Name: _____

Iterative Product Design and Implementation

Enduring Understanding

The act of creating a prototype, getting feedback on areas for improvement, and then refining your work to create a new prototype is a powerful process for developing an effective end product.

Requirements

• Make a plan for your application, including neatly hand-drawn user interface mockups (view), expected data sources (model), and some key logic (controller).
• Write an interactive application using Thunkable.
• Conduct usability testing sessions for prototypes of your app, analyze feedback from user "think aloud" sessions, and apply feedback to improve your app.
• Record two screencasts and narrate the development of your app from start to finish.

Deliverables Timetable

Deliverable		In-class working periods before due date	Full calendar days before due date	Due date	Submission time on due date
1	Application plan	1	4	Friday, March 29, 2019	Due at 11 PM
2	Prototype ready for usability tests (minimum *viable* product)	2	7	Friday, April 5, 2019	Due at start of class
3	Analysis of usability tests identifying improvements to be made	1	0	Friday, April 5, 2019	Due at end of class
4	Improved prototype ready for usability tests	1	6	Thursday, April 11, 2019	Due at start of class
5	Analysis of usability tests identifying improvements to be made	1	0	Thursday, April 11, 2019	Due at end of class
6	Final version completed	1	2	Saturday, April 13, 2019	Due at 11 PM
7	Narrated screencasts of app development submitted	1	3	Tuesday, April 16, 2019	Due at end of class

NOTE: Each interim deadline is considered a "significant assessment" in this course and will be handled under the LCS Late and Missing Work policy.

Evaluation Criteria

Concerns	Criteria	Advanced	Achievement Level
Areas that need work to meet the criteria:	Specific expectations for each essential learning:	Areas that exceeded the expectations:	
Deliverable #1: Application plan ([Exemplar link](#)) **Introduction to Programming –** B1. describe fundamental programming concepts and constructs; **Introduction to Programming –** B2. plan... simple programs using fundamental programming concepts.			
	☐ Describe the overall purpose of your application. ☐ Include hand-drawn user interface mockups of your application (the *view*). ☐ Describe the data sources and key variables that you expect your application to use (the *model*). ☐ Describe some of the key logic your program will use (the *controller*).		
Deliverable #2: Prototype ready for usability tests **Introduction to Programming –** B2. write… simple programs using fundamental programming concepts. **Introduction to Programming –** B3. apply basic code maintenance techniques when writing programs.			
	☐ Your app is an incomplete but usable prototype (minimum viable product). ☐ User interface components have meaningful names. ☐ Variables have meaningful names. ☐ Controller logic is organized into functions that have meaningful names. ☐ Thunkable tiles are well organized. ☐ ==You have made a copy of your Thunkable project after each significant improvement.== ☐ ==You have filled in the achievement tracking spreadsheet, including links to each version of your app.== ☐ Logic tiles include if-else comparisons and/or loops.		

Name: _____

Concerns	Criteria	Advanced	Achievement Level
Areas that need work to meet the criteria:	Specific expectations for each essential learning:	Areas that exceeded the expectations:	
Deliverable #3: Analysis of usability tests identifying improvements to be made **Understanding Computers –** A3. use the basic functions of an operating system correctly. **Introduction to Programming –** B2. plan... simple programs using fundamental programming concepts.			
	☐ Faithfully facilitated usability testing sessions. ☐ Video recordings of two "think aloud" usability testing sessions created. ☐ Analysis form for each video submitted. ☐ In your responses on the analysis form, key improvements suggested by the user have been identified (including timestamps from the video to indicate when the user made that suggestion). ☐ In your responses on the analysis form, you have identified additions to the *view* and/or *model* and/or *controller* of your application that you think will be needed to implement user suggestions.		
Deliverable #4: Improved prototype ready for usability tests **Introduction to Programming –** B2. write… simple programs using fundamental programming concepts. **Introduction to Programming –** B3. apply basic code maintenance techniques when writing programs.			
	☐ Significant improvements made to prototype. ☐ Feedback from prior usability testing incorporated. ☐ User interface components have meaningful names. ☐ Variables have meaningful names. ☐ Controller logic is organized into functions that have meaningful names. ☐ Thunkable tiles are well organized. ☐ ==You have made a copy of your Thunkable project after each significant improvement==. ☐ ==You have filled in the achievement tracking spreadsheet, including links to each version of your app==. ☐ Logic tiles include if-else comparisons and/or loops.		

Concerns	Criteria	Advanced	Achievement Level
Areas that need work to meet the criteria:	Specific expectations for each essential learning:	Areas that exceeded the expectations:	
Deliverable #5: Analysis of usability tests identifying improvements to be made **Understanding Computers –** A3. use the basic functions of an operating system correctly. **Introduction to Programming –** B2. plan... simple programs using fundamental programming concepts.			
	☐ Faithfully facilitated usability testing sessions. ☐ Video recordings of two "think aloud" usability testing sessions created. ☐ Analysis form for each video submitted. ☐ In your responses on the analysis form, key improvements suggested by the user have been identified (including timestamps from the video to indicate when the user made that suggestion). ☐ In your responses on the analysis form, you have identified additions to the *view* and/or *model* and/or *controller* of your application that you think will be needed to implement user suggestions.		
Deliverable #6: Final version completed **Introduction to Programming –** B2. write… simple programs using fundamental programming concepts. **Introduction to Programming –** B3. apply basic code maintenance techniques when writing programs.			
	☐ Overall goal for your application largely met. ☐ Feedback from prior usability testing incorporated. ☐ User interface components have meaningful names. ☐ Variables have meaningful names. ☐ Controller logic is organized into functions that have meaningful names. ☐ Thunkable tiles are well organized. ☐ ==You have made a copy of your Thunkable project after each significant improvement==. ☐ ==You have filled in the achievement tracking spreadsheet, including links to each version of your app==. ☐ Logic tiles include if-else comparisons and/or loops.		

Name: _____

Concerns	Criteria	Advanced	Achievement Level
Areas that need work to meet the criteria:	Specific expectations for each essential learning:	Areas that exceeded the expectations:	
Deliverable #7: Narrated screencasts of app development submitted **Understanding Computers –** A3. use the basic functions of an operating system correctly. **Introduction to Programming –** B1. describe fundamental programming concepts and constructs;			
	☐ You have submitted two screen recordings walking the viewer through significant milestones in the development of your app. ☐ First, you have described these development milestones using a screencast of successive versions of your app running directly on your phone. ☐ Second, you have recorded a clear explanation of key logic, using successive versions of your app in the Thunkable development environment, running on your Mac laptop. ☐ You have successfully uploaded both of these videos to the Google Form. ☐ The combined length of both videos is less than 10 minutes.		

Overall Comments