


Course No: MIS 3310
Course Title: Topics in Computer Information Systems 1 (Mobile Computing)
Date: 29/05/2014
No. of Questions: (4)
Time: 2 hours
Using Calculator (No)

University of Palestine

Final Exam
2013/2014
Total Grade: 50

Instructor Name: Dr. Said Marouf
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (Yes)

Question One: (14 Points)

Specify whether the following statements are True or False:

Statement	T/F
It is Not recommended to perform long networking operations in the UI thread.	
ListView rows can be customized using the getView() method of an extended ArrayAdapter .	
Handlers can be used to perform events after a delay.	
It is safe to access UI components via background threads.	
Creating too many threads might cause resource congestion. Thread pools can fix this issue.	
The onProgressUpdate() method of AsyncTask is performed on a background thread.	
A well-formed XML document does not need to have a root element.	
DOM parsers require less memory than stream parsers.	
Data represented in JSON is usually larger than that represented with XML.	
The ArrayAdapter is limited to receiving only arrays of String objects.	
Using the convertView argument within the getView() method of an extended ArrayAdapter can increase the performance of a ListView .	
A JSON array starts with a “{“ and ends with a “}”	
SQLite is sufficient for most mobile applications.	
HttpClient is a more powerful solution than HttpURLConnection	

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Question Two: (17 Points)

Write the code necessary to perform the following tasks. *Note: Do not write full application code. Only the specific part of code related to the task requested.*

- a) (3 Points) Create an `ArrayAdapter` that takes an `ArrayList` of Strings as its data. The `ArrayList` should contain 3 Strings: "Red", "Green", "Blue". The `ArrayAdapter` should also use a list item layout named `android.R.layout.simple_list_item_1` and adjust the text view `android.R.id.text1`

- b) (4 Points) Using a `Handler` named `delayedHandler`, Log the string "Hi" after a delay of 9 seconds. *Hint: You will need to use `Runnable`.*

- c) (5 Points) Using a `Handler` object named `myHandler`, send a `Message` that contains the `String` "Hello World". *Hint: Remember you will need to use a `Bundle` to encapsulate the data.*

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(5 Points) Rewrite the following code so that the `getView()` method takes advantage of the `convertView`. This should enhance the performance of the `ListView`.

```
public View getView(int position, View convertView, ViewGroup parent) {  
  
    LayoutInflater inflater =  
        (LayoutInflater)context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);  
    View rowView = inflater.inflate(R.layout.item_row_layout, parent, false);  
  
    TextView colorNameTextView = (TextView)rowView.findViewById(R.id.colorName);  
    TextView colorHexTextView = (TextView)rowView.findViewById(R.id.colorHex);  
  
    Color targetColor = colors.get(position);  
    colorNameTextView.setText(targetColor.colorName);  
    colorHexTextView.setText(targetColor.colorHex);  
  
    return rowView;  
}
```

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Question Three: (13 Points)

Answer the following questions:

a) (3 Points) Compare between DOM parsers and Stream parsers.

b) (6 Points) Given the following JSON data:

```
[  
  {"createdAt" : "Sunday", "content" : {"title" : "Math Basics", "ISBN"  
    : "123456789"}, "available" : true},  
  {"createdAt" : "Monday", "content" : {"title" : "Programming 2",  
    "ISBN" : "123400089"}, "available" : false}  
]
```

1. Write an XML representation for the given JSON data above. Make sure to use an XML attribute to represent the "available" value.

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c) (4 Points) Write a proper JSON representation for the given XML data below:

```
<person>
  <name>Bob Smith</name>
  <age>22</age>
  <address>
    <city>Gaza</city>
    <country>Palestine</country>
  </address>
</person>
```

Question Four: (6 Points)

You are asked to develop a Task Manager Android application. The application will manage a set of tasks for a user. These tasks are saved to a remote server and need to be synced to the application on startup. The tasks are downloaded from the server as XML data. Users can manage up to 2000 tasks within the application and should be able to browse all their tasks within a `ListView`.

1. List the technologies that you would use to build this application. Briefly explain why you chose to use each technology. These should be technologies we covered in class.

End of Questions
Good Luck