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5/6/2017

# CODING REVIEW

CS243

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# CODE INSPECTION APPROACH

## INTRODUCTION

This is the coding review document for Student Engagement detection app. It is following code inspection approach. There is a 3 member team which would review the code.

### **Details of Project:**

<b>APP TITLE:</b>	STUDENT ENGAGEMENT DETECTION
<b>AUTHORS:</b>	AYUSH SONI BISHWENDRA CHOUDHARY BHOLA SHANKAR

## TEAM DETAILS

REVIEWER NAME: Yathendra Mouli

Qualification : Btech 2<sup>nd</sup> year computer science student

- SOURCE CODE REVIEWED(NO OF FILES):4

REVIEWER NAME: Anirudh Sharma

Qualification : Btech 2<sup>nd</sup> year computer science student

- SOURCE CODE REVIEWED(NO OF FILES):4

REVIEWER NAME: Aman Aggarwal

Qualification : Btech 2<sup>nd</sup> year computer science student

- SOURCE CODE REVIEWED(NO OF FILES):4

## CODING GUIDELINES AND STANDARD FOLLOWED

1. Local Variables : all are in small letters
2. Global Variables: first letter Caps
3. Constant Identifiers: all caps
4. Length of functions : nearly 10 lines
5. No use of Goto statements.
6. Do not use same identifiers for multiple purposes.
7. Each module contains header.Contents of header:
  1. Author of the module
  2. Modification history
  3. Date created
  4. Function of module
  5. Global variables used/modified by module
8. Each function has commenting.On an average , atleast one comment line every 3 code lines.
9. Error or Success of a function are reported by TOAST function.
- 10.No modification of global variables

## INSPECTION REPORTS BY REVIEWERS

REVIEWER NAME: *Yathendra Mouli*

SOURCE CODE REVIEWED(NO OF FILES):4

### FILE 1 : MainActivity

- Header done properly , contains all info , name of module , author , global variables used.
- The global database entity “db” is not named according to standards.
- Length of function onCreate optimal but of function onClick is slightly more than it should be.
- “username” is the id of a textview too and also “Username” is a hardcoded string used in the code.
- Code properly intended.

- Global variable “db” used only in function onClick , no use of it to be global.
- Easily understandable through comments , good use of comments.
- Toast used to pop error when password didn’t matched.
- Benefit of no GoTo statement and global constants.

## FILE 2 : SignUp

- Again the global database entity “myDb” has name starting from small letter.
- Global variable “Type” used nowhere.
- Length of both functions used optimal.
- Local variables too named properly.
- Indentation and commenting proper.
- The local variable “isInserted” in AddData function not according to standard.

## FILE 3 : StudentPage

- Header done properly , contains all info , name of module , author , global variables used.
- Global variable Teacher\_Names used only in function onCreate , no use of it to be global.
- Global variable Header1 used only in function HeaderList, no use of it to be global.
- Global variable Header used only in function HeaderList, no use of it to be global.
- List of strings “Teacher” is a local variable and not named properly.
- Indentation done properly.
- Commenting enough to help code understand easily.
- No GoTo statements , good for code.
- Length of functions optimal.

## FILE 4 : StudentJoin

- Header not done properly , contains all info , name of module , author , but one constant identifier “REQUEST CAPTURE” is included in global variables used.
- Naming for global variables “mSensorManager” and “mProximitySensor” is not according to standard.

- Global variable “mProximitySensor” only used in onCreate function , no use of it to be global.
- Global variable “ProximityMax” only used in onCreate function , no use of it to be global.
- Global variable “ProximityMax” and textView id “proximityMax” , are too similar identifiers.
- Global variable “ProximityReading” and textView id “proximityReading” , are too similar identifiers.
- Global variable “myProximitySensor” only used in onCreate function , no use of it to be global.
- Local variables named properly.
- Indentaion proper and commenting enough to understand whole code.
- Benefit of no GoTo statement and only one global constant used.
- Error when no proximity sensor in device not reported using Toast statement.
- Lines of code optimum except of function onCreate( slightly more).

## REVIEWER NAME: *Aman Aggarwal*

SOURCE CODE REVIEWED(NO OF FILES):4

### FILE 1 : MainActivity

#### ISSUE

- The local variables should be named with all small letters , example , string “Entity” of strings in function onCreate.
- Obscure side effect of using both hardcoded string “Username” and id of a textview “username”.
- The global database entity “db” is not named according to standards.

#### NO ISSUE

- Use of Toast statement to report error by popping error when password dont matched.
- Code easily undertstandable through comments.
- Indentation is systematic.
- Header column is made correctly with all info.

- No use of GoTo statement and global constants.

## FILE 2 : SignUp

### ISSUE

- “myDb” database variable is global ,naming not correct according to standard.
- “Type” is a useless global vaariable.

### NO ISSUE

- Length of both functions used optimal.
- Local variables too named properly.
- Indentation and commenting proper.

## FILE 3 : StudentPage

### ISSUE

- Local variable “Teacher” must have small first letter according to standards.
- Teacher\_Names (global variable ) can be used as a local variable , used only in onCreate function.
- Db (Global variable) used only in function GetAllTeachers , no use of it to be global.
- Header (global variable ) can be used as a local variable , used only in HeaderList function.

### NO ISSUE

- Header block properly made.
- Comments help in understanding.
- No use of GoTo statements .
- Length of functions nearly 10.

## FILE 4 : StudentJoin

### ISSUE

- Issue in header of module, contains constant identifier “REQUEST CAPTURE”.
- “ProximityMax” variable need not to be global , used once in onCreate function.

- “mProximitySensor” variable need not to be global , used once in onCreate function.
- “ProximityReading” variable and textView id “proximityReading” are use multiple time being similar.
- Global variable “mProximitySensor” only used in onCreate function , no use of it to be global.
- Toast statement is not being used for error reporting.

#### NO ISSUE

- No GoTo statement.
- Indentaion good.
- Commenting makes code understandable
- Local variables named properly.
- Lines of code optimum except of function onCreate( slightly more).

### REVIEWER NAME: Anirudh Sharma

SOURCE CODE REVIEWED(NO OF FILES):4

I'm only mentioning the wrong issues.

#### FILE 1 : MainActivity

- Database item “db” should have first letter capital according to standards.
- Length of function onClick more than 10.
- Identifier “username” is used for multiple processes with only first letter caps.
- Some local variables like string “Entity” of strings (function onCreate) is should have small first letter.

#### FILE 2 : SignUp

- The local variable “isInserted” in AddData has h capital letter.
- Variable “Type” is useless.

#### FILE 3 : StudentPage

- List of strings “Teacher” is a local variable and not named properly.
- “Header” should be defined as local variable , only used in HeaderList function.



- “Db” should be defined as local variable , only used in GetAllTeachers function.

#### FILE 4 : StudentJoin

- Some globle variables are not named according to standards , like “mSensorManager” and “mProximitySensor”.
- TextView id proximityMax and global variable ProximityMax , create confusion and are hardly distinguishable , obscure side effect.
- TextView id proximitySensor and global variable ProximitySensor, create confusion and are hardly distinguishable , obscure side effect.
- TextView id proximityReading and global variable ProximityReading, create confusion and are hardly distinguishable , obscure side effect.
- Global variable “mProximitySensor” only used in onCreate function , no use of it to be global.
- “myProximitySensor” should be defined as local variable , only used in onCreate function.
- Toast not used as error reporting function.

## ANALYSIS OF REVIEWER’S INSPECTION REPORT

### TABLE CONTAINING ALL PROMINIENT ISSUES

CRITICAL: Issues detected by all three reviewers are critical

ISSUE	YATHENDRA	ANIRUDH	AMAN
Naming of global variable db not proper  MainActivity <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
Naming of local variable Entity in onCreate function not proper  MainActivity		DETECTED	DETECTED
Length of function onCreate more  MainActivity	DETECTED	DETECTED	

Use at multiple processes of “username” as TextField id and “Username” as hard coded string  MainActivity <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
The Global database entity “myDb” has name starting from small letter  SignUp	DETECTED		DETECTED
Global variable “Type” used nowhere.  SignUp <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
The local variable naming of “isInserted” in AddData function improper SignUp	DETECTED	DETECTED	

Global variable Db used only in function GetAllTeachers , no use of it to be global.  StudentPage		DETECTED	DETECTED
Global variable Teacher_Names used only in function onCreate , no use of it to be global.  StudentPage	DETECTED		DETECTED
Global variable Header1 used only in function HeaderList, no use of it to be global.  StudentPage	DETECTED		
Global variable Header used only in function HeaderList, no use of it to be global.  StudentPage <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED

List of strings “Teacher” is a local variable and not named properly.  StudentPage <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
Header not done properly , one constant identifier ”REQUEST CAPTURE” is included in global variables used.  StudentJoin	DETECTED		DETECTED
Naming for globe variables “mSensorManager” and “mProximitySensor” is not according to standard.  StudentJoin	DETECTED	DETECTED	
Global variable “mProximitySensor” only used in onCreate function , no use of it to be global.  StudentJoin <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
Global variable “ProximityMax” only used in onCreate function , no use of it to be global.  StudentJoin	DETECTED		DETECTED
Global variable “ProximityMax” and textView id “proximityMax” , are too similar identifiers.  StudentJoin	DETECTED	DETECTED	
Global variable “ProximitySensor” and textView id “proximitySensor” , are too similar identifiers.  StudentJoin		DETECTED	

Global variable "ProximityReading" and textView id "proximityReading" , are too similar identifiers.  StudentJoin		DETECTED	DETECTED
Global variable "myProximitySensor" only used in onCreate function , no use of it to be global.  StudentJoin <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED
Lines of code optimum except of function onCreate( slightly more).  StudentJoin	DETECTED		
Toast not used as error reporting function.  StudentJoin <b>CRITICAL</b>	DETECTED	DETECTED	DETECTED

## Conclusion -:

- 1) The Issue detected by all 3 Reviewer is critical issue .So, we must resolve this issue .
- 2) The Issues detected by 1 Reviewer is not so much important. But Sometime issues like abstract class contains all method of its parent class , but all methods are not useful for abstract class but we have to define it in abstract class , otherwise error will come . So ,we have to give proper comments . So that reviewer can understand it properly.