

## MAD Final

### Instructions:

You have an entire class period to develop the following Android app. You can use any reference material you find helpful. It is suggested that you start at the first task and work down the list. The tasks are listed in an order such that they can be implemented after the previous ones. The goal of this final is to test your technical proficiency so focus on getting each task working. Add additional complexity and aesthetics at the end, time permitting. I highly suggest creating multiple versions of your project (duplicate your project folder in the Finder) so you have a version saved after each task. Post your completed project to github at the end of the final. (You can post more than 1 version if an earlier version worked but you want me to see the progress you made on a later non-working version).

Create an app based on the mock-up provided that builds your favorite pizza and then suggests the best pizza place in Boulder for that type of pizza. Please include your name in your project name and don't use the word final alone as it's a reserved word in Java. Example: PierceFinal.

1. Build your favorite pizza. 20 points
  - a. TextView for heading
  - b. Button to generate favorite pizza
  - c. TextView to display favorite pizza
2. Let the user make their pizza choices using THREE of the following user interface controls and use these in your output. Additional controls for extra credit. 10 points/control
  - a. Toggle button – sauce: white or red
  - b. Spinner – size: small, medium, large
  - c. Radio group – crust: thin or thick
  - d. Check boxes – toppings(cheese, veggie, meat, supreme)
  - e. Switch – gluten free
  - f. EditText – name your pizza
  - g. Image view that is set based on the pizza type
3. Suggest the best pizza place in Boulder based on the UI controls 10 points
  - a. Thin crust: Pizzeria Locale
  - b. Thick crust: Old Chicago
  - c. Gluten-free: Boss Lady  
(or use other criteria)
4. Present a toast when some criteria is not provided (such as no crust type is selected or another UI control is not set, or an empty EditText) 5 points
5. Implement the functionality in #3 in a custom Java class 15 points
6. Button to show a suggested pizza place in a new, second activity 20 pts

### Requirements:

- Use string resources for any text used in UI views
- Constraint layout

### Extra credit:

1. Add additional UI controls from #2. 10 points/control
2. Create a new, custom theme 5 points
3. Explicit intent – add a button to load the web site of the pizza place 10 pts
  - a. Thin crust: Pizzeria Locale <https://localeboulder.com/>
  - b. Thick crust: Backcountry Pizza <https://backcountrypizzaandtaphouse.info/>
  - c. Gluten-free: Boss Lady <https://bossladypizza.com/>

4. Create a layout variant with a different layout for landscape orientation. 10 pts
5. Add an activity that shows the pizza place on a Google Map 10 pts
6. Localize your app into another language. 10 pts

Goal: The final for MAD is to serve as a technical benchmark for this class. This will be given as a hands-on programming exercise during class to evaluate their technical proficiency. Students can use any reference material they want during the final.