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| Designing for  Modern UI  Instructor Guide |
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## Overview

This instructor guide is a companion to the Designing for Modern UI (Windows 8) student curriculum and lesson files. This guide includes class setup and/or preparation notes for each of the eleven curriculum modules, as well as alternate exercises for students and additional review questions.

* This curriculum provides tutorials on how to design for the Windows 8 UI **NEW WINDOWS UI** language;
* The content is **100 Level**; Can be used in class such as part of a UI/UX class or for self-paced independent learning;
* Focus of content is on new Windows UI style design;
* **Prerequisites:** none; suitable for any college student, including business, social sciences, liberal or fine arts, students who may have little or no computer programming background;
* **Audience:**  any audience; no programming skills required; early modules start from basics and build skills required for more advanced topics;
* Because this content can be used as part of an **Academic class** this will include background information, describing problems that are being solved, and provide background information as well as terminology that would relate to Human Computer Interaction (HCI).

## Assets:

* 11 videos
* 11 printed guides
* Sample applications
* Photoshop Templates
* Basic Grid

## How to use this instructor guide and the accompanying lecture notes

The goal of the instructor guide is to provide you a structured way to supplement the content covered in the student curriculum. Further, this guide includes additional content that is not covered in the student guide and can be used for advanced students or for additional exercises with your class.

Based on your class structure, here are some suggestions on how to use this guide.

1. As supplemental in-class exercises. Each curriculum module has exercises that are very similar to those found in the student guide, only with different content. You might choose to walk through these exercises with the entire class in order to reinforce concepts.
2. Additionally, you could print or otherwise deliver these exercises to students to complete on their own as in-class labs or out-of-class homework.

### The 11 curriculum modules

* Module 1: The New Windows UI Design Solution
* Module 2: User Experience Design Fundamentals
* Module 3: Applying User Experience Process to New Windows UI Applications
* Module 4: Introduction to New Windows UI Design Principle: Do More With Less
* Module 5: Organizing Features to Fit the Scenario
* Module 6: Introduction To New Windows UI Design Principle: Pride in Craftsmanship
* Module 7: Being Fast and Fluid, and Authentically Digital
* Module 8: Winning as One: Using Charms Contracts
* Module 9: Live Tiles and Notifications
* Module 10: Designing for Multiple Screens and Resolutions
* Module 11: App Submission Process

The 11 modules provide an overview of the new Windows UI style app design process, beginning with an overview of what a new Windows UI style app looks like and how it integrates with the Windows 8 platform. Basics of User Experience design are also covered as it relates to the design of all applications, and then narrowed down to how you can use that information to design a successful new Windows UI style app.

## Starting up

Make sure that you are familiar with this section, as it contains important information regarding the requirements recommended for this curriculum.

## Prerequisites

There are a few basic requirements that all users must meet before starting the lessons in this curriculum. It is not necessary, but helpful, if students have some experience in organizing content for either applications or websites. Though it is not required for this curriculum, it is also helpful if the students have experience in basic design tools, such as Adobe Illustrator or Photoshop.

## Tools

The tools needed for this curriculum are a pencil and paper, preferably a sketchbook that students can use to keep notes, and monitor iterations of their work.

If the student wishes to investigate the supplied Photoshop templates, they will need Adobe Photoshop installed.

## Loading lesson files

In this module, there are very few lesson files, as most of the files are created by the students as they progress through the modules. There are reference files supplied, such as the Grid, and Photoshop Templates, that they can load as needed.

## Images used in this curriculum

It is important to remind students that the images in this curriculum are copyrighted and licensed for educational use only with this curriculum, and they are not to be re-used or repurposed without express written consent.

## Additional information available on new Windows UI style apps

Throughout the curriculum, you will find references to more advanced topics that are suitable for follow-up assignments. For a further discussion of the topics we recommend the [MSDN site for new Windows UI style apps](http://msdn.microsoft.com/en-us/library/windows/apps/hh465037.aspx).

# Module 1: The New Windows UI Design Solution

Module 1 includes an overview of the Windows 8 platform, and how new Windows UI style apps fit into the user experience. This module introduces components to designers that not only should they be aware of, but that they should integrate into their own application designs.

Designing an app for Windows 8 is unlike designing for any other platform. There are many opportunities to integrate with other applications and allow your app to focus on what it is great at. Unless your students have a true understanding of how charms, app bars, nav bars and the canvas work together they will not have the opportunity to design the best new Windows UI style app they can.

## Online resources

[www.design.windows.com](http://www.design.windows.com)

This website includes fundamental information about the design and development of new Windows UI Style apps.

Additional assignments

The best way to have students truly understand the capabilities available to them is for them to evaluate existing apps and discuss scenarios that could be added to improve an application.

Open the Calendar app, what sharing scenarios can your students come up with that would take advantage of the calendar and its content?

Write an imaginary app on a whiteboard, for example **Recipe app**. Now have your students come up with at least 10 scenarios where this app can be integrated with other apps using one of the charms. These scenarios are imaginary, so don’t dwell on the specifics of how they would be created. The goal of this exercise is to open the students’ minds to additional opportunities in their design.

Examples could be as follows:

* Share recipe with a friend through instant messaging
* Take a picture of something made to post using the camera app
* E-mail a recipe to others
* Search for a recipe that fits a certain cuisine
* Assign a recipe to the calendar, essential building a menu for different days of the week
* Use the Search charm to find a recipe that uses specific ingredients
* Share the recipe with a blog post
* Use the Devices charm to print the recipe
* Use the Devices charm to send the recipe to another screen, perhaps in the kitchen
* Share your comments with others about a certain recipe
* Rate a recipe
* Change preferences to display on a certain type of food
* And more!

## Questions

1. Why is it important that a designer understands the entire Windows 8 platform and what it has to offer.
2. Why is a good idea to take advantage of charms, such as Search and Share?

## Answers

1. The information architecture of a Windows 8 app is very different than an app for any other platform. This is because there are components, such as charms, apps bars and nav bars that don’t exist in other platforms, as well as views, such as Snap and Portrait that must be accounted for.
2. By focusing on what your app does best, you can pass on functionality to other applications that can better handle additional tasks. For example. If you are an online photo editor, you can take advantage of the camera, and import the images into your application instead of creating your own camera drivers.  
   It is also important to use charms because it builds on muscle memory for the user. They always know where to look for settings, search, and sharing capabilities.

# Module 2: User Experience Design Fundamentals

In this module, your students learn the fundamentals of the user experience design process. This session explains and navigates your students through a typical process that a UX designer might follow when creating any app. It is important that you frame this module as a precursor to creating new Windows UI style apps. New Windows UI style apps are rooted in good user experience and are the key to building apps that are successful.

Keep in mind that the field of user experience design has roots in human factors that focuses on the interaction between human users and machines such as computers and the apps that run on them. The term specifically “User Experience” came into existence in early ‘90s with the proliferation of computers at work places. It was Donald Norman, User Experience Architect, who coined and brought this term to wider knowledge.

**The importance of research**

Typically in a classroom setting, you do not have the luxury of time to dedicate to research, yet it is important for designers to understand that if they do not have an in-depth knowledge of the product or service that they are building an app for, that they need to do some homework.

It is not unusual for UX professionals to spend inordinate time researching their subject online and in the field until they feel that they ARE the user. Being a UX designer is not a 9-5 job, and to do it well, a designer must become fully immersed in the project. Getting feedback is still important, but in many instances, even users are unsure how their needs can be met.

## It is all about the scenarios

No matter what you are designing, stairs, doors, or coffee makers, it all requires an investment in time in researching how that product will be used. This is not new to the design industry, but can be unfamiliar to some in the world of application design.

To help students build scenarios, the story matrix is introduced; it allows the story-making (or scenario) process to feel less foreign and easier to create. This is a great group project that allows the class to interact with each other, and can lead to some fun commentary as well. Keep in mind that the students should add content vertically in each column, adding random people, places, activities or motivations, and that these should not intentionally relate to each other horizontally.

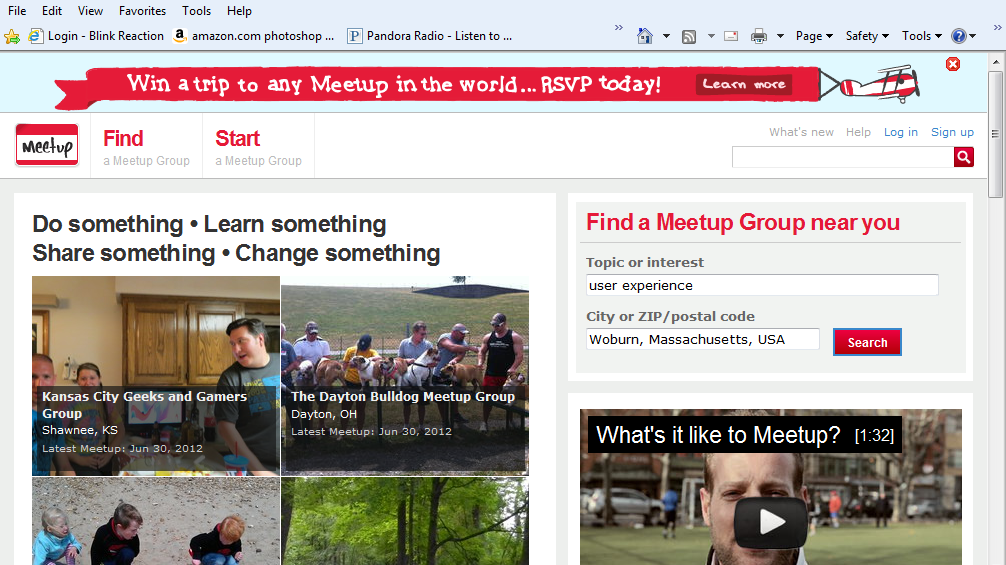
|  |  |  |  |
| --- | --- | --- | --- |
| **People** (list 10) | **Places** (list 10) | **Activities** (list 10) | **Motivations** (list 10) |
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| 2. |  |  |  |
| 3. |  |  |  |
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| 10. |  |  |  |

## Online resources

[Human Factors](http://en.wikipedia.org/wiki/Human_factors)  
Human factors involves the study of all aspects of the way humans relate to the world around them, with the aim of improving operational performance, safety, through life costs and/or adoption through improvement in the experience of the end user.

## Other Resources

[**meetup.com**](http://www.meetup.com)Since UX is a relatively new concept, (term coined in the early 1990s) you will want to be a part of a group that is discussing the latest trends and successes. Look for Meetup Groups that are focused on user experience and design; there are many in your local area.

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Go to meetup.com to find others in the local UX community.

Additional assignments

Additional exercise for this module can vary depending upon the time that you have available. This curriculum is meant to be used in a collaborative fashion.

Some fun and dynamic group projects could include the following:

Make-believe app

1. Using the following subjects, create a matrix of different types of users who might use the following apps:

* Ski conditions app
* Hiking app
* Pizza Joint finder
* …or create your own

1. Have students participate as a group to create a story matrix based upon the subject you choose.
2. Have students individually pick one item from each column.
3. Give students 15-20 minutes to create a paragraph or story about their user.
4. Since collaboration is the key to success in UX, have students discuss, with another person, their story. Ask for volunteers to read their stories out loud in class.

## Questions

1. Why is it critical to have a story(s) before you start the application process?
2. How important is a UX designer’s artistic abilities when it comes to sketching designs?

## Answers

1. Building a story helps both the designer and developer focus on scenarios and features that fit the users’ needs. It is easy to lose track, or focus throughout the design and development process. A story helps to avoid diversion from what is important.
2. Many times designers are confused by what artistic abilities are required in the UX design process. For most of the work, the ability to sketch rough designs that show the flow of information, the information architecture, is all that is needed. If you lack artistic capabilities, you may want to incorporate a visual designer into your workflow when you begin determining the look of the controls, backgrounds images, and more.

# Module 3: Applying User Experience Process to New Windows UI Applications

In this module, your students take the principles covered in Module 2, “User Experience Design Fundamentals,” and apply them to building their own new Windows UI style app. They can choose to build the app from one the examples concepts provided, or build from their own concept. Students will spend a considerable amount of time in the planning stages of creating a new Windows UI style app, which might be different than any experiences that they have had in the past with building apps. The benefit to this planning is that development time should proceed more efficiently, due to the student’s planning and preparation.

## Five steps to start creating your new Windows UI-Style app

Creating a new Windows UI style app, much like creating any other kind of app, is a process that can be broken down into steps:

Step 1: Creating a best-at statement  
Step 2: Brainstorming scenarios that relate to your app  
Step 3: Removing features that are not considered scenarios  
Step 4: Combining and prioritizing scenarios  
Step 5: Picking a navigational pattern

What the students should understand is the importance of creating scenarios of how users might take advantage of their app and then focusing on those scenarios to build the foundation for the rest of their application.

### Sketching ideas

It is important that you keep your students off the computer and in their sketchbook at all times. Help them to understand that they do not want to invest their ideas into a workflow that is time-consuming. It is easier to crumble up a piece of paper, or turn the page, to start a new concept, rather than delete a project that they invested hours of time on in Photoshop, or Illustrator.

## Online resources

To get more information on user experience and new Windows UI style design use the following resources:

[**Design.windows.com**](http://www.design.windows.com)Website that includes specifications for designing new Windows UI Style apps.

[**www.windowsuserexperiencetraining.com**](http://www.windowsuserexperiencetraining.com)

This site includes a full day’s worth of speaker presentations on the subject of design UX for new Windows UI Style apps.

**Sketching User Experiences: The Workbook-Book**

Saul Greenberg, Bill Buxton  
ISBN-10: 0123819598

*In Sketching User Experiences: The Workbook*, you will learn, through step-by-step instructions and exercises, various sketching methods that will let you express your design ideas about user experiences across time. Collectively, these methods will be your sketching repertoire: a toolkit where you can choose the method most appropriate for developing your ideas, which will help you cultivate a culture of experience-based design and critique in your workplace.

Additional assignments

If you can spare two hours for a classroom project have students think about how they could create a cookbook app in both the flat and hierarchical pattern.

The final deliverable should include the following:

* Best-at statement
* At least three scenarios
* Sketch in both flat and hierarchical patterns

## Question

1. Why is it important that you stay off the computer through the early planning stages of building a new Windows UI style app?

## Answer

1. The process of iteration requires that you do not feel that you are “owned” by your designs. This means that you did not invest so much time into your design that you can’t bear to throw it away and start from scratch.

# Module 4: Introduction to New Windows UI Design Principle: Do More With Less

This module builds on the exercise in Module 3 where students created a “best-at” Statement and then created scenarios that followed situations that the user might be in when using their application. In this module, students will start recognizing the relationship between the user experience process, discussed in Module 3, and how it relates to the features and organization of content in a new Windows UI style app.

## Online resources

[**Brainstorming**](http://en.wikipedia.org/wiki/Brainstorming)Brainstorming is a group or individual creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its member(s).

[**What is a feature?**](http://en.wikipedia.org/wiki/Features)

A feature is an intentional distinguishing characteristic of a software item (in performance, portability, or - especially - functionality)

Additional assignments

It can be difficult to determine what a scenario is, and what a feature is. More about features is covered in Module 5, but it is good to start the students on some exercises to help them recognize a true scenario.

Provide this list to your students, read aloud each one and have them call out whether it is a scenario, or a feature:

* Finding a nearby used car dealer on a map (scenario) Map would be the feature
* Send an e-mail to the dealer (feature) Send a bid online to a dealer would be a scenario
* See galleries of used cars (feature) Locate and filter galleries to what is in my price range would be a scenario
* Send a picture of the used car I want to a friend (feature)
* Compare used cars with up to four cars (scenario)

## Questions

1. When designing a new Windows UI app, where do you factor in the scenarios?
2. Why is it important to filter out features that use the charms?

## Answers

1. In a new Windows UI app, the scenarios typical end up reflected directly on the main screen or the hub.
2. As mentioned in earlier modules, the Windows 8 platform enables your apps to focus on what they do best. By eliminating features that can be performed with charms, it allows you to focus your effort on the capabilities that are specific to your application. It also enforces the “one-place-to-look” concept that is so important on the Windows 8 platform.

# Module 5: Organizing Features to Fit the Scenario

In this module, students discover the relationship between the scenarios that they have created in Module 3, “Applying User Experience Process To New Windows UI Applications,” and the related features they created in Module 4, “Introduction to New Windows UI Design Principals: Do More With Less.”

Students now discover how to organize features as commands on the canvas, or in the App bar. The App bar is a unique method for presenting features in a new Windows UI app that is only available in the Windows 8 platform.

## Online resources

* [Design.windows.com](http://www.design.windows.com)  
  Web site that includes specifications for designing new Windows UI Style apps.
* [www.windowsuserexperiencetraining.com](http://www.windowsuserexperiencetraining.com)

This site includes a full day’s worth of speaker presentations on the subject of design UX for new Windows UI style apps.

Additional assignments

Have students partner with one other in the class to evaluate placement of features and controls. Make sure that they have a checklist to follow:

* Does a control need to exist on the canvas, or should it go to the app bar?
* Are all navigational items in the top navbar?
* Are the icons consistent in placement on all screens?
* Are the app bar items grouped appropriately?
* Should any of the app bar items use charms?

## Question

1. Sometimes you will need to put a control on a canvas. Name three scenarios in which you might consider putting a control directly on the canvas, and not in the app bar.

## Answer

1. Three examples of when you might consider putting a control on the canvas and not in the app bar. Students can greatly vary on their response to this question.

* When there is no content, this could be in a content area that holds favorites. An “Add favorite” control would be expected.
* When a user might not see the content they need immediately. For instance, they are booking a flight and want to see more immediately, a “See more flights” control would be in order here.
* When content of any kind is overflowing on a horizontally panning screen. If additional columns are not created automatically, a “See More” control would be appropriate here.

# Module 6: Introduction to New Windows UI Design Principle: Pride in Craftsmanship

In this module, students learn how the grid is used in new Windows UI style design and how type is handled using the typographic grid and the type ramp. By the end of this module, participants will feel confident in their understanding of the guidelines for using both the grid and type in new Windows UI style applications.

## The new Windows UI type ramp

The term “type ramp” is actually **not** a commonly used term in application design and is one of the elements of design that seems to be uniquely tied to new Windows UI. Microsoft’s emphasis on using the type ramp is still evolving. At the time of this writing, they are not placing as much emphasis on requiring four font sizes as they were in early forms of documentation for new Windows UI. Be aware that due to the complexity and scale of documenting an operating system that there may be conflicting or confusing documentation on the “rules for type” even on Microsoft’s official site.

## The new Windows UI silhouette

This section describes the role of the new Windows UI silhouette when designing an application. Although the role of the grid and the silhouette is intended to provide guidelines for design, it is important that students remember that the ultimate goal is to address the needs of the user. Layout decisions should always be focused on how the experience benefits the user.

## Additional resources

The following resources can help you understand the role of type and grid layouts from an historical as well as a practical viewpoint.

* **Laying out an app page**

An in-depth look at how the pattern for margins, page headers, gutter widths, and other elements creates the new Windows UI silhouette.

<http://msdn.microsoft.com/en-us/library/windows/apps/hh872191.aspx>

* **Making and Breaking the Grid: A Graphic Design Layout Workshop by Timothy Samara**A comprehensive layout design workshop that covers the rules of grid-based design and demonstrates how to apply them to real-world projects. Although focused on print-based layout, the principles transfer well to the screen and app design.
* **Swiss Graphic Design: The Origins and Growth of an International Style, 1920-1965 by Richard Hollis**This book looks at the uniquely clear graphic language developed by Swiss designers and their role in developing the graphic design language that inspired new Windows UI.
* **Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students (2nd ed.) by Ellen Lupton**This book goes into the details of typography and covers concepts such as font families, the usage of baselines and other fundamentals that will help you put the principles of using type in new Windows UI apps in a broader context.

Additional assignments

Ask students to examine other forms of grid layouts such as newspapers, magazines, and websites, and sketch out the grid structure using paper and pencil.

Have students repeat this assignment with popular new Windows UI apps to see if they can “expose” the grid structure within. Do all apps use the new Windows UI silhouette? If not, why not?

## Questions

1. New Windows UI style apps use units and sub-units (measured in pixels) to help standardize layouts. Name the pixel measurements for the unit as well the sub-unit.
2. It is highly recommended you stick with the following three font choices when building a new Windows UI style application: Segoe UI, Calibri, and Cambria. Name the general scenarios where you would use each.
3. What is a type ramp in the context of a new Windows UI style app? What is the relevance of a type ramp when working with grid layouts?

## Answers

1. The unit in new Windows UI style apps is 20px by 20px and a sub-unit is 5px by 5px.
2. Segoe UI is most often used for User Interface elements such as buttons and date pickers. Calibri is most often used for small snippets of text that the user both reads and writes such as e-mail and chat, or as the header of an article. Cambria is often used for larger blocks of text such as an article.
3. A type ramp in the context of a new Windows UI style app is a collection of fonts, font-sizes, and font-weights that is organized to provide a clear hierarchy of styles that help the user of your apps understand the importance of text on your page.

# Module 7: Being Fast and Fluid, and Authentically Digital

In this module, students learn about two major components of new Windows UI style apps: Animation and designing for touch interaction. These two components are part of a larger concept called “authentically digital.” Students discover how removing the traditional physical metaphors of application design allow them to create new and useful experiences for users.

**Setup Notes**

The section on animation involves a sample project that must be run in Visual Studio 2012 named the “HTML Animation Library sample.” Be sure to download this project for yourself and/or students at the following URL:

<http://code.msdn.microsoft.com/windowsapps/Using-the-Animation-787f3720/sourcecode?fileId=50840&pathId=1927408783>

## Using the HTML animation library

This section on animation can be run by you as a demo or by students as an interactive exercise. In either case, if you are not familiar with how to use Visual Studio 2012 to run new Windows UI projects that use JavaScript, you should run through the steps first as outlined in the curriculum.

## Online resources

The following resources are available to help you dive deeper into animation and touch concepts.

* **Animating your UI**

<http://msdn.microsoft.com/en-us/library/windows/apps/hh465165.aspx>  
A summary of the animations and examples of typical scenarios handled by the Animation Library.

* **Guidelines for user interaction**

<http://msdn.microsoft.com/en-us/library/windows/apps/hh465370.aspx>  
More guidelines to help you create intuitive and immersive user interaction experiences for your new Windows UI style app that expose consistent functionality for all users, no matter what device or input method is used.

Additional assignments

If there is access to a touch-enabled device in the classroom, ask students to run through one or more popular applications (available on the Windows 8 app store and a.) Identify scenarios where occlusion is a problem in an app and b.) Identify scenarios where the designer of the app has addressed occlusion (such as using a tooltip). Be sure that students use both portrait and landscape view in order to fully explore the app.

## Questions

1. What is occlusion in the context of touch enabled environments? Name at least one way that occlusion is addressed in new Windows UI style apps.
2. What are the Animation Library APIs and how do they play a role in new Windows UI style apps?
3. What is a touch pattern as it relates to new Windows UI style applications? Name at least one pattern and give an example of how it might apply to a new Windows UI style application.

## Answers

1. Occlusion is the inevitable hiding of content that occurs when the user’s hands or fingers cover important areas of a touch screen (such as interactive elements). One way to solve occlusion is to use tool tips that are activated when an element is pressed and held. Another way to solve occlusion is to use careful layout that avoids areas of the screen that tend to be covered.
2. The Animation Library APIs are functions that allow you to use animations in your new Windows UI style apps and custom controls in a consistent way. Although you have the ability to customize these, most of the animations you get “for free” and are built into new Windows UI style apps.
3. A touch pattern is the user behavior associated with the direct manipulation of content on a touch-enabled device. Examples of these include, Direct manipulation, Visual Feedback, Target sizes, and Semantic Zoom.

# Module 8: Winning as One: Using and Charms Contracts

In this module, students discover how their users can take advantage of charms to enable unique integrated experiences between their app and the Windows 8 platform. Students also find out how charms are enabled by implementing contracts, agreements with other apps, and the system UI. After this module, students will be able to create and implement scenarios where their app’s users can integrate with other apps or services on the platform. Students will also discover how they can design experiences for the results of those interactions.

## Online resources

To get more information using charms and contracts the following resources:

[**Design.windows.com**](http://www.design.windows.com)Web site that includes specifications for designing new Windows UI style apps.

[**www.windowsuserexperiencetraining.com**](http://www.windowsuserexperiencetraining.com)

This site includes a full day’s worth of speaker presentations on the subject of design UX for new Windows UI style apps.

Additional assignments

Have students work with partners to come up with at least three scenarios where they can use additional charms in each other’s app.

## Questions

1. Define the difference between the HTML5 “core” and the HTML5 “family.”
2. How would you define the level of support for HTML, CSS, and JavaScript documents in Internet Explorer 10 versus new Windows UI style applications that use JavaScript?
3. What is the WinJs library for new Windows UI style apps? Is it required or optional?

## Answers

1. The HTML5 “core” defines the official specification of the language, primarily the syntax used for document elements. The HTML5 “family” includes the core but also other technologies such as CSS3 and JavaScript.
2. The process that hosts and executes a new Windows UI style app using JavaScript includes all the functionality provided by the Microsoft Internet Explorer 10 browser.
3. WinJs is a library of CSS and JavaScript files that contains JavaScript objects, organized into namespaces, designed to make developing a new Windows UI style app using JavaScript easier. WinJs is optional to use for new Windows UI style apps for JavaScript, however it is integrated into all the project templates for Blend and Visual Studio in 2012 and creating a new Windows UI style app would be significantly more difficult without it.

# Module 9: Introduction to Live Tiles and Notifications

In this module, students learn the role of live tiles in a new Windows UI Style application and discover why it is important to invest in a tile on the Start menu. They also learn about the new Windows UI templates that are available for use as well as the various features of the Live tile, such as peek and cycle. Additional topics covered include branding, badges, and notifications.

## What makes a tile compelling?

It is important to emphasize that tiles should not be an afterthought in the design process. Students should have a good rationale for using live tiles and should avoid adding live tile functionality just “because they can.”

## Tile templates

At the time of this writing, tile templates were still evolving in use for designers and developers. Be sure to check the MSDN resources online to be sure that the most up-to-date templates are available. The following url lists the templates currently in use:

http://msdn.microsoft.com/en-us/library/windows/apps/hh761491.aspx

## Online resources

To get more information on Live tiles, notifications, and badges, use the following resources:

* **Guidelines and checklist for tiles**http://msdn.microsoft.com/en-us/library/windows/apps/hh465403.aspx

Describes best practices, troubleshooting, and globalization/localization recommendations for use when creating and updating your app's tile. Also lists any special tile-related requirements your app needs to meet to be accepted in the Windows Store.

* **Guidelines and checklist for badges**<http://msdn.microsoft.com/en-us/library/windows/apps/hh761459.aspx>  
  Describes best practices for using badges on your app's tile and lists requirements your app needs to meet to be accepted in the Windows Store.
* **Guidelines and checklist for toast notifications**

<http://msdn.microsoft.com/en-us/library/windows/apps/hh465391.aspx>  
Describes best practices to be followed when creating and sending toast notifications and lists any requirements your app must meet to be accepted in the Windows Store

Additional assignments

Ask students to complete the sentence in the following scenarios:

* A user decides to turn notifications for an app because . . .
* A user decides to uninstall an app because. . .
* A user decides to change the size of a tile from the large size (rectangle) to the small size (square) because . . .

## Questions

1. What is a tile badge and where is it located?
2. Define the role of a peek versus a cycle in the context of a new Windows UI style app.
3. What is a toast notification and how does it differ from a tile notification?

## Answers

1. Badges indicate a status update of some sort, such as the number of instant messages received. Badges appear on the lower-right corner of a tile.
2. A cycle in new Windows UI style apps is the animation of up to five separate notifications within a tile. The content in a cycle can be either unrelated or related to each other. (Unrelated content, for example, could be five different news stories. Related content could be one text story and one related image.) A peek is the animation of related content within a tile. The key difference here is that a peek must be thematically grouped.
3. A toast notification is a timely and relevant messages (or messages) delivered to a user when they are outside the context of an app. While browsing the Weather app, a user may receive a toast notification that they have an incoming voice-over IP call, for example.

# Module 10: Designing For Multiple Screens and Resolutions

In this module, students discover techniques used for designing an app that looks great and works great on all screens. They also discover how to take advantage of snap and portrait, new views that are unique to Windows 8 and the tablet form factor.

**Setup notes**This module does not require project files, however if you are conducting a demonstration in your class, there are a few technical considerations to keep in mind. If you are using a projector to demonstrate features such as the snap view, keep in mind that snap view does not work if the resolution is less than 1320x768. Occasionally projectors may force you to use a lower resolution (such as 1024x768); in these cases you should use the new Windows UI Simulator in Visual Studio 2012.

## Fixed layout versus Adaptive layout

This section describes the benefits of using Adaptive Layout versus the Fixed Layout. Adaptive layout is the recommended way to optimize layout for screens. When it comes time for students to begin working in a program like Blend for Visual Studio, they would choose the Grid project for grid layout or the Fixed App layout for the “Scale to Fit” option.

## Online resources

The following resources can help you understand the broader principles behind the concepts of Adaptive Layout and snap view.

* **Responsive Web Design**

http://www.alistapart.com/articles/responsive-web-design/

This 2010 article by Ethan Marcotte was the first example of a unified theory behind the concept of adaptive design. Although Marcotte labels it responsive design, and uses the Web as the primary model, the principles here still relate to new Windows UI style apps

* **Device Adaption**

<http://msdn.microsoft.com/en-us/library/windows/apps/hh708740.aspx>  
Specific information documenting the @-ms-viewport rule which enables developers of new Windows UI style apps using JavaScript to optimize the layout of sites and apps for different devices

* **Guidelines for snapped and fill views**<http://msdn.microsoft.com/en-us/library/windows/apps/hh465371.aspx>  
  A deeper look at how to design the User Interface of your new Windows UI style app so that it adapts successfully to any view state.

Additional assignments

Ask students to examine current apps on the app store, if they have a tablet, they should place the app in snap view. How does the app layout change with the snap view? How did the designer of the app manage the limited app bar?

## Questions

1. What is the minimum app resolution for new Windows UI style apps?
2. Explain the difference between an adaptive and fixed layout as it relates to new Windows UI style apps.
3. What is the snap view in a new Windows UI style app? Name two or more benefits of optimizing for this view in your application.

## Answers

1. 1024x768
2. An Adaptive Layout is one in which the layout is customized by the designer or developer depending on the size screen being used. Techniques used for adaptive layout include scaling or adding more content, adding or removing columns and increasing/decreasing white space. A Fixed Layout is one in which the primary content is “fixed” or centered in the middle of the screen and additional space is automatically added or removed based on the available space.
3. The snap view of your app is the appearance of your app at 320 pixels wide and seen as a column to either the right or left of another app. Snap view is triggered by the user by a gesture on a tablet or a keyboard shortcut/mouse command on the desktop. You can preserve the state, context, and interactivity of your app within the snapped view and a well-optimized app in this view will be more likely to be kept onscreen and utilized by your users.

# Module 11: App Submission Process

In this lesson, students learn about the Windows Store and how to submit apps for sale and distribution. We’ll talk about trial versions, monetization options, and the certification process.

## The certification process

Ideally, the instructor will have access to an account on the Windows Store Portal, and will have published one or more apps. Walk the students through the online UI for the store and share with them your experiences (Did you have apps fail the certification process? Why?). Show them the metrics supplied by the store such as number of downloads, exception reports, age groups, etc.

## Exercise: Submitting an app

If you have access to the Store, start a submission and walk the students through (just be sure to cancel the submission when you are done).

## Online resources

To get more information about the Windows Store, use the following resources:

* **Becoming a Windows Store Developer**<http://msdn.microsoft.com/en-us/library/windows/apps/hh868181.aspx>   
  This article explains how to enroll as a Developer in the Windows Store.
* **Windows Store for Developers Blog**<http://blogs.msdn.com/b/windowsstore/>  
  This blog, written by the Windows Store team, focuses on informing developers about the Store, including platform, services, and economic opportunity.
* **Selling Apps**<http://msdn.microsoft.com/en-us/library/windows/apps/br230836.aspx>  
  The official MSDN (Microsoft Developer Network) documentation on all aspects of the Windows Store.

Additional assignments  
After students have finished this module, you can test their understanding of the material by having them complete any or all of the following:

* Browse through the Windows Store and see what strategies other developers have used to make their application look compelling to users. What screenshots and icons were used and how did they describe their app? How can you convince a user to try your app by the kind of visuals you provide on the Store?

## Questions

1. When your app is listed on the Windows Store, what visual assets can you provide to showcase its functionality?
2. You want to enable all functionality in your app for 30 days. After 30 days, you want to disable saving files in your app unless the app is purchased. Is this scenario possible using the Windows Store?
3. True or False: As soon as you submit an app to the Windows Store, it is immediately available to all users.

## Answers

1. Screenshots, Store Icons, and promotional images, and Tiles for the new Windows UI Start menu (wide and regular tiles).
2. Yes, you can enable this scenario using the Feature-enabled trial strategy and accessing the Windows.ApplicationModel.Store namespace.
3. False. Apps must go through a certification process before being available on the store, and this process takes up to five days.