ever, developers must consider the impact of their designs and how to create engaging experiences on a multitude of devices.

This project was an invaluable learning experience that has made me a more informed designer and developer.

References

Windows Phone Design Portal – http://dev.windowsphone.com/en-us/design

Windows 8 Design Portal – http://design.windows.com

Microsoft Design Language: The newest official way to refer to 'Metro', by Mary Jo Foley (ZDNet) [Oct. 29th, 2012] – http://www.zdnet.com/microsoft-design-language-the-newest-official-way-to-refer-to-metro-7000006526/