# Mobile computing

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**Date:** 8 – 12 March 2021                    **Week:** 5

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## 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

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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:

(**Note the space after the opening square bracket and the one before the closing bracket**).

*INPUT=hello*

*while [ "$INPUT" != "end" ]*

*do*

   *echo "Type something in (end to quit)"*

   *read INPUT*

   *echo "You typed: $INPUT"*

*done*

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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**

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