

## ASSESSMENT AND INTERNAL VERIFICATION FRONT SHEET (Individual Criteria)

**Note: This version is to be used for Class Based Assessments (TCA or other)**

|  |                                    |  |            |                                    |                 |         |
|--|------------------------------------|--|------------|------------------------------------|-----------------|---------|
| <b>Course Title</b>                    | B.Sc. (Hons.) Software Development |  |            | <b>Lecturer Name &amp; Surname</b> | Thomas Gatt     |         |
| <b>Unit Number &amp; Title</b>         |                                    | ITSFT-506-1612 Server Side Scripting                   |            |                                    |                 |         |
| <b>Assignment Number, Title / Type</b> |                                    | 1, Server Side Scripting Concepts and Frameworks / TCA |            |                                    |                 |         |
| <b>Date Handed Out</b>                 | 17/12/2021                         | <b>Date Handed In</b>                                  | 17/12/2021 |                                    | <b>Duration</b> | 3 hours |

| Student Name |  | ID Number |  | Class / Group |  |
|--------------|--|-----------|--|---------------|--|
|--------------|--|-----------|--|---------------|--|

|                           |  |               |  |
|---------------------------|--|---------------|--|
| <input type="checkbox"/>  | <b>Student's declaration on assessment special arrangements (Tick only if applicable)</b>  |               |  |
| <input type="checkbox"/>  | ❖ I certify that adequate support was given to me during the assignment through the Institute and/or the Inclusive Education Unit. |               |  |
| <input type="checkbox"/>  | ❖ I declare that I refused the special support offered by the Institute.   |               |  |
| <b>Student Signature:</b> |  | <b>Date :</b> |  |

| Assessment Criteria  | Maximum Mark | Mark Achieved |
|--|--------------|---------------|
| <i>KU1.1: Show understanding of dynamic web pages and the process of a server side script</i>          | 5            |               |
| <i>KU1.2: Show understanding of troubleshooting a dynamic web page</i>                                 | 5            |               |
| <i>KU1.4: Show understanding of typical features in a framework</i>                                    | 5            |               |
| <i>KU2.1: Show understanding of the basic layers of a framework</i>                                    | 5            |               |
| <i>KU2.2: Show understanding of various helpers and components available in a framework</i>            | 5            |               |
| <i>AA1.3: Construct a program to show the difference between client side and server side scripting</i> | 7            |               |
| <i>AA3.1: Produce relevant code to implement basic controller and model functions</i>                  | 7            |               |
| <b>Total Mark</b>  | 39           |               |

| Assessor's feedback to student  |
|---|
| <br><br><br><br><br><br><br><br><br><br>  |
| (If necessary, use reverse side of page for IV feedback on assignment brief / sample of assessment decisions) |

|   | Name & Surname   | Signature | Date |
|---|--|-----------|------|
| <b>Internal Verifier</b> : Approval of <u>assignment brief</u>              | The Assignment Brief has been approved and released by the Internal Verifier via Classter. |           |      |
| <b>Lecturer / Assessor</b> : Issue of results and feedback to student       |  |           |      |
| <b>Internal Verifier</b> : Approval of <u>assessment decisions</u> (Sample) |  |           |      |

|  |  |  |
|--|--|--|
| Learner's signature upon collection of corrected assignment. |  |  |
|--|--|--|



# MCAST

# Server Side Scripting concepts and frameworks

Assignment 1 - Class

## Assignment Guidelines

Read the following instructions carefully before you start the assignment.

- You are required to use the CakePHP Framework v4 for the practical part of this assignment. You are **not** allowed to use the bake cli command or similar tools to generate code.
- All text\code *must be properly referenced*. In the absence of proper referencing, the assignment will be regarded as plagiarised.
- **Copying is strictly prohibited and will be penalized** in line with the College's disciplinary procedures. You might be called for an **interview** if your code is very similar to other submission(s).
- Time allowed: 3 hours

## Instructions

- Make sure that you upload your submission on Moodle at the end of the assignment
- Assignments submitted without the code and database required will be considered as NOT submitted.
- For part 2 (practical task) you are expected to read the instructions in **Page 3** carefully.

# Part 1

## Multiple Choice

15 Questions – 1 Mark each

Microsoft Form Link:

<https://forms.office.com/r/EM9wS7Y3Dg>

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# Part 2

## Practical Task

### Instructions for Part 2

- 1) Open XAMPP control panel and start both Apache and MySQL
- 2) You should be able to access phpMyAdmin from <http://localhost:8084/phpmyadmin>
- 3) You should be able to access your website from [http://localhost:8084/\[name-of-your-cakephp-folder\]](http://localhost:8084/[name-of-your-cakephp-folder])
- 4) Create a database following this format: “name\_surname\_a” (a if you’re in 6.2A and b if you’re in 6.2B). Of course, use your **actual name and surname**.
- 5) At the **end of the assignment** you must:
  - a. Create a new folder called ‘name\_surname\_a’ (a if you’re in 6.2A and b if you’re in 6.2B)
  - b. **Export the database (not a table)** from phpMyAdmin and save it in this folder
  - c. Copy the following **cakephp folders ONLY** and place them in **the folder that you have just created**
    - i. config
    - ii. src
    - iii. templates
    - iv. webroot
  - d. **Compress the folder (i.e. create a zip/rar file) and upload to Moodle** in an assignment named ‘TCA – SSS (2021-2022)’

## Case Scenario


Geek Investments Ltd is a company based in Malta that allows its customers to keep track of their investments through a simple web app. They just hired you to create their online system. They have written this requirement specification document which should be very easy to follow. They also provided some screenshots of the UI which should help you visualise the web app required.

- Add an Investment (*see Figures 1,2,3*)
  - This page should be the main page – i.e. **base path should point to it**
  - Form fields:
    - Ticker (e.g. Apple)      Required, list needs to be retrieved from the table
    - Shares                      Required. Should be numeric and greater than 0
    - Bought At                  Required. Should be numeric and greater than 0
    - Notes                      Optional
    - *created*                      Should be populated automatically when a new entity is added  
Hint: see **TimestampBehavior**
  - User should be **redirected** to the ‘View Investments’ page when the investment is added.
- View Investments (*see Figure 4*)
  - List of investments (make use of the basic Card bootstrap component)
    - Should show the number of investments available in the header as shown
    - Show all the investments (**ordered by** the *created* field in descending order)
    - Show all the details as shown in Figure 4. If no note is supplied, you need to print “No notes available”
    - Investments need to show the actual ticker name (not the *ticker\_id*). Hint: define table associations and use the *contain()* method
  - Delete Investment
  - Show total spent for each investment
  - Show total amount spent for all investments at the bottom of the page
- Tickers (*these should be used in the ‘Add an Investment’ screen for the ‘Ticker’ dropdown list – see Figure 2*)
  - Manually populate the table with the following 5 stock tickers:
    - Apple
    - Microsoft
    - Alphabet
    - Amazon
    - Tesla

**Notes/Hints**

- The **FormHelper** class should be used in the 'Add an Investment' screen
- Database username: **root** Password: **empty** Port: **3306 (or 3307)** (*config/app\_local.php*)
- Create the relevant tables. Make sure to follow the conventions.
- Validating fields: see <https://api.cakephp.org/4.3/class-Cake.Validation.Validator.html>
- Add an Investment – *created* field – see **TimestampBehavior**

**Geek Investments** [Add Investment](#) [View Investments](#)



# Geek Investments

## Add an Investment

Ticker

Apple

Shares

Eg. 2

Bought At

Eg. 143 (dollars)

Notes

Not required

Save

Copyright © 2022. All Rights Reserved. [Your Name and Surname]

Figure 1: Add an Investment screen

## Add an Investment

Ticker

- Apple
- Microsoft
- Alphabet
- Amazon
- Tesla

Notes

Save

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Copyright © 2022. All Rights Reserved. [Your Name and Surname]

*Figure 2: Ticker dropdown list*

**Something wrong happened!**  
- Shares amount required!  
- Bought at needs to be greater than 0

## Add an Investment

Ticker

Apple

Shares

Eg. 2

Bought At

-10

Notes

Not required

Save

Figure 3: Adding an investment - validation errors



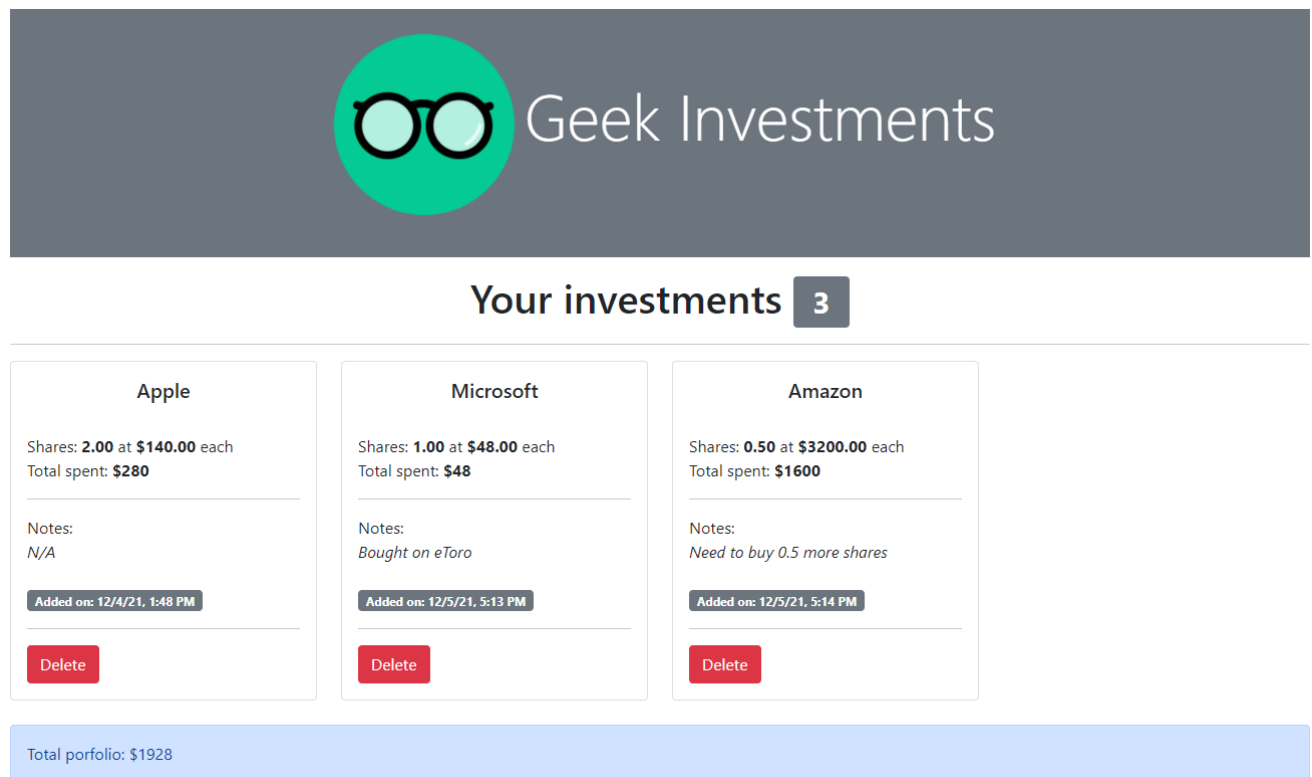


Figure 4: View investments page

## Assignment Rubrics

| Criteria     | Description   | Marks | Awarded |
|--------------|---|-------|---------|
| <b>KU1.1</b> | Show understanding of dynamic web pages and the process of a server side script                           |       |         |
|              | Multiple Choice questions 1 - 5   | 5     |         |
| <b>KU1.2</b> | Show understanding of troubleshooting a dynamic web page  |       |         |
|              | Multiple Choice questions 6 - 10  | 5     |         |
| <b>AA1.3</b> | Construct a program to show the difference between client side and server side scripting                  |       |         |
|              | Investments listed ordered by <i>created</i> in card views as shown and described                         | 3     |         |
|              | Validation error messages correctly shown in the 'Add an Investment' page                                 | 2     |         |
|              | DB Tables created correctly & app_local.php was correctly configured                                      | 1     |         |
|              | Total spent (per investment) and Total portfolio amount correctly calculated and shown                    | 1     |         |
| <b>KU1.4</b> | Show understanding of typical features in a framework   |       |         |
|              | Multiple Choice questions 11 - 15   | 5     |         |
| <b>KU2.1</b> | Show understanding of the basic layers of a framework   |       |         |
|              | Controller created and used correctly. Data flow is according to the MVC architecture                     | 1     |         |
|              | Correct Table Validations added in the Model  | 3     |         |
|              | Views correctly created   | 1     |         |
| <b>KU2.2</b> | Show understanding of various helpers and components available in a framework                             |       |         |
|              | Timestamp behavior added in the Investments model (for automatically populating the <i>created</i> field) | 2     |         |
|              | Correct use of the FormHelper class in 'Add an Investment' page   | 0.5   |         |
|              | Number of investments count shown in the View Investments   | 0.5   |         |

|              |   |   |  |
|--------------|---|---|--|
|              | Menu items added as shown in Figure 1                                   | 1 |  |
|              | The base path set to the 'add' action page                              | 1 |  |
| <b>AA3.1</b> | Produce relevant code to implement basic controller and model functions |   |  |
|              | Investment can be deleted   | 1 |  |
|              | Investment saved into the database using Cake's ORM                     | 2 |  |
|              | Ticker dropdown list populated from the database                        | 2 |  |
|              | Validation errors (Investment) shown as described                       | 1 |  |
|              | User redirected to 'View Investments' when the Investment is added      | 1 |  |

|                               |  |
|-------------------------------|--|
| <b>Total Mark (out of 39)</b> |  |
|                               |  |
|                               |  |

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**End of Assignment**