

KAUNAS UNIVERSITY OF TECHNOLOGY

FACULTY OF INFORMATICS

T120B169 App Development for Smart Mobile Systems

*Tamagochi Project (temporary)*

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# **Description of Your app**

1. What type is your application/game?

[Game] Tamagotchi (with different animals, different mechanics, use notification/reminders, must use animations, with different difficulty, use phone sensors, with highscore shared in some leaderboard)

Will implement databases for leaderboards and saving player data. Might find use for services, player preferences and Google login.

1. Description.

Tamagotchi type of game where you take care of your pet, feed it, bathe it, pet it, etc.

# **Functionality of your app**

## **List of functions (adapt to your own app)**

1. Remove a UI component from the activity when a button is clicked.
2. Add the option to scroll the content when the size of the contents in the Activity exceeds the size of the window (using the **ScrollView** and **ConstraintLayout**).
3. Create new Activity. Add four UI components:
   * Title (EditText)
   * Description (EditText)
   * Image (ImageView)
   * Add (Button)

The “Add” button should create an **object** (**instance of your custom class**) from Title, Description and Image.

1. Create a **list of objects** (**instance of your custom class**) in main activity and transfer it from main activity to another activity. Display transferred list in **ListView/RecyclerView.**
2. Create new Activity, which should contain:
   * Image (ImageView)
   * Title (TextView)
   * Description (TextView)

When user click on an item from the **ListView/RecyclerView**, its data (Image, title and Description) is transferred to the created Activity and displayed in the corresponding UI components.

1. Add an option to sort the items in an alphabetical order (**ListView/RecyclerView**).
2. Make the filter by letter. In the text box, when you enter a letter and it must filter list of the elements to display only those that begin with that letter.
3. Create custom indicator (your custom progress bar). During the execution of the http request on indicator should show the triangle. (**You need to draw it; the task will not be accepted if you use the image**)
4. Make request to URL-address (<http://jsonplaceholder.typicode.com/posts> ***or******another which related to your project****).* Create new UI indicator which should show the number of items in JSON.
5. Change a design of regular button so that the button (when not pressed), has a gradient color.
6. Add an animation to progress bar while the query (http request) is executing.
7. Draw an indicator (your custom progress bar) of gradually appearing different color squares (getting darker toward the end).
8. Use accelerometer in new Activity. The accelerometer data changes dramatically (because is not constant), so when you use data from the accelerometer, you should set a limit so that the slightest motion is not considered.
9. In addition to the x, y, z values, show the position of the smartphone over ground (orientation). For example, left side down, and up screen, etc.
10. Create a compass and display the live compass on screen (in new Activity)
11. Get the geo-position (your current location) from the network (mobile operator & wireless network). On the phone screen this should be displayed next to the GPS coordinates for comparison
12. If the phone is oriented to the north, the application should run the Activity with the camera. It should automatically take a picture of the north (when compass shows north) and display it on screen.
13. When the smartphone is at 0 degrees, the brightness of the screen should be 0% (minimum value). If you change the position of the smartphone to 90 degrees (in a standing position), the brightness of the screen should increase to its maximum value. (***9 points***)
14. If the smartphone is oriented to the south at the 90-degree orientation position, the application should send an SOS signal using a camera flash (three short flashes, three long flashes, tree short flashes). (***10 points***)

# **Solution**

## **Task #1. Remove a UI component from the activity when a button is clicked.**

Description of the implementation (3-5 sentences). *Vestibulum hendrerit felis at turpis ultrices imperdiet. Nulla facilisi curabitur vitae semper nulla. Etiam rhoncus orci dolor [1], ac dictum erat iaculis sed. Aliquam pulvinar viverra consequat. Nam eu mi in mauris semper pellentesque eget ut erat [2].*

Screenshot

Figure 1. Screenshot #1

Each main function should be illustrated with the source code FRAGMENTS;

Fragment of Source Code

Figure 2. Source code #1

If you have used any external content or resources, make sure to refer to it [1]. Otherwise it will count as plagiarism.

# **Reference list**

1. Source #1. *Url*
2. Source #2. *Url*
3. ...
4. Source #N. *Url*