

Shockwave

Weekly Team Meeting 09/18

18 SEPTEMBER 2019/ 11:30/ GJL 218 Time: 58minutes

ATTENDEES

Dr. Hussain, Dr. Johnson, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen.

AGENDA

1. Self-introduction
2. Task assignment
3. Questions about Project 29
4. Contact the client
5. What should we do after the first meeting?
6. What should we do to prepare for the next meeting?

NOTES

a) Introduction to your position

Zuhao Zhou: Team leader/Meeting organizer

Quan Yan: Client contact

Changyao Xu: Meeting note taker/Documentation Manager

Yutong Chen: Treasurer/ Budget planner

b) Complete team contract

- Each Team member agreed with Team contract. Team contract will reviewed monthly to adjust content.
- For documentation, we will set up a google drive to store each file in the corresponding folder. Besides wo should share the link of files to Dr. Hussain and Dr. Johnson to let them track our process.
- For budget, the process to purchase necessary supplies. Our budget is around \$1000 according to the proposal . There are budget from template on the Mindwork.
- For tracking process, deadline is critical in planning schedule. We can use the Microsoft project to set up project and schedule.
- Client interview: Client interview will be held next week. The exact time is still being discussed.

c) The knowledge of project 29

3 ϕ generator

not constant

\vec{I}_A

$jX_d \approx 1 \text{ pu}$

\vec{E}_A

$V_T \angle \theta$

$E_A = k \omega_p \omega_m$

P_{mech}

P_{elec}

$P = \tau \cdot \omega$

$\omega_m \rightarrow 2\pi \cdot 60 \text{ Hz}$

$P_{elec} = \frac{s |E_A| |V_T| \sin \delta}{X_d}$

$P_{elec} = P_{mech}$

15 kW

30 kW

measure

unstable response

δ

δ'

180°

rotator

measure speed

3 ϕ

$k_E = \frac{1}{2} J \omega^2$

dyne

speed / torque

transformer

$\vec{S} = 3 V_T I_A^2$

$= 3 [V_T (\frac{\vec{E}_A - \vec{V}_T}{jX})]^*$

$= 3 \left[\frac{|V_T| |E_A| \cos(\theta - \delta) - |V_T|^2}{X \angle -90^\circ} \right]$

$P_m - P_{elec} = P_A$ acceleration power

constant of rotator

$\frac{2 H_{gen}}{\omega_s} = W_{pu} \cdot \frac{d^2 \delta}{dt^2} = P_A(t)$

sort of a perme value of J

$\frac{2\pi \cdot 60}{2\pi}$

$\frac{1}{2} J \omega^2$

$\sim 500 \text{ ms}$

response

$e^{-(R/L)t}$

ACTION ITEMS

- 1: Review the related chapters of ECE420 and ECE421.
- 2: Prepare questions for the coming client interview
- 3: Set up google drive
- 4: Figure out how to use Microsoft project
- 5: Figure out the process of purchasing supplies

NEXT WEEK'S PLAN

We will hold meeting with team members next Tuesday(09/24) to discuss the related chapters and find out what difficulties we encounter.

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Weekly Team Meeting 09/25

25 SEPTEMBER 2019/ 11:30/ GJL 218 Time: 25minutes

ATTENDEES

Dr. Hussain, Dr. Johnson, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen.

AGENDA

1. Pin down the location for the client meeting.
2. Questions about the product requirements document.
3. Questions about ECE320 Chapter 4 and ECE421 chapter 11.5.
4. Preparation for the second weekly team meeting.

NOTES

a) . Location of the client meeting.

The client meeting will be held on 30th September at 5pm. GJL218 will not open at that time, so the location is changed to the Gauss-Johnson Engineering Laboratory 104.

b). Product requirement document.

1.The document will be filled in after the client interview for the consideration of meeting client's requirements.

2.The main part of project 29 is to design a test bed and test plan for testing generator performance, so we don't have some mechanical requirements

like weight/mass or appearance.

c). Questions about ECE420 chapter 4 and ECE421 chapter 11.5

Since members do not have enough time to read these two chapters, the questions will be moved to next week.

ACTION ITEMS

1. Read ECE420 chapter 4 and ECE421 chapter 11.5.
2. Prepare questions for the client meeting.

NEXT WEEK'S PLAN

1. Client meeting.
2. Product requirements document.

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Weekly Team Meeting 10/02

02 OCTOBER 2019/ 11:30/ GJL 218 Time: 30minutes

ATTENDEES

Dr. Hussain, Dr. Johnson, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen.

AGENDA

- 1) The menu of achievement of last year
- 2) Questions about the basic knowledge
- 3) Deadline of reviewing
- 4) Other questions

NOTES

1) The menu should be combined with the basic knowledge when we review the chapters.

2) Understanding the basic knowledge of Current Transformer and the voltage Transformer.

3) We noticed that the current and voltage should be stepped down in order to put into the computer instead of doing harm to computer.

ACTION ITEMS

- 1) Preparation for the logbook and Portfolio
- 2) Preparation for the snapshot day #1

NEXT WEEK'S PLAN

- 1) Self-check the logbook
- 2) Details of Snapshot day#1

Recorder: Zuhao Zhou

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Weekly Team Meeting 10/09

09 OCTOBER 2019/ 11:30/ GJL 218 Time: 30minutes

ATTENDEES

Dr. Hussain, Dr. Johnson, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen.

AGENDA

1. Preparation of Logbook & Portfolio
2. Preparation for snapshot Day #1
3. Questions about ECE320 Chapter 4 and ECE421 chapter 11.5.

NOTES

a) . Preparation for the Team portfolio

Logbook is for ourselves to know the progress of learning. And portfolio is the record of our team. We need to buy a portfolio and prepare for that according to the requirement and the example of the team last semester.

b) . Preparation for the snapshot#1

First, we need to reorganize the knowledge we learn and the achievement last semester. Then, We need to do the preparation of the powerpoint document. At last, we need to print it out and put them on the board.

c). Questions about ECE420 chapter 4 and ECE421 chapter 11.5

Since members do not have enough time to read these two chapters, the

questions will be moved to next week.

d). The deadline for the logbook and team portfolio is next Wednesday after the meeting.

ACTION ITEMS

1. Read ECE420 chapter 4 and ECE421 chapter 11.5.
2. Preparation for snapshot.

NEXT WEEK'S PLAN

1. Continue to read the chapter ECE420 34 and ECE421 11
2. Learn more about the file last semester
3. Prepare the snapshot

Recorder: Changyao Xu

5th Weekly Team Meeting

Project 29 Shockwave GJL218 16/10/2019 11:30AM-12:30AM

Participators: Dr. Johnson

Dr. Hussain

Zuhao Zhou

Quan Yan

Changyao Xu

Yutong Chen

Mr.Aljabrine

Content:

1) What did you finished last week?

What are you going to do this week?

2) Questions about Torque Transducer

3) Other Questions

Notes:

1. Each team member introduced his or her self-study progress, and we finished yesterday's snapshot together.
2. Some knowledge about system equipment, AC & DC measurement and torque transducer.

Action items:

1. Finish and hand in logbook
2. Learn about ECE420 and ECE421

Next week's plan:

Finish Design Validation Plan.
Continuing learn the Chapters in textbook.

By Yutong Chen

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Weekly Team Meeting 10/23

23 OCTOBER 2019/ 11:30/ GJL 218

Recorder:Quan Yan

ATTENDEES

Dr. Hussain, Dr. Johnson, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen.

Mr. Aljabrine

AGENDA

1. Achievement last week and Ready for the next week.
2. Discuss the problems in Logbook and Team portfolio.
3. Discuss the Design Validation Plan due 10/24.
4. Question in chapter and manual.

NOTES

a) . Achievement last week and Ready for the next week.

We read the chapters in the last week and had questions about chapters, but don't prepare to ask questions in team meeting. Zuhao Zhou prepared some questions and asked class videos, Dr.Johnson said he will send videos to him by emails. In the next week, we will prepare some questions about chapters in the team meeting.

b) . Discuss the problems in Logbook and Team portfolio

Most people get good scores in Logbook, but we still have places to improvement, such as frequency in project Management, Quality in design development.

c) . Discuss the Design Validation Plan due 10/24.

Design validation plan is based on product requirement document and its completion requires further discussion with client.

d) Manual of a test setup designed by a design team during the 2018-2019 senior design sequence.

Mr. Aljabrine explain the manual to us in details and let us have a further idea of what we should do in next step.

ACTION ITEMS

1. Read ECE420 chapter 4 and ECE421 chapter 11
2. Prepare questions about chapters for team meeting.

NEXT WEEK'S PLAN

1. 7th Team meeting.
2. Learn the Chapters in textbook
3. Wikimaster do the draft of wikipages

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Weekly Team Meeting 10/30

30 OCTOBER 2019/ 11:30-12:30/ GJL 218 Time: 60minutes

ATTENDEES

Dr. Hussain, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen, Mr.Aljabrine

AGENDA

- 1) Discuss last week achievement
- 2) Discuss LABVIEW
- 3) Discuss the details of Project Design Review
- 4) Questions in project and textbook

NOTES

1. Discuss last week achievement

Each team member gave a brief overview of what they had done last week and what they learned. We gave feedback on our logbook and made improvements. Almost all team members have read the content of ECE420 and are ready to learn the contents of ECE421 next week.

2. Discuss LABVIEW

From the results of last year, we can find their labview, so we

borrowed this to learn, explained and explained this labview at the meeting, we will find a suitable time to experiment.

3. Discuss the details of Project Design Review

We discussed the details of the graduation design, such as going to the lab after the meeting, and agreeing on the time for the experiment.

4. Questions in project and textbook

QuanYan asked a question about how the drawing in the project was drawn. Then the instructor explained the problem to him in detail.

ChangyaoXu asked what is RMS, how to calculate RMS and when to use RMS.

ACTION ITEMS

1. Read ECE421 chapter 11
2. Preparation for the lab

NEXT WEEK'S PLAN

1. Continue to read the chapter ECE420 3.4 and ECE421 11
2. Prepare the lab

Recorder: Yutong Chen

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Weekly Team Meeting 11/6

6 NOVEMBER 2019/ 11:30/ GJL 218 Time: 60minutes

ATTENDEES

Dr. Hussain, Wahab,Zuhao Zhou, Quan Yan, Changyao Xu, Yutong Chen.

AGENDA

1. Discuss achievement of this week and Preparation for next week
2. Discuss the preparation for Design Review
 - a) Time, Location
 - b) Preparation
3. Questions in project and Chapters

NOTES

- 1.Introduce what members so during this week
- 2.About wiki page
 - System topology details explanation
3. How to learn Labview quickly
 - Read some manual and build small circuit at first
- 4.Some relative knowledge

$\frac{1}{dt} = f_{sampling}$

measure 70000 points
maximum minutes

read samples take at one time
multiplexer 8/16/32/64

ADC.
Analog Digital Converter.

E - reduced voltage

DAQ Assistant

why need to go back check the dt?

$P = \frac{|V|}{X} \sin \delta$

P real power.
Q reactive power.

for 3ms $\Rightarrow \phi$
 $\phi = \Delta t / \Delta NL$

ACTION ITEMS

1. Read ECE420 chapter 3.4 and ECE421 chapter 11.5.
2. Preparation for connecting the circuit in laboratory
3. Learn more information about device what we will use

NEXT WEEK'S PLAN

1. Continue to read the chapter ECE420 34 and ECE421 11
2. Add more content to our logbook

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Weekly Team Meeting 11/13

13 November 2019/ 11:30-12:20/ GJL 218 Time: 50minutes

ATTENDEES

Dr. Hussain, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen, Mr.Aljabrine, Dr. Johnson

AGENDA

- 1) Achievement this week and next week plan
- 2)Preparation for Design Review
- 3)Discuss Team Member Citizenship
- 4)Questions in System Learning and Chapters

NOTES

- 1) Achievement this week and next week plan

Each team member gave a brief overview of what they had done last week and what they learned. Zuhao Zhou summarize some knowledge from the lab in last week.

- 2)Preparation for Design Review

First we determined the time and place of the design review. We opened the file on the capstone page about the presentation

requirements. Our leader said that he will assign tasks to each group member and cooperate to complete PowerPoint.

3)Discuss Team Member Citizenship

The Team Member Citizenship document in the capstone website, which requires mutual evaluation between our team members and mutual evaluation based on each person's performance and contribution within the group.

4)Questions in System Learning and Chapters

Each of us has prepared our own draft with a lot of ideas. Everyone introduces their own ideas. We will integrate various ideas and choose the best one. Yutong Chen's draft is to arrange the boards on a vertical panel. Saving wires, Zuhao Zhou's draft is a picture of another professional project, he thinks we can modify the device on this picture, Quan Yan's idea is to make a desk.

ACTION ITEMS

1. Preparation for the presentation
2. Preparation for the logbook

NEXT WEEK'S PLAN

1. Continue to write logbook
2. Prepare the presentation

Recorder: Yutong Chen

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Weekly Team Meeting 05/12

05 Dec 2019/ 11:30-12:30/ GJL 218 Time: 60minutes

ATTENDEES

Dr. Hussain, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen, Mr.Aljabrine

AGENDA

- 1) Concept Design Review PPT display
- 2) Questions about Design review PPT

NOTES

1. Display design review
2. prepare for the design review

ACTION ITEMS

1. modify the design review PPT
2. Get ready for the design review

Recorder: Zuhao Zhou

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Weekly Team Meeting 11/20

20 Nov 2019/ 11:30-12:30/ GJL 218 Time: 60minutes

ATTENDEES

Dr. Hussain, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen, Mr.Aljabrine

AGENDA

- 1) Achievement this week and next week plan
- 2) Concept Design Review PPT display
- 3) Questions about Design review PPT

NOTES

1. Discuss last week achievement

Each team member gave a brief overview of what they had done last week and what they learned.

2. There are some mistakes in the Design Review PPT, we need to correct them.

3.

ACTION ITEMS

1. Correct the mistakes in the PPT
2. Preparation for design review.

NEXT WEEK'S PLAN

1. Learning the progress of designing tetsbed

Recorder: Yutong Chen

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Weekly Team Meeting 12/12

12 Dec 2019/ 11:30-12:30/ GJL 218 Time: 60minutes

ATTENDEES

Dr. Hussain, Zuhao Zhou, Quan Yan, ChangYao Xu, Yutong Chen, Mr.Aljabrine

AGENDA

- 1) Plan for the winter break

NOTES

1. All of us should finish learning ECE421 Chapter 11
2. Do the design progress of testbed

ACTION ITEMS

1. Watch the video recorded by Dr. Johnson
2. Starting the consideration of design.

Recorder: Zuhao Zhou