CS 6460: Project Catalog

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***Abstract*—The following explains what files are included in the final project and instructions on how to access and run the application.**

1 SERVER DEPLOYED APPLICATION

The application has been deployed on a publicly facing R Shiny proxy server which can be accessed at the following URL:

https://shiny.mathisawesome.com/app/cs6460

The page may take a minute to load the login screen, and there are notes on the various accounts you can login with to test the application. If you wish to run the program locally, please see the notes below.

2 SYSTEM REQUIREMENTS

In order to run the application, you must have a recent version of R installed, and preferably the RStudio environment. More information about installing R Studio can be found for your particular platform here:

https://posit.co/download/rstudio-desktop/

Once you have installed R Studio, you will also need to install the following packages. You can do this by going to your R console in R Studio and running the following command:

```
install.packages(c('DBI', 'RSQLite', 'reactable',
 'shinyalert', 'shinyauthr', 'effsize', 'pwr',
  'lattice', 'grid', 'gridExtra'  )
```

3 DATABASE SETUP

The archives of the project include a sample database found in **data/cs6460.sqlite**. However, this file can be recreated at any time by opening the R program titled **create_database.R** and running the entire R script. This will regenerate the

database with the default sample data used in the application.

4 RUNNING THE APP

Once you have the project files expanding on your local computer, you should be able to open the project in R Studio. Open the file titled **app.R** and then click the "Run App" action just above the code in the window as shown in Figure 1. This will launch the app and open it in your local web browser.

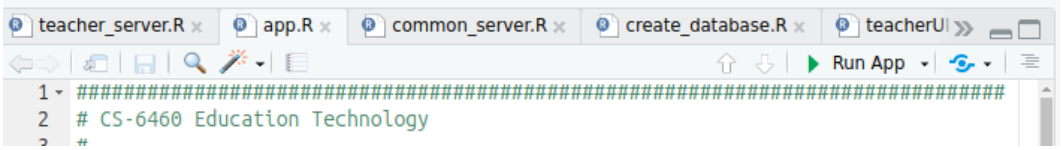

Figure 1—R Studio Launcher

5 CATALOG OF FILES

The project archive contains the following files, including this file **Catalog.pdf**

5.1 Lesson Plan

The original lesson plan developed to help build the initial student data exploration and simulation code is contained in the following PDF file.

1. lesson_plan/lesson_plan.pdf

5.2 Project Code

The project folder contains all of the code required to run the application. There are two sub-folders which contain support files including www and data.

1. project/app.R - The primary file that contains the launch code
2. project/project.Rproj - This is the R Project file which organizes the project in R Studio
3. Server Files:
   (a) project/common_server.R
   (b) project/admin_server.R
   (c) project/student_server.R
   (d) project/teacher_server.R
4. UI Files:
   (a) project/adminUI.R

(b) project/studentUI.R
(c) project/teacherUI.R

5. Database Files:
   (a) project/create_database.R - This is a script to re-initialize the demo database
   (b) project/dbManager.R - This contains the custom API to provide functions to interface between the app and the SQLite database.
   (c) project/data/cs6460.sqlite - The default database file which is generated from the create_database.R script
6. Support Files:
   (a) project/www/task_01.html - Simple HTML file that an educator can update the student task instructions
   (b) project/www/default_logins.html - Simple HTML file has default login instructions for the demo version
   (c) project/www/fig_01.png - Logo for the chicken farm
   (d) project/www/about.html - Application license and credits file