Module 3 Milestone 2

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CS 499 Computer Science Capstone

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## Software Design and Engineering:

Created on December 17, 2022, by Hai Nguyen, a Computer Science at SNHU, Weight Tracking is a mobile application particularly designed using Android Studio software. This innovative app is tailored to empower users to take charge of their health and fitness journey. With its primary focus on weight monitoring and dietary control, Weight Tracking app offers a comprehensive solution for individuals seeking to achieve their wellness goals. It serves as a valuable and versatile tool for health and fitness management.

## 2. Justify the inclusion of the artifact in my ePorfolio:

The artifact of ClickedItemActivity.java in Software Design and Engineering was selected because it exemplifies my proficiency in mobile programming languages and frameworks, aligning with intended outcome of incorporating new mobile programming techniques to extend application functionality and demonstrating problem-solving and design evaluation skills to make informed choices.

The specific components of the ClickedItemActivity.java that showcases my skills includes features implementation, user interface enhancement, and customization options. Firstly, I aimed to enhance the app’s functionality by implementing a feature that allows users to interact with the displayed item by allowing users to add comments or reviews. Secondly, dynamic, and interactive elements such as animations have been added to make my UI component become responsive. In this artifact, fade in animation is added in the ImageView. Finally, the app allows users to customize the displayed item’s details. Users are provided options to change the text size based on their preferences. The original code and modified code have been added to the zip file to submit to my instructor.

## 3. Course expectation:

I think that I have met the course objectives that I planned to meet with this enhancement in Module One. As of now, I do not have any more updates to my outcome-coverages plans. However, I would review and document any more updates that needed to meet extra outcomes or feedback from users’ feedback.

4. Reflect on the process of enhancing and/or modifying the artifact:

As I was creating and improving the ClickedItemActivity, I encountered several learning experiences and challenges. Reflecting on this process can provide valuable insights into my growth as a developer. I likely deepened my understanding and application of advanced mobile programming techniques. This may include using innovative libraries, frameworks, or languages to enhance the functionality of the ClickedItemActivity. Additionally, the incorporation of dynamic and interactive elements suggests an increased proficiency in user interface (UI) design. I would learn how to make the UI more engaging, responsive, and visually appealing. Furthermore, designing and implementing the feature that allows users to interact with displayed items demonstrates my ability to conceptualize, plan, and execute new features in a mobile app. I also learned how to provide users with choices and flexibility in the app's appearance showcases an awareness of user experience.

There were also many challenges I faced. I had to solve the problem by ensuring compatibility and smooth integration with the existing codebase. Designing interactive elements and customization options might have presented challenges in balancing functionality with usability. In addition, implementing new features often involves cautious testing and debugging. Addressing issues related to user interactions, animations, or customization might have required careful testing and debugging processes. If I gathered user feedback during the improvement phase, incorporating diverse user perspectives into the ClickedItemActivity may have presented challenges in prioritization and decision-making.

Overall, reflecting on these learning experiences and challenges provides a comprehensive understanding of my growth throughout the ClickedItemActivity's development. This reflection not only adds depth to my ePortfolio but also enhances my ability to articulate my skills, problem-solving capabilities, and adaptability as a software developer.

## Original Code: ClickedItemActivity.java:

package com.zybooks.projecttwohainguyenui;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.EditText;

import android.widget.ImageView;

import android.widget.TextView;

public class ClickedItemActivity extends AppCompatActivity {

ImageView imageView;

TextView textView;

EditText editText;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_clicked\_item);

imageView = findViewById(R.id.imageView);

textView = findViewById(R.id.tvName);

editText = findViewById(R.id.inputText);

Intent intent = getIntent();

if (intent.getExtras() != null) {

String selectedName = intent.getStringExtra("name");

int selectedImage = intent.getIntExtra("image", 0);

textView.setText(selectedName);

imageView.setImageResource(selectedImage);

}

}

}

## 4.2 Modified Code: ClickedItemActivityModified.java.

package com.zybooks.projecttwohainguyenui;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.EditText;

import android.widget.ImageView;

import android.widget.Spinner;

import android.widget.TextView;

public class ClickedItemActivity extends AppCompatActivity {

ImageView imageView;

TextView textView;

EditText editText;

Spinner textSizeSpinner; // Added Spinner for text size selection

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_clicked\_item);

imageView = findViewById(R.id.imageView);

textView = findViewById(R.id.tvName);

editText = findViewById(R.id.inputText);

textSizeSpinner = findViewById(R.id.textSizeSpinner); // Initialize spinner from layout

Intent intent = getIntent();

if (intent.getExtras() != null) {

String selectedName = intent.getStringExtra("name");

int selectedImage = intent.getIntExtra("image", 0);

textView.setText(selectedName);

imageView.setImageResource(selectedImage);

// Enhancement 1: Allowing users to add comments or reviews

editText.setOnFocusChangeListener(new View.OnFocusChangeListener() {

@Override

public void onFocusChange(View view, boolean hasFocus) {

if (!hasFocus) {

String userComment = editText.getText().toString();

// Save the comment to data structure or send it to a server

}

}

});

// Enhancement 2: Adding animations such as fade in to the ImageView

imageView.animate().alpha(1.0f).setDuration(1000);

// Enhancement 3: Allowing users to customize the displayed item's details

// Provide options to change the text size based on user preferences.

// Set up the spinner with predefined text size options

ArrayAdapter<CharSequence> adapter = ArrayAdapter.createFromResource(

this,

R.array.text\_size\_options,

android.R.layout.simple\_spinner\_item

);

adapter.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdown\_item);

textSizeSpinner.setAdapter(adapter);

// Handle spinner item selection to change text size

textSizeSpinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

public void onItemSelected(AdapterView<?> adapterView, View view, int position, long id) {

// Get the selected text size from the spinner

String selectedTextSize = adapterView.getItemAtPosition(position).toString();

// Set the text size based on the selected option

switch (selectedTextSize) {

case "Small":

textView.setTextSize(14);

break;

case "Medium":

textView.setTextSize(18);

break;

case "Large":

textView.setTextSize(24);

break;

}

}

@Override

public void onNothingSelected(AdapterView<?> adapterView) {

// Do nothing if nothing is selected

}

});

} } }