

CSCI 448 – Lab 01C  
Wednesday, January 25, 2023  
**LAB IS DUE BY Tuesday, January 31, 2023 11:59 PM!!**

We're now ready for our `MonsterLab` to display all the monsters that are in the lab.

## **Step 1 – Expand the Model – Create the Monster Repository**

As we do not yet have a database in place, we will put a repository in place to store our collection of monsters. The repository follows the singleton pattern (which we'll discuss very soon) to ensure there is only a single instance in memory that everything references.

First, we'll create the data to be stored in the repository. Add many more strings to your `strings.xml` file. To save your typing, included at the end of this lab writeup in Appendix A are the strings to create.

Next, in your `monsterlab.data` package, create a Kotlin object titled `MonsterRepo`.

Add a single public data member called `monsters` that is a `List of Monsters`. We'll now create a `Monster` object for each of our monsters and put it into the list. Again, to save your typing, Appendix B has the prepopulated list to use.

## **Step 2 – View – Display a List of Monsters**

### **Part 2.I – Refactor `MonsterList`**

With our prior `MonsterList` composable, we hardcoded in the exact monsters to display. Modify the function to accept a `List of Monsters` as a parameter. Instead of using a `Column` composable, use a `LazyColumn` which supports efficient scrolling.

Using the domain specific language (DSL) `items()` function, pass your list of monsters as an argument. Then for each monster, create a `MonsterCard` composable.

### **Part 2.II – Patch the `MonsterList` References**

To verify the list is setup correctly, update your preview and provide the list of monsters that the `Monster Repository` is storing. Your preview should now display a longer list of monsters. Start interactive mode to scroll through the list directly in the preview!

Once the preview is verified, update `MonsterLabScreen` to use the repository list as well.

## Step 3 – Deploy Your App & Submit

Once you have the screen composable set, deploy your app to your device.

When Lab01 is fully complete, you will submit a video of your working app to Canvas. Demonstrate the following actions inside the app:

- Scroll to the bottom of the list
- Scroll to the top of the list
- Scroll to the middle of the list

Then stop the recording. Save it as webm format, name the video <username>\_L01.webm, and upload this file to Canvas Lab01.

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## Appendix A – strings.xml

```
<string name="name_monster_randy_boggs">Randy Boggs</string>
<string name="description_monster_randy_boggs">Member of Roar Omega
Roar</string>

<string name="name_monster_art">Art</string>
<string name="description_monster_art">Member of Oozma Kappa, the
ultimate free spirit</string>

<string name="name_monster_james_p_sullivan">James P.
Sullivan</string>
<string name="description_monster_james_p_sullivan">Stole Fear Tech\'s
mascot Archie the Scare Pig</string>

<string name="name_monster_ms_squibbles">Ms. Sheri Squibbles</string>
<string name="description_monster_ms_squibbles">Mother of Scott
\'Squishy\' Squibbles, the best mom in Monstropolis</string>

<string name="name_monster_squishy">Scott \'Squishy\'
Squibbles</string>
<string name="description_monster_squishy">Member of Oozma Kappa,
first year student at Monsters University</string>

<string name="name_monster_professor_knight">Professor Knight</string>
<string name="description_monster_professor_knight">Professor MU
School of Scaring, teaches Scaring 101</string>

<string name="name_monster_johnny_worthington">Johnny Worthington
III</string>
<string name="description_monster_johnny_worthington">President of
Roar Omega Roar, top scare student at Monsters University</string>

<string name="name_mascot_archie">Archie the Scare Pig</string>
<string name="description_mascot_archie">Mascot of Fear Tech, Monsters
University\'s rival school</string>

<string name="name_monster_terri_terry">Terri and Terry Perry</string>
<string name="description_monster_terri_terry">Members of Oozma Kappa,
Terri is a Dance Major while Terry is an English major</string>

<string name="name_villian_dean_hardscrabble">Dean Dr. Abigal
Hardscrabble</string>
<string name="description_villian_dean_hardscrabble">Legendary Scarer
and Dean of the School of Scaring at Monsters University</string>
```

## Appendix B – Monster Repository List

```
listOf(  
    Monster(imageId =  
R.drawable.monsters_university_character_young_mike_icon,  
        nameId = R.string.name_monster_mike,  
        descId = R.string.description_monster_mike),  
    Monster(imageId =  
R.drawable.monsters_university_james_p_sullivan_icon,  
        nameId = R.string.name_monster_james_p_sullivan,  
        descId = R.string.description_monster_james_p_sullivan),  
    Monster(imageId =  
R.drawable.monsters_university_character_professor_knight_icon,  
        nameId = R.string.name_monster_professor_knight,  
        descId = R.string.description_monster_professor_knight),  
    Monster(imageId =  
R.drawable.monsters_university_character_randy_boggs_icon,  
        nameId = R.string.name_monster_randy_boggs,  
        descId = R.string.description_monster_randy_boggs),  
    Monster(imageId =  
R.drawable.monsters_university_don_carlton_icon,  
        nameId = R.string.name_monster_don_carlton,  
        descId = R.string.description_monster_don_carlton),  
    Monster(imageId = R.drawable.monsters_university_art_icon,  
        nameId = R.string.name_monster_art,  
        descId = R.string.description_monster_art),  
    Monster(imageId =  
R.drawable.monsters_university_squishy_running_icon,  
        nameId = R.string.name_monster_squishy,  
        descId = R.string.description_monster_squishy),  
    Monster(imageId =  
R.drawable.monsters_university_character_ms_squibbles_icon,  
        nameId = R.string.name_monster_ms_squibbles,  
        descId = R.string.description_monster_ms_squibbles),  
    Monster(imageId =  
R.drawable.monsters_university_johnny_worthington_icon,  
        nameId = R.string.name_monster_johnny_worthington,  
        descId = R.string.description_monster_johnny_worthington),  
    Monster(imageId = R.drawable.monsters_university_mascot_icon,  
        nameId = R.string.name_mascot_archie,  
        descId = R.string.name_mascot_archie),  
    Monster(imageId = R.drawable.monsters_university_terry_icon,  
        nameId = R.string.name_monster_terri_terry,  
        descId = R.string.description_monster_terri_terry),  
    Monster(imageId =  
R.drawable.monsters_university_villain_dean_hardscrabble_icon,  
        nameId = R.string.name_villian_dean_hardscrabble,  
        descId = R.string.description_villian_dean_hardscrabble)  
)
```