

## Homework 4

### Enhance the ionic store app **GamecockStore** using backend functions and security rules

#### 1) Backend function development

- (a) Write a backend function to monitor the input of product title/name, if it contains one of the following keywords, it will remove them and save the sanitized title to the database

Forbidden keywords: “ugly”, “messy”, “trash”, “body”

- (b) Write a backend function to monitor the change of product price, if the price-after the change is < 50% of the original price, then save the price as 50%x original price. This function can be used as price reduction protection to avoid big loss due to store administrators’ errors.

- (c) Write a backend function to monitor the uploading of the product images, if the image is uploaded, generate a thumbnail image from it and save it as a thumbnail image for the product.

Refer to this code <https://github.com/firebase/functions-samples/tree/master/image-sharp>

#### 2) Backend security control of database access

- (a) At the firebase database dashboard, set the rules to ensure that the product documents can be read by any users, but only modifiable by the store owner (you can assume the store owner uid is known, --get it from firebase project authentication Tab, find the owner by its email of your store owner and then get the uid.
- (b) Set the security rule for the orders document so that only logged in users can place orders, and only the order placing customer can delete the order.

#### HOW TO SUBMIT:

Submit the backend function code and the security rule files, and the app code.

**Make a video to show that your backend function works as specified and your security rules work as** expected. Upload the video to youtube and share the url link in your submission file.

Your submission files include:

Index.js    the backend function file

rules.js    the rules

readme.txt    specify the youtube video link

app.zip    the src folder of your app code.

Upload the all project files to <http://dropbox.cse.sc.edu>