

Mobile computing

Date: 8 – 12 March 2021

Week: 5

Task I: Tutorial questions

1. Describe the challenges facing mobile computing technology.
2. What is context awareness? Give one example of a context awareness mobile app.
3. What are the challenges for doing Augmented Reality on a mobile device?

Task II: Practical exercises

In this lab, we will practise Linux Shell Scripts – a list of commands listed in the order of execution. Shell Script contains all the constraints of a programming language.

1. Running a script.

```
$ vi hello.sh
```

First, switch to “Insert mode” by pressing “i” on the keyboard.

Then, type the following commands into the file:

```
pwd
```

```
ls
```

Save and quit Vi. (Press ESC to enter command mode. Then type “:wq”).

Execute the script by typing:

```
$ ./hello.sh
```

It will display “Permission denied”. We need to set the permission for the script to make it executable. Type:

```
$ chmod +x hello.sh
```

```
$ ./hello.sh
```

It should display the current directory. Then list all the files and folders in this directory.

2. Reading input from keyboard.

We can prompt the user to enter a value from the keyboard as follows.

Edit our “hello.sh” file

```
$ vi hello.sh
```

Switch to “Insert mode” by pressing “i” on the keyboard.

Add the following command to the file:

```
echo "What is your name?"  
read NAME  
echo "Hello, $NAME"
```

Save and quit Vi. (Press ESC to enter command mode. Then type “:wq”).

Execute the script:

```
$ ./hello.sh
```

It will ask to enter a name. Enter your name, and see the result.

3. For loop.

The “for loop” iterates through a collection of values from the 1st until the last element. Open “hello.sh”.

```
$ vi hello.sh
```

Switch to “Insert mode” by pressing “i” on the keyboard.

Type the following commands:

```
for i in 1 2 3 4 5  
do  
    echo "Looping ... number $i"  
done
```

Save and quit Vi. (Press ESC to enter command mode. Then type “:wq”).

Execute the script:

```
$ ./hello.sh
```

4. While loop.

Unlike the “for loop”, “while loop” executes until the condition is met. Open “hello.sh”.

```
$ vi hello.sh
```

Type the following commands:

```
INPUT=hello  
  
while [ "$INPUT" != "end" ]  
do  
    echo "Type something in (end to quit)"  
    read INPUT  
    echo "You typed: $INPUT"  
done
```

Note the space after the opening square bracket, and the space before the closing square bracket.

Save and quit Vi. (Press ESC to enter command mode. Then type “:wq”).

Execute the script:

`$./hello.sh`

The script will run forever until you type “end”.

Document your answers in the learning journal, including screenshots of the Linux commands
