

## ASSIGNMENT COVER PAGE

Programme		Course Code and Title	
Bachelor of Computer Science (Hons)		CET3013/N (Mobile Application Development)	
Bachelor of Software Engineering (Hons)			
Student's name / student's id		Lecturer's name	
CHAN SEOW FEN / 0207368 ONG YI WEN / 0207333 TAN SIN YEE / 0207146		Lai Kim Min	
Date issued	Submission Deadline		Indicative Weighting
Week 8 – 30/10/2023	Week 12 – 27/11/2023		30%
Assignment [2]	Trace MyKid Mobile Application		

This assessment assesses the following course learning outcomes

# as in Course Guide	UOWM KDU Penang University College Learning Outcome
CLO2	Explain cameras, sensors and locations in mobile devices
CLO3	Use graphics, animations and database in applications
# as in Course Guide	University of Lincoln Learning Outcome
CLO1	N/A
CLO2	
CLO3	
CLO4	

### Student's declaration

I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

  
 Student's signature:   
 Tan Sin Yee

Submission Date:

27/11/23

### Dates and Mechanisms for Assessment Submission and Feedback

# Assignment 2

## ORIGINALITY REPORT

7%

SIMILARITY INDEX

4%

INTERNET SOURCES

2%

PUBLICATIONS

3%

STUDENT PAPERS

## PRIMARY SOURCES

1	Matthew MacDonald. "Beginning ASP.NET 4.5 in VB", Springer Science and Business Media LLC, 2012 Publication	2%
2	Submitted to University of Greenwich Student Paper	1%
3	Submitted to University of Hyderabad, Hyderabad Student Paper	1%
4	Submitted to Kensington College of Business Student Paper	1%
5	parlinfo.aph.gov.au Internet Source	1%
6	www.nctm.org Internet Source	1%
7	www.cdc.gov Internet Source	1%
8	Karwowski, . "Systemic-Structural Theory of Activity and Design", A Systemic-Structural	1%

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## 1.0 Screenshots of Application



Figure 1.1 Welcome Screen (With Animation)

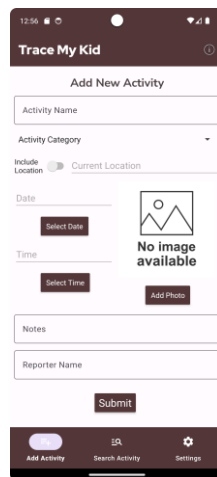


Figure 1.2 Add New Activity

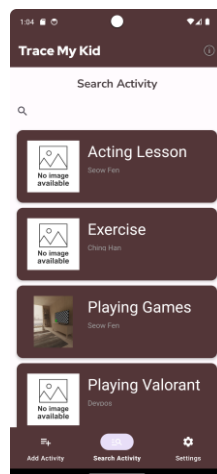


Figure 1.3 Search Activity

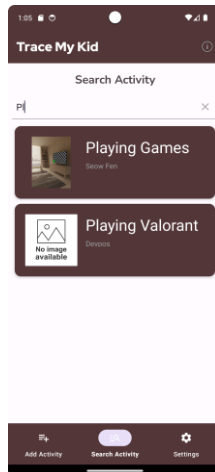


Figure 1.4 Filter Activity (Search Activity)

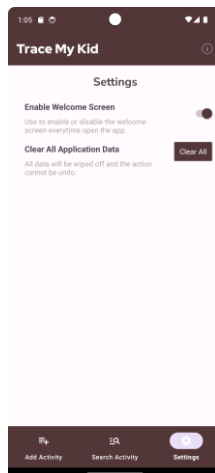


Figure 1.5 Settings

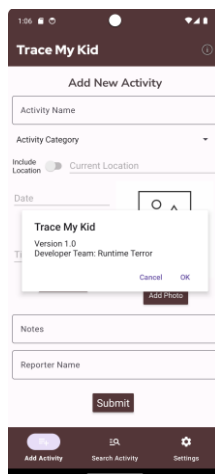


Figure 1.6 App Information

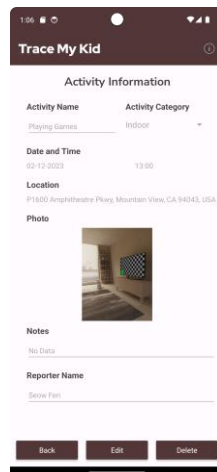


Figure 1.7 Activity Information (Search Activity)

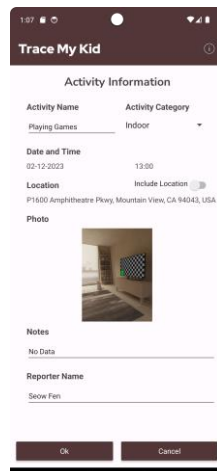


Figure 1.8 Edit Activity Information (Search Activity)



Figure 1.9 Camera

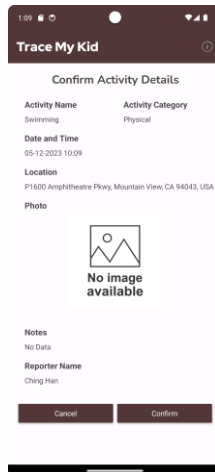


Figure 1.10 Confirm Activity Details (Add Activity)

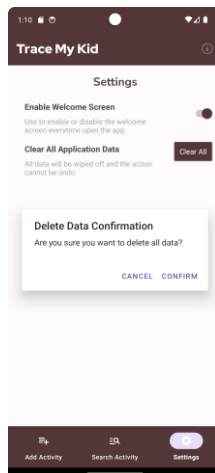
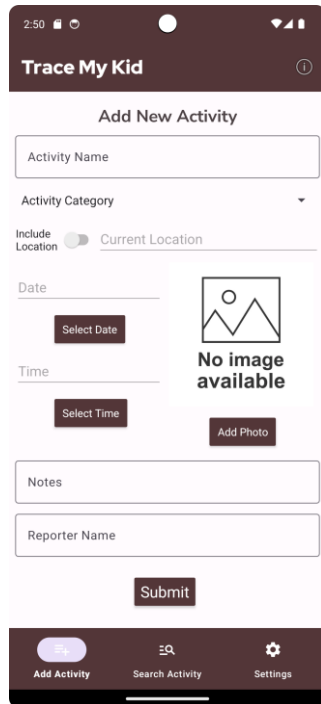


Figure 1.11 Clear All Data (Settings)

## 2.0 Test Cases

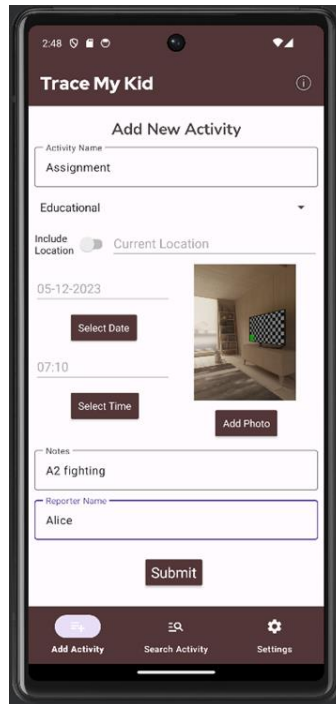
### 2.1 Add new activity

Figure 2.1, Figure 2.2, Figure 2.3, show the process of adding new activity.



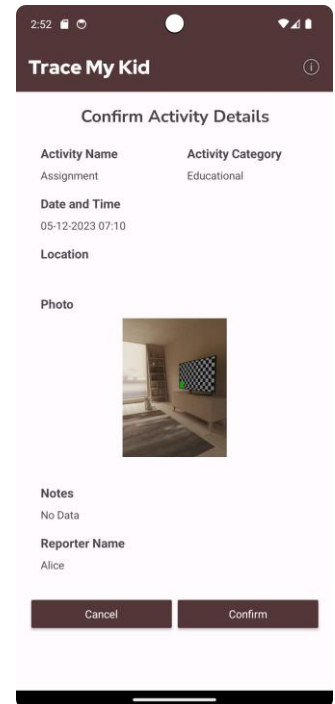
The 'Add New Activity' form in the 'Trace My Kid' app. It features a title bar with the app name and a back button. The form includes fields for 'Activity Name', 'Activity Category' (a dropdown menu), 'Include Location' (a toggle switch), 'Date' (with a 'Select Date' button), 'Time' (with a 'Select Time' button), 'Notes', and 'Reporter Name'. A placeholder image with the text 'No image available' and an 'Add Photo' button is also present. A 'Submit' button is at the bottom. The bottom navigation bar shows 'Add Activity' as the active tab, along with 'Search Activity' and 'Settings'.

Figure 2.1 Add New Activity Fragment



The 'Add New Activity' form with input details. The 'Activity Name' field contains 'Assignment', 'Activity Category' is set to 'Educational', and 'Include Location' is toggled on. The 'Date' field shows '05-12-2023' and the 'Time' field shows '07:10'. A photo of a room is displayed next to the 'Add Photo' button. The 'Notes' field contains 'A2 fighting' and the 'Reporter Name' field contains 'Alice'. The 'Submit' button is at the bottom. The bottom navigation bar shows 'Add Activity' as the active tab, along with 'Search Activity' and 'Settings'.

Figure 2.2 Input Activity Details



The 'Confirm Activity Details' screen. It displays the details entered in the previous screen: 'Activity Name' as 'Assignment', 'Activity Category' as 'Educational', 'Date and Time' as '05-12-2023 07:10', 'Location' (empty), 'Photo' (the room image), 'Notes' as 'No Data', and 'Reporter Name' as 'Alice'. At the bottom, there are 'Cancel' and 'Confirm' buttons.

Figure 2.3 Confirm Activity Details



Figure 2.4, Figure 2.5 shows that the new activity is successfully added into the database containing the details.

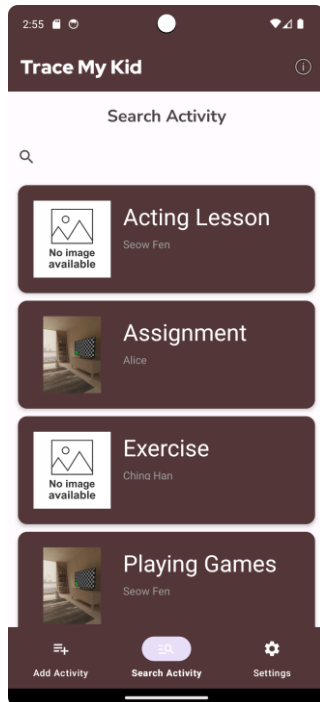


Figure 2.4 Add New Activity  
Fragment

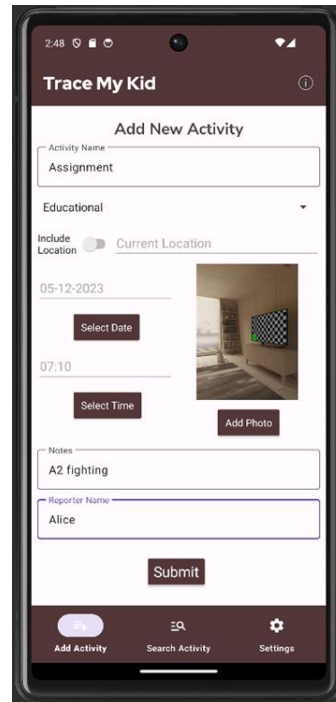
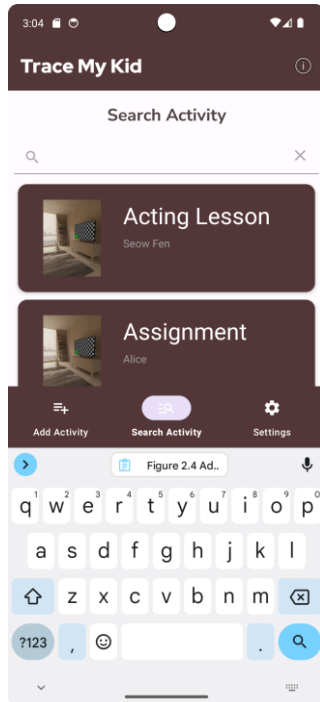


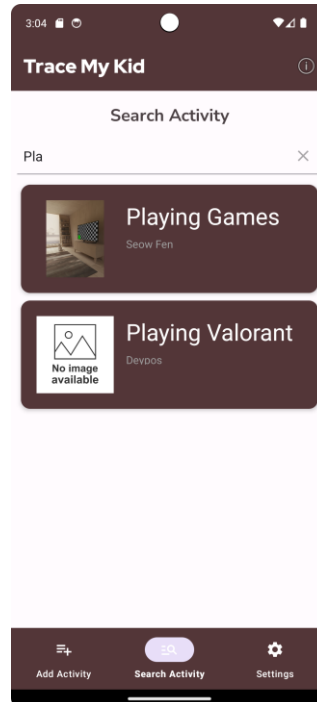
Figure 2.5 Activity Information

## 2.2 Search activity

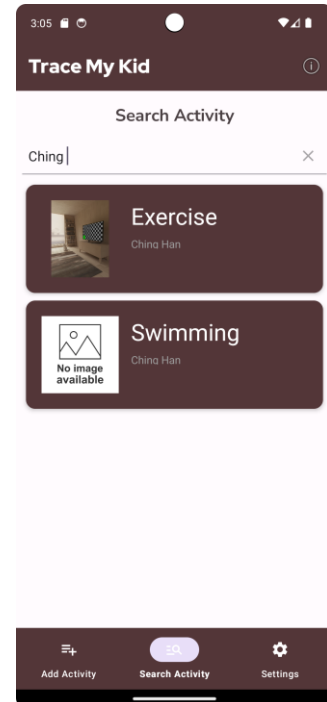
*Figure 2.6* shows the feature of searching activity and *Figure 2.7* shows after typing “Pla”, it filters out activity that match to the keyword. *Figure 2.8* shows that it also could be applied to reporter name.



*Figure 2.6* Search Feature



*Figure 2.7* Filter According to Activity Name



*Figure 2.8* Filter According to Reporter Name

### 2.3 Edit activity

*Figure 2.9* shows the user interface for editing the activity. *Figure 2.10* shows the activity information before editing and *Figure 2.11* shows the activity information after editing.

**Trace My Kid**

**Activity Information**

Activity Name	Activity Category
Assignment	Educational

**Date and Time**  
05-12-2023 07:10

**Location**  
Include Location ☐

**Photo**

**Notes**  
No Data

**Reporter Name**  
Alice

Ok Cancel

*Figure 2.9* Edit Activity

**Trace My Kid**

**Activity Information**

Activity Name	Activity Category
Assignment	Educational

**Date and Time**  
05-12-2023 23:15

**Location**  
No location available

**Photo**

**Notes**  
No Data

**Reporter Name**  
Alice

Back Edit Delete

*Figure 2.10* Before Edit

**Trace My Kid**

**Activity Information**

Activity Name	Activity Category
Assignment 2	Educational

**Date and Time**  
05-12-2023 23:15

**Location**  
P1600 Amphitheatre Pkwy, Mountain View, CA 94043, USA

**Photo**

**Notes**  
Runtime Terror Number 1

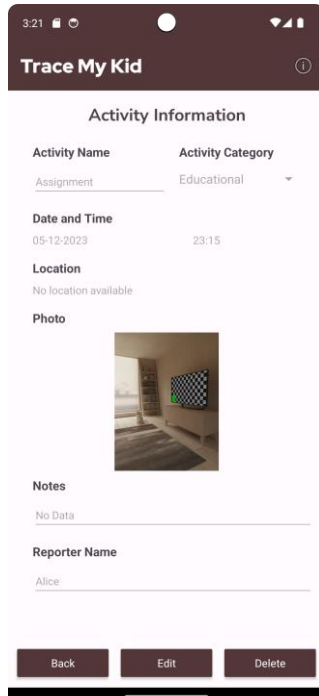
**Reporter Name**  
Seow Fen

Back Edit Delete

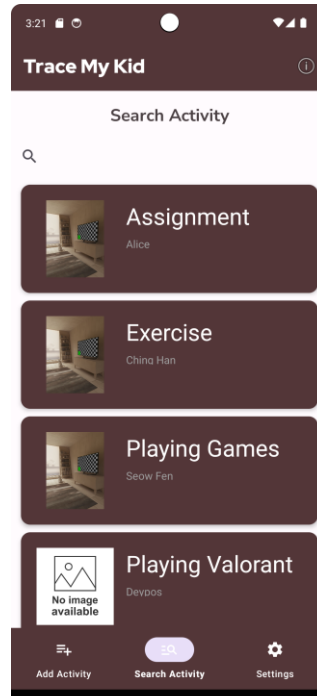
*Figure 2.11* After Edit

## 2.4 Delete Activity

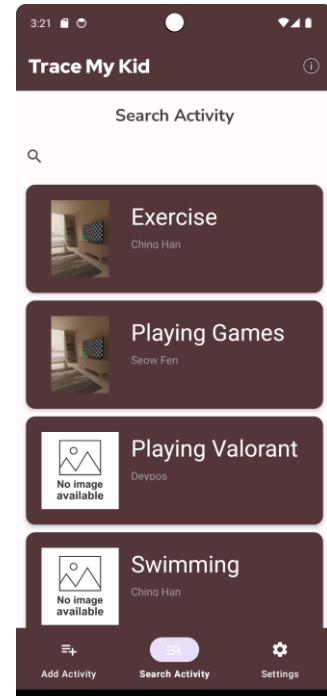
*Figure 2.12* shows the option to delete activity. *Figure 2.13* shows the list of activity before deleting Assignment activity, *Figure 2.14* shows the difference after deleting Assignment activity.



*Figure 2.12* Delete Activity



*Figure 2.13* Before Delete



*Figure 2.14* After Edit

## 2.5 Enable Welcome Screen

Version 1.0



Figure 2.15 Enable Welcome Screen

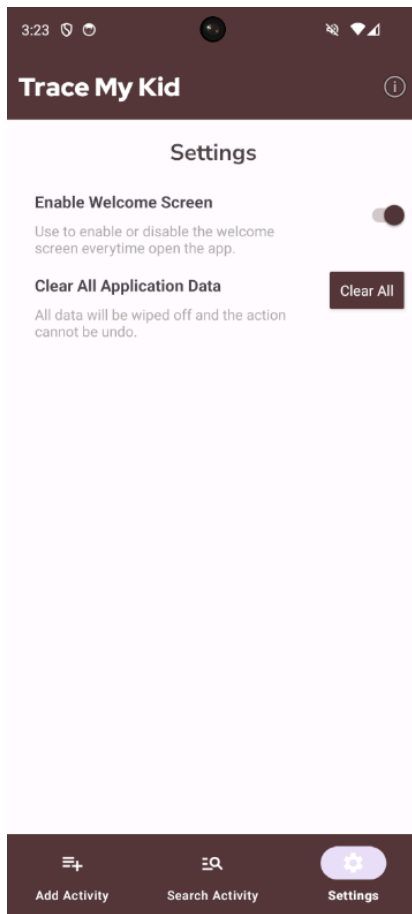


Figure 2.16 Enable Welcome Screen at Settings Page

## 2.6 Disable Welcome Screen



Figure 2.17 Disable Welcome Screen

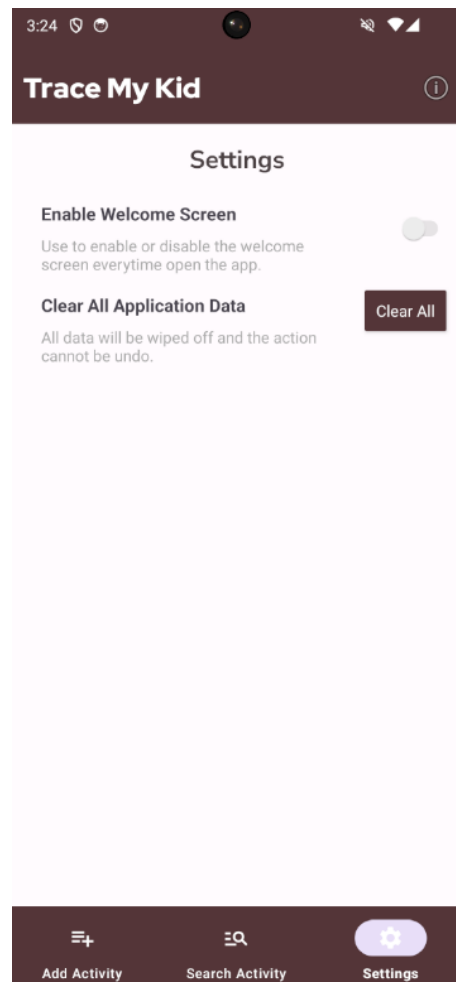


Figure 2.18 Disable Welcome Screen at Settings Page

## 2.7 Delete all data

Figure 2.19 shows the setting for clearing all data. Figure 2.20 shows the confirmation dialog for clearing all data. Figure 2.21 and Figure 2.22 show the difference between the list of activities before and after clearing all data.

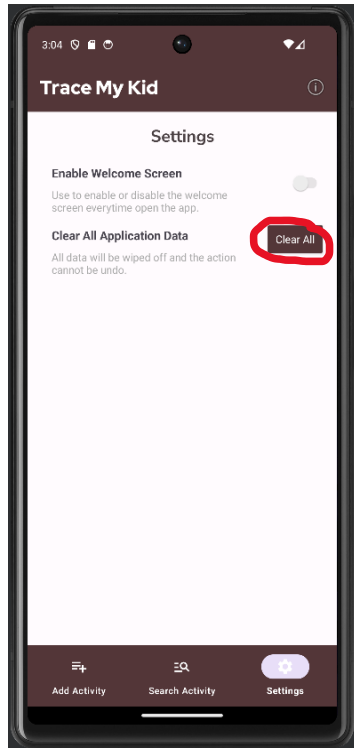


Figure 2.19 Settings

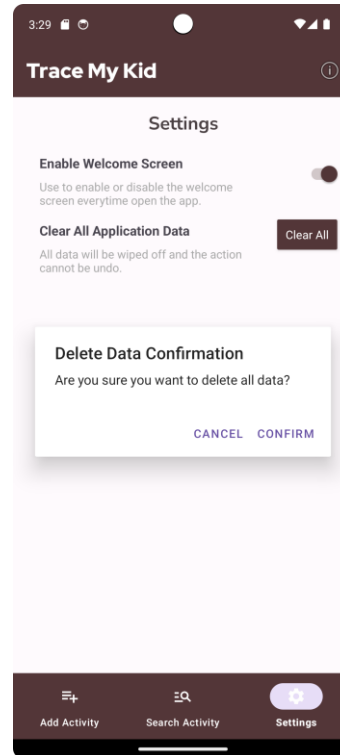


Figure 2.20 Delete All Confirmation

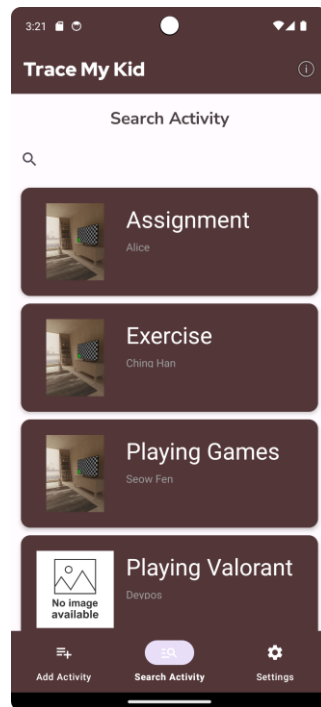


Figure 2.21 Before Delete All



Figure 2.22 After Delete All

## 2.8 Input validation

Figure 2.23 and Figure 2.24 show the input error of activity name.

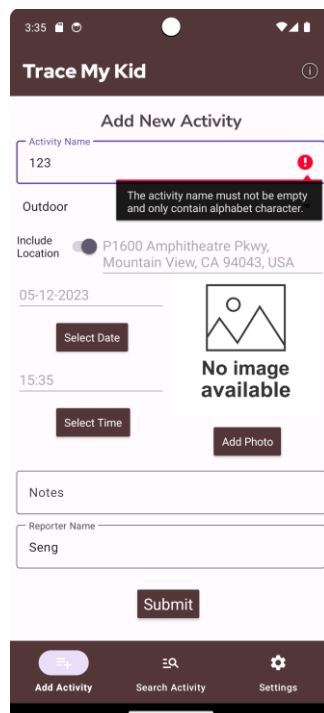


Figure 2.23 Contain Non-Letter

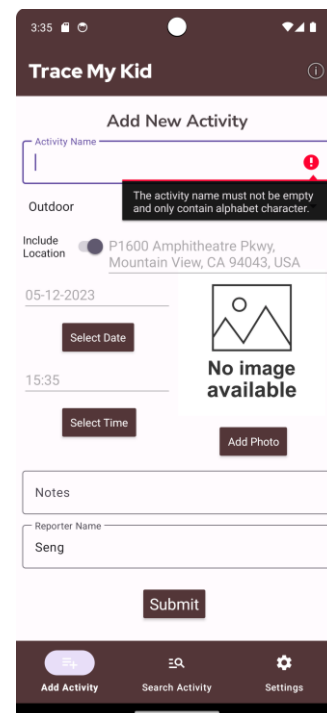


Figure 2.24 Empty Activity Name



Figure 2.25 shows the error if user did not pick activity category from the spinner.

The screenshot shows the 'Trace My Kid' app interface. At the top, the title 'Trace My Kid' is displayed. Below it, the section 'Add New Activity' is visible. The form includes an 'Activity Name' field with the text 'ABC'. The 'Activity Category' field is a dropdown menu that is currently empty. Below this, there is a toggle for 'Include Location' set to 'Current Location'. The date is set to '05-12-2023' and the time to '15:37'. There is a placeholder for an image with the text 'No image available' and a button 'Add Photo'. A 'Notes' field is present, followed by a 'Reporter Name' field with the text 'css'. A 'Submit' button is at the bottom of the form. A red error message banner at the bottom of the screen reads 'Activity category must be selected.' The bottom navigation bar has three items: 'Add Activity', 'Search Activity', and 'Settings'.

Figure 2.25 User Did Not Pick Activity Category

Figure 2.26 shows the error if user did not pick the date.

The screenshot shows the 'Trace My Kid' app interface. At the top, the status bar displays the time 3:38 and various icons. The app title 'Trace My Kid' is in a dark header. Below it, the section 'Add New Activity' is visible. The 'Activity Name' field contains the text 'css'. The 'Physical' category is selected with a dropdown arrow. The 'Include Location' toggle is turned on, and 'Current Location' is selected. The 'Date' field is highlighted with a red error icon and a message 'Please fill in required field.' below it. The 'Date' field itself shows '15:37' and a 'Select Date' button. To the right of the date field is a placeholder for a photo with the text 'No image available' and an 'Add Photo' button. Below the date field is a 'Select Time' button. Further down are fields for 'Notes' and 'Reporter Name', both containing the text 'css'. A 'Submit' button is at the bottom of the form. The bottom navigation bar has three tabs: 'Add Activity', 'Search Activity', and 'Settings'. The 'Add Activity' tab is currently selected.

Figure 2.26 User Did Not Pick the Date

Figure 2.27 shows the error if user did not pick the time.

The screenshot shows the 'Trace My Kid' app interface. At the top, the status bar displays the time 3:40 and various icons. The app title 'Trace My Kid' is in a dark header. Below it, the section 'Add New Activity' is visible. The 'Activity Name' field contains the text 'css'. The 'Indoor' location is selected from a dropdown menu. The 'Include Location' toggle is turned on, and 'Current Location' is selected. The date '05-12-2023' is displayed, with a 'Select Date' button below it. The 'Time' field is empty and has a red exclamation mark icon next to it, indicating an error. Below the 'Time' field is a 'Select Time' button. To the right of the 'Time' field is a placeholder for an image with the text 'No image available' and an 'Add Photo' button. Below these fields is a 'Notes' text area, followed by a 'Reporter Name' field containing the text 'css'. At the bottom of the form is a 'Submit' button. A red error message 'Please fill in required field.' is displayed above the 'Time' field. The bottom navigation bar contains three buttons: 'Add Activity', 'Search Activity', and 'Settings'.

Figure 2.27 User Did Not Pick the Time

Figure 2.28, Figure 2.29 shows the error if user did not enter valid reporter name such as empty or contain non-letter.

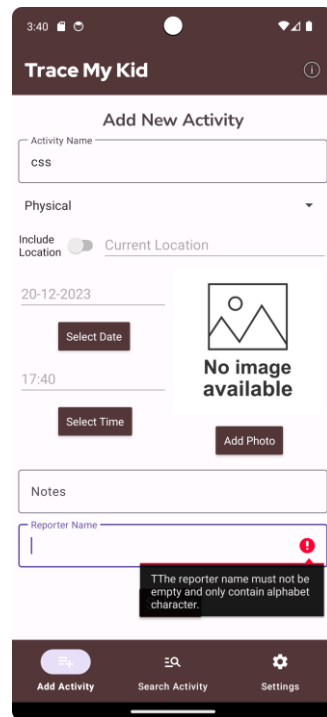


Figure 2.28 Contain Non-Letter

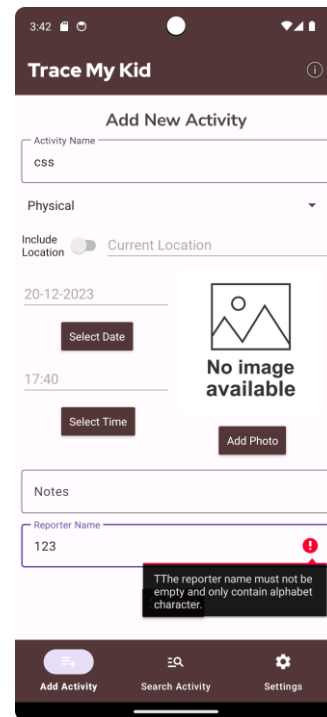


Figure 2.29 Empty Reporter Name

### 3.0 Weaknesses and Strengths

#### 3.1 Weaknesses

Due to time constraints and the complexity of the code, certain features, such as the tablet view dual pane could not be included by following the methods provided by the lecturer. The code is not perfectly structured due to a lack of understanding of some enhanced features, such as fragment navigation. Moreover, there are several features that could be further improved, such as the addition functionality of search activity, which can use filters to filter the result. Unfortunately, these enhancements were not implemented due to time limitations.

Another weakness is that after we click submit, there is a preview page before confirmation. When we click the cancel button, all the information we entered before disappears, and the user has no way to select the edited part.

#### 3.2 Strengths

Firstly, the first strength is the visual appeal of good design. To ensure that the application has a user-friendly interface, all aspects of the application are designed consistently, and the user interface of the application is also very simple, which allows users to clearly understand the ways to use the application and have a good experience, this will also increase the affection of the user. In addition, followed by the theme of colour matching and font style, the soft colour interface design and moderately sized fonts enhance the user experience without making users feel complicated or dazzling. All the headers are also in bold fonts, which will attract users and serve

as a reminder. Additionally, the animation on the welcome page is very cute and friendly and fits the theme of the app.

Secondly, the second strength is the extra features. In order to add flexibility and user convenience, this application has some accessibility features. The first function is the “clear all” function. This function can directly clear all those history records that are contained on the search activity page, but users must take note that after the user clicks the clear all button, the system cannot undo the procedure. It is found that this clear-all function is permanently wiped off.

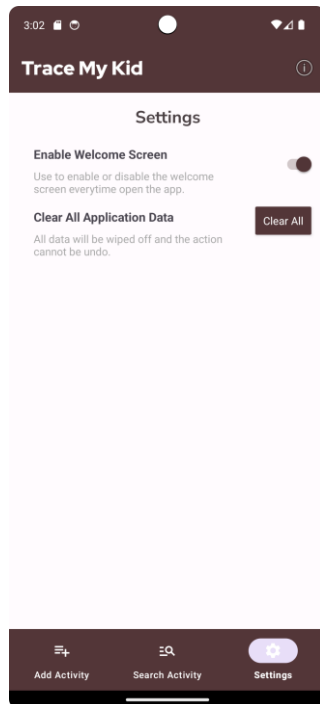


Figure 3.1 Clear All Application Data

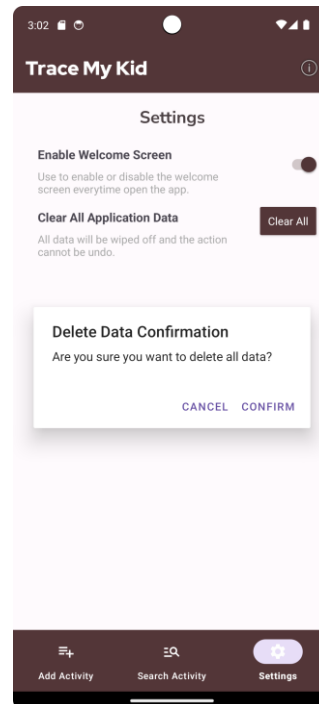


Figure 3.2 Clear All Confirmation

The second feature is the photo captured can be saved. Some of the users will capture a photo and submit it together with other information. The photo captured will be saved in the activity history and the photo can be viewed on every slot of the history. The photo can also be viewed if the user clicks on the history activity.

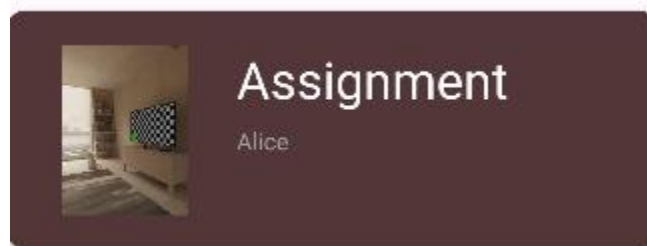


Figure 3.3 Photo saved at activity

The third feature is the user setting for the preference enable welcome screen. If users feel that the welcome page affects their user experience, they can immediately click the "Skip

welcome screen next time" checkbox at the bottom of the welcome page. After ticking this checkbox, the system will receive this instruction and the welcome page will not be displayed every time the user opens the application. If you want to reactivate the welcome page, the user can also go to the settings page and click the toggle button to re-enable the welcome page.

Version 1.0



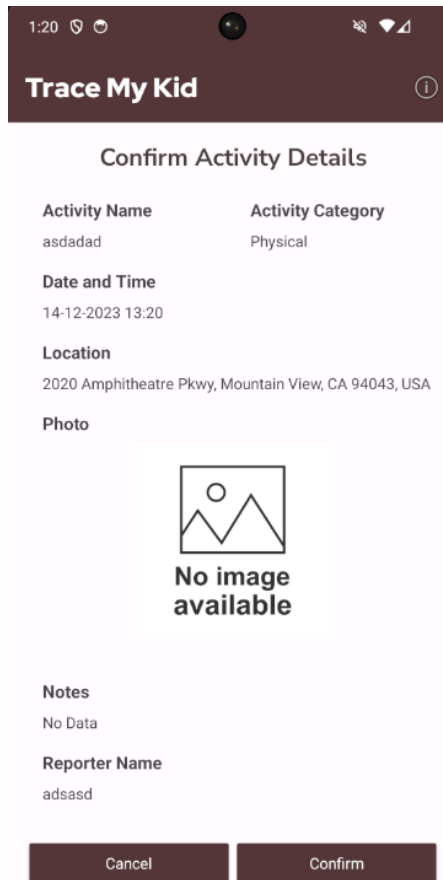
*Figure 3.4* Check box for the welcome page

Thirdly, the third strength is the validation for the user to make sure that all of the required fields are. The appropriate validation is implemented at the activity name, activity category, date and time, and the reporter's name. The parts that did not implement the validation are considered optional fields, such as location, photos, and notes. The validation will also appear with a red exclamation mark icon to remind the user to insert the information in the boxes. Moreover, the red exclamation mark icon will also provide some reminder wording for the user to view after the user clicks on the icon.

The screenshot shows the 'Trace My Kid' app interface. At the top, the status bar displays the time 1:21 and various icons. The app title 'Trace My Kid' is in a dark header. Below it, the section 'Add New Activity' is highlighted. The form contains several fields: 'Activity Name' (with a red exclamation mark icon indicating a validation error), 'Activity Category' (a dropdown menu), 'Include Location' (a toggle switch set to 'Current Location'), 'Date' (with a red exclamation mark icon and a 'Select Date' button), 'Time' (with a red exclamation mark icon and a 'Select Time' button), and 'Notes' (a text area). To the right of the date and time fields is a placeholder for an image with the text 'No image available' and an 'Add Photo' button. At the bottom of the form is a 'Reporter Name' field (with a red exclamation mark icon) and a 'Submit' button. The bottom navigation bar has three icons: a plus sign for 'Add Activity', a magnifying glass for 'Search Activity', and a gear for 'Settings'.

Figure 3.5 Validation for the required fields

The last strength is the preview mode which allows the user to view the information entered before adding the activity to the database. After the user enters all of the information needed, the user needs to click the submit button to allow the system to save the activity. After that, the application will immediately generate a confirm activity details page to allow the user to check the information they entered. The page also provided a “cancel” and “confirm” button for the user to choose. If the user presses the cancel button, the application will jump back to the previous page to allow the user to enter the information again. If the user presses the confirm button, the activity will be submitted to the database to store all the information. The user can go to the search activity to view the history of the activity.



1:20

**Trace My Kid**

**Confirm Activity Details**


**Activity Name**  
asdadad

**Activity Category**  
Physical

**Date and Time**  
14-12-2023 13:20

**Location**  
2020 Amphitheatre Pkwy, Mountain View, CA 94043, USA

**Photo**

  
**No image available**

**Notes**  
No Data

**Reporter Name**  
adsasd

**Cancel** **Confirm**

Figure 3.6 Preview mode before submission

## 4.0 Appendix

### 4.1 System Functionalities Screencast Recording URL

[https://uowmalaysia-my.sharepoint.com/:v:/g/personal/0207368\\_student\\_uow\\_edu\\_my/Eb\\_nG-XHsfNA5raR7iFFW8BL-HARntG3zcsJZBg72mzCg?e=0TVFka&nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJTaGFyZURpYWxvZy1MaW5rliwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXcifX0%3D](https://uowmalaysia-my.sharepoint.com/:v:/g/personal/0207368_student_uow_edu_my/Eb_nG-XHsfNA5raR7iFFW8BL-HARntG3zcsJZBg72mzCg?e=0TVFka&nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJTaGFyZURpYWxvZy1MaW5rliwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXcifX0%3D)



## Group members work contribution form

**In percentage, please indicate the work contribution** of each member. This should be agreed by all group members. **The total of all members work must add to 100%**

You must **submit this form in your final report**. Put your initials in the signature columns. This copy must be signed by all members.

**Group/Team Name:** Runtime Terror (Group 6)

Team member name	Student ID	Individual overall work contribution (%)	Signature
Student: CHAN SEOW FEN	0207368	40 %	Chan
Student: ONG YI WEN	0207333	30 %	Wen
Student: TAN SIN YEE	0207146	30 %	Tan Sin Yee
Total 100%			

**CET3013/MOBILE APPLICATION DEVELOPMENT**

## MARKING RUBRIC – ASSIGNMENT 2

### Building App with Database and Sensors (30%)

## Section 1 (40%)

LEARNING OUTCOME	MARKING CRITERIA	SCALE							
		Fail	3 <sup>rd</sup> Class	2 <sup>nd</sup> Lower Class	2 <sup>nd</sup> Upper Class	1 <sup>st</sup> Class	MARKS/COMMENTS		
		(0-49)	(50-59)	(60-69)	(70-79)	(80-100)	100%	Weightage	Actual Marks
CLO 2	Additional Features (Location, Map & Camera) (20%)	Little or no attempt to implement the feature correctly	A partial implementation of the feature, but some aspects are incorrect and not particularly well coded. May give rise to run-time errors.	A complete implementation of the features with some flaws and not in exceptional way.	A mostly complete implementation of the feature which works correctly but with minor flaws	An excellent implementation of all the feature and clearly coded		0.2	
	Overall interface (Portrait and landscape mode and UI Navigation) (20%)	Very poor UI produced (either portrait or landscape are missing). No application of UI interface	A partial implementation of the UI but did not apply the UI navigation. The overall UI is not attractive	A complete implementation of the AI but with some flaws and not in an attractive way.	A good UI produced with applying the UI navigation with Jetpack library. Use appropriate bottom navigation, drawer and toolbar with menu items.	An excellent UI implementation with using good UI navigation such as bottom navigation, drawer and toolbar with menu items.		0.2	
Total (40%)									

Section 2 (60%)									
LEARNING OUTCOME	MARKING CRITERIA	SCALE							
		Fail	3 <sup>rd</sup> Class	2 <sup>nd</sup> Lower Class	2 <sup>nd</sup> Upper Class	1 <sup>st</sup> Class	MARKS/COMMENTS		
		(0-49)	(50-59)	(60-69)	(70-79)	(80-100)	100%	Weightage	Actual Marks
CLO3	Database Integration (Insertion, Deletion, Editing, Searching) (30%)	Little or no attempt to implement the feature correctly	A partial implementation of the feature, but some aspects are incorrect and not particularly well coded. May give rise to run-time errors.	A complete implementation of the features with some flaws and not in exceptional way.	A mostly complete implementation of the feature which works correctly but with minor flaws	An excellent implementation of all the feature and clearly coded		0.3	
	Fragment Application (Using Fragment to produce the master & details format). (30%)	Little or no attempt to implement the feature correctly. No master and details view. No animation provided.	A partial implementation of the feature, but some aspects are incorrect and not particularly well coded. May give rise to run-time errors.	A complete implementation of the features with some flaws and not in exceptional way.	A mostly complete implementation of the feature which works correctly but with minor flaws.	An excellent implementation of all the feature and clearly coded. The master and details fragment are working perfectly.		0.3	
Total (60%)									
Overall Score (100%)									