**Meeting Minutes**

**-1-**

**Date** : 17/10/2016

**Place** : Faculty

**Achievements :**

* We had a discussion about how to build two sorting data arrays .
* Learn how to sign in for GitHup site and upload a project .

**After the meeting :**

* We set up Git source and learn how to use it . and we did a comment test .
* We publish our tasks on the GitHup site .

**Tasks :**

1. Read an array from a file , then show the sorted data into another file .
2. Main arguments .
3. Bubble sorting algorithm .

**-2-**

**Date** : 24/10/2016

**Place** : Faculty

**Achievements :**

* Discussion about our tasks .
* We had an overview for the c++ language .

**After the meeting :**

* We decided to join a c++ workshop after our supervisor suggestion .

**Tasks :**

1. Try to design an digital filter on matlab .
2. Do an improvements to our last tasks .

**-3-**

Date : 31/10/2016

Place : Faculty

Achievements :

* Made low pass filter using butterworth filter function in matlab .
* understood normalized frequency and filter order
* Differences between FIR & IIR filters.
* made changes to fIR & IIR filters with FDA (filter design analysis tool) in matlab.

Tasks :

1. Try to make matlab code for FIR by taking Coefficients from FDA tool and compare the output with matlab filter Function & and the same with IIR filter.

**-4-**

Date: 7/11/2016

We cancel the meeting

**-5-**

Date: 14/11/2016

Place: Faculty

Achievements:

* Success to make half of the desired code for FIR filter design (making initial loop of the coefficient).
* Try to handle merge conflict between Ahmed’s branch and Ghada’s branch.
* Explain the mechanism of FIR filter.

Tasks:

1. Retry to design FIR filter by matlab code.
2. Making design for FIR filter with visual c++.

**-6-**

Date: 21/11/2016

Place: Faculty

Achievements:

* Success to make the desired code for FIR filter design with matlab and visual c++.
* Try to handle merge conflict between Ahmed’s branch and Ghada’s branch.
* Explain the mechanism of IIR filter.

Tasks:

1. Design IIR filter by matlab code.

**-7-**

Date: 28/11/2016

Place: Faculty

Achievements:

• failed to make IIR filter with matlab.

• again, Explain the mechanism of IIR filter.

• making model of filter with matlab and try to generate c code from it.

Tasks:

1- Design IIR filter by matlab.

2- Design IIR filter with c++ code.

**-8-**

Date: 5/12/2016

Place: Faculty

Achievements:

• Succeed to make the desired code for IIR filter design with matlab and visual c++ with Direct Form II algorism.

• talked about signal processing stages and delivered project RF data to start working on it .

Tasks:

1- reading RF Data file in matlab (Ghada).

2- design bandpass filter [high (ahmed) – low(farah) ].

3- merging work on GITHUB project.

**-9-**

Date: 9/12/2016

Place: Faculty

Achievements:

* Succeed to make the desired code for reading RF data in matlab.
* Succeed to make the desired code for bandpass filter [2.5 : 4.5] MHZ for probe 3.5 MHZ.
* Talked about next step Hilbert transformation using ideal Hilbert with FFT and IFFT.

Tasks:

1- design ideal Hilbert transform matlab code after bandpass filtration stage.

2- merging work on GITHUB project.

**-10-**

Date: 19/12/2016

Place: Faculty

Achievements:

* failed to make ideal Hilbert filter with matlab.
* talked about under sampling techniques used in ultrasound.

Tasks:

1- design ideal Hilbert transform matlab code after bandpass filtration stage.

2- merging work on GITHUB project.

Meeting stop during Semester exams

**-11-**

Date: 26/1/2016

Place: Faculty

Achievements:

* reviewing the first term achievements.
* Talked in more details about Hilbert with the FIR Filter method.
* Talked in more details about under sampling with the peak samples method.

Tasks:

1- design ideal Hilbert transform matlab code with FFT and compare it with the design of another with FIR filter to get the optimum order design of FIR filter .

2- design under sampling matlab code .

**-12-**

Date: 28/1/2016

Place: Faculty

Achievements:

* Succeed in making the desired code for ideal Hilbert transformation with FFT.
* Succeed in making the desired code for under sampling with fixed window size.
* Talked about ideal Hilbert transformation with FIR filter.
* Talked about designing Algorithm for dynamic window size in under sampling code.

Tasks:

1- design ideal Hilbert transform matlab code with FIR filter.

2- design under sampling matlab code with dynamic window size .

3- try to showing the final image of RF data on matlab.

4- merging work on GITHUB project.

**-13-**

Date: 30/1/2016

Place: Faculty

Achievements:

* Design ideal Hilbert transform matlab code with FIR filter.
* Design under sampling matlab code with dynamic window size.

Tasks:

* Redesign ideal Hilbert transform matlab code with FIR filter.
* Begin with the report about first semester achievements.
* Design log transformation function.

**-14-**

Date: 6/2/2016

Place: Faculty

Achievements:

* Succeed in designing ideal Hilbert transform matlab code with FIR filter.
* Succeed in designing log transformation function.
* Make the report about first semester achievements.

Tasks:

* Scan converter function with matlab code.
* Remaking the report.

**-15-**

Date: 27/2/2016

Place: Faculty

Achievements:

* Failed to make Scan converter function.
* Remaking the report.

Tasks:

* Making Scan converter function with matlab code.

**-16-**

Date: 6/3/2016

Place: Faculty

Achievements:

* Succeed in making Scan converter function with matlab code.
* Show the image.

Tasks:

* Redesign log transformation function.

**-17-**

Date:13/3/2016

Place: Faculty

Achievements:

* Redesign log transformation function.
* Explain scan converter function in more details.

Tasks:

* Verify the rotation matrix by hand.
* Construct look up table.
* Start with the user interface.

**-18-**

Date: 8/4/2016

Place: Faculty

Achievements:

* For each pixel get(x,y)
* Succeed in making the flag.
* Create image and slider for dynamic range.

Tasks:

* Find polar for each point.
* Find the nearest 4 pixel for each point.
* Get 4 coeffient (a,b,c,d).
* Construct structure have (no.of sample, no.of line, flag, 4 coeff).
* Continue with the user interface (freezing button and making video).

**-19-**

Date: 10/4/2016

Place: Faculty

Achievements:

* Succeed in finding polar for each point.
* Succeed in Finding the nearest 4 pixel for each point.
* Succeed in getting 4 coeffient (a,b,c,d).
* Making freezing button and video to the user interface.

Tasks:

* Continue with Look up table.
* Continue with user interface.

**-20-**

Date: 17/4/2016

Place: Faculty

Achievements:

* Construct look up table.
* Show image after using look up table.

Tasks:

* Continue with c++ application.

**-21-**

Date: 24/4/2016

Place: Faculty

Achievements:

* Succeed to make log transformer in C++.

Tasks:

* Continue with C++ application (scan converter function).
* Adding performance measure to the User interface

Meeting stop during final exams

**-22-**

Date: 10/6/2016

Place: Faculty

Achievements:

* Reviewing the second term achievements.
* Talked in more details about user interface.
* Talked about scan converter function in c++ language (construct array of structure).

Tasks:

* Continue in scan converter function in c++ language.
* Begin with final report.
* Merging work on GITHUB project.