Location: Gauss Johnson Design Suite

Date: 6/25/2019

Time: 11:00 a.m.

### **Attendance**

Adam Thurgood, Omar Ruiz, Saleh Alkhathami, Zach Hacker, Dr. Dan

## **Agenda Items**

- 1. Portfolio
- 2. Skid Removal Keizen
- 3. Hydro-static motor idea
- 4. Alumni Group Call
- 5. Additional Team Assignments

#### **Action Items**

Item:	Assigned to:	Due by:
Write skid removal keizen	Omar & Saleh	Fri. 28 <sup>th</sup>
Hydrostatic idea development	Omar w/ Dr. Dan	Tue. 2 <sup>nd</sup>
Compile former Sr. Design member names, set up call w/ Dr. Dan	Saleh & Adam	Wed. 26 <sup>th</sup>
Establish file naming convention, electronic Portfolio system	Adam	Fri. 28 <sup>th</sup>
Update Team Contract, team assignments	Adam	Fri. 28 <sup>th</sup>
Dual-Drive skid idea development	Saleh w/ Zach	Tue. 2 <sup>nd</sup>
Electronic Power Transmission idea development	Adam w/ Dr. Dan	Tue. 2 <sup>nd</sup>
Assign skid parts to measure and model	All	Wed. 26 <sup>th</sup>
Update Budget	Saleh	Wed. 26 <sup>th</sup>
Create Gantt Chart and Action Items Draft	Saleh	Fri. 28 <sup>th</sup>

## **Additional Notes**

For all idea development tasks, a good first step is to look at the SAE rules for potential limitations.

Location: Gauss Johnson Design Suite

Date: 7/2/2019

Time: 11:00 a.m.

### **Attendance**

Adam Thurgood, Omar Ruiz, Saleh Alkhathami, Zach Hacker, Dr. Beyerlein

## **Agenda Items**

1. Portfolio

- 2. Gant Chart
- 3. Alumni Group Call
- 4. Wiki
- 5. Preliminary Design

## **Previous Action Items**

Item:	Assigned to:	Due by:
Write skid removal keizen	Omar & Saleh	Fri. 28 <sup>th</sup>
Hydrostatic idea development	Omar w/ Dr. Dan	Tue. 2 <sup>nd</sup>
Compile former Sr. Design member names, set up call w/ Dr. Dan	Saleh & Adam	Wed. 26 <sup>th</sup>
Establish file naming convention, electronic Portfolio system	Adam	Fri. 28 <sup>th</sup>
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Assign skid parts to measure and model	All	Wed. 26 <sup>th</sup>
Update Budget	Saleh	Wed. 26 <sup>th</sup>
Create Gantt Chart and Action Items Draft	Saleh	Fri. 28 <sup>th</sup>

### **Additional Notes**

Item:	Assigned to:	Due by:
Wiki-page outline	Omar	Tue. 3 <sup>rd</sup>
Wiki-page sections: Goal, Team Info, Problem Definition, Dual Drive	Saleh	Fri. 5 <sup>th</sup>
Wiki-page sections: Specifications, Team Mem. Info, Hydro Stat	Omar	Fri. 5 <sup>th</sup>
Wiki-page sections: Documentation, Single Rear Drive, EPT	Adam	Fri. 5 <sup>th</sup>
Portfolio update & resize page format	Adam	Tue. 3 <sup>rd</sup>
Alumni call, schedule calls with Dillon & Zach L.	Omar	Tue. 3 <sup>rd</sup>
Add Items to Gantt Chart	Adam	Mon. 2 <sup>nd</sup>
Finish Stock Skid CAD Parts	All	Wed. 4 <sup>th</sup>
Assemble Stock Skid CAD	Adam, Saleh	Fri. 5 <sup>th</sup>
Draft E-mail to BRP for donated skid rails/parts	Adam, Omar	Wed. 4 <sup>th</sup>
EPT: Contact Jay via forum to clarify "hybrid"	Adam	Wed. 4 <sup>th</sup>
Look into specs/req of each component of drive system		Wed. 4 <sup>th</sup>
Visualization- Power flow diagram		Fri. 5 <sup>th</sup>
Hydro-Stat: Determine size-ability, speed viability	Omar	Wed. 4 <sup>th</sup>
Ask Dr. Swenson about this design option		Wed. 4 <sup>th</sup>
Visualization- Power flow diagram		Fri. 5 <sup>th</sup>
Dual Rear Drive: Meet with Zach H.	Saleh	Wed. 4 <sup>th</sup>
Look into special considerations, spec out belts/suppliers		Wed. 4 <sup>th</sup>
Visualization- CAD visual/sketch.		Fri. 5 <sup>th</sup>
Single Rear Drive: Meet with Zach H.	Adam	Wed. 4 <sup>th</sup>
Look into special considerations, spec out belts/suppliers		Wed. 4 <sup>th</sup>
Visualization- CAD visual/sketch.		Fri. 5 <sup>th</sup>

Location: Gauss Johnson Design Suite

Date: 7/10/2019

Time: 11:00 a.m.

### **Attendance**

Adam Thurgood, Omar Ruiz, Saleh Alkhathami, Zach Hacker, Dr. Beyerlein

## **Agenda Items**

1. Concept Design Review/ Other teams

- 2. Project Planning Workshop
- 3. Previous Action Items
- 4.

5.

## **Previous Action Items**

Item:	Assigned to:	Due by:
Wiki-page outline	Omar	Tue. 3 <sup>rd</sup>
Wiki-page sections: Goal, Team Info, Problem Definition, Dual	Saleh	Fri. 5 <sup>th</sup>
Drive		
Wiki-page sections: Specifications, Team Mem. Info, Hydro Stat	Omar	Fri. 5 <sup>th</sup>
Wiki-page sections: Documentation, Single Rear Drive, EPT	Adam	Fri. 5 <sup>th</sup>
Portfolio update & resize page format	Adam	Tue. 3 <sup>rd</sup>
Alumni call, schedule calls with Dillon & Zach L.	Omar	Tue. 3 <sup>rd</sup>
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Single Rear Drive: Meet with Zach H.	Adam	Wed. 4 <sup>th</sup>
Look into special considerations, spec out belts/suppliers		Wed. 4 <sup>th</sup>
Visualization- CAD visual/sketch.		Fri. 5 <sup>th</sup>

## **Additional Notes**

Design Review: Invite Thomas Entwit, Brannon Hudson, Steve Gassling

- Thursday July 25<sup>th</sup>, 11:30 am in EPB 205

What is needed in hand for the Design Review?

- Explain how each concept works, components, weight/size/cost.
- How to validate design.

Item:	Assigned to:	Due by:
Adjust Project Schedule	Adam	7/12/2019
Email group for Design Review Schedule	Adam	7/12/2019
Email BRP letter to Zach L. for feedback	Omar	7/12/2019
Get BRP contact info from Steve G.	Adam	7/12/2019
Assemble Stock CAD sub-assemblies	All	7/15/2019
- Model Rear Shock, bracket	Omar	7/15/2019
- Model Rear Shock large idler wheels	Adam	7/15/2019
Research Belt/Drives specs for up to 5000RPM & 500 ft-lbs.	Saleh	7/15/2019
Draft Value Propositions	All	7/15/2019
·		

Location: Gauss Johnson Design Suite

Date: 7/16/2019

Time: 11:00 a.m.

#### **Attendance**

Adam Thurgood, Omar Ruiz, Saleh Alkhathami, Zach Hacker, Dr. Beyerlein

### **Agenda Items**

- 1. Value Proposition
- 2. Design Review
- 3. Project Schedule Formatting
- 4. Wiki Site Updates

### **Previous Action Items**

Item:	Assigned to:	Due by:
Adjust Project Schedule	Adam	7/12/2019
Email group for Design Review Schedule	Adam	7/12/2019
Email BRP letter to Zach L. for feedback	Omar	7/12/2019
Get BRP contact info from Steve G.	Adam	7/12/2019
Assemble Stock CAD sub-assemblies	All	7/15/2019
- Model Rear Shock, bracket	Omar	7/15/2019
- Model Rear Shock large idler wheels	Adam	7/15/2019
Research Belt/Drives specs for up to 5000RPM & 500 ft-lbs.	Saleh	7/15/2019
Draft Value Propositions	All	7/15/2019

### **Additional Notes**

Other Design Reviews: Today @2pm - Multi-Rotor Drone

Monday @11:30 - Goat Stands

Tuesday @11:30 – Marching Band Triangles

Tuesday @12:30 - Robot Assembly

Design Review Details:

Goal of what each concept design should have: Vendor info, Cost, Size, Weight, Belts, Tensioners CAD Model?

Need a Slide Order by next Tuesday. Will there be a decision matrix?

Item:	Assigned to:	Due by:
Schedule Design Review	Adam	07/16/2019
CDR: HydroStat – Find CAD picture from previous team	Omar	07/16/2019
CDR: Single Rear Drive – Estimate costs, weights of belts, tensioners	Adam	07/18/2019
CDR: Dual Rear Drive – Estimate costs, weights of belts, tensioners	Saleh	07/18/2019
CDR: EPT – Estimates costs, weights, sizes of components	Adam	07/18/2019
CDR: HydroStat – Estimate costs, weights, sizes of components	Omar	07/19/2019
CDR Slide Order: 1 <sup>st</sup> Iteration	Omar	07/19/2019
CDR: EPT – Rough size/block CAD Model	Adam	07/19/2019
CDR: Single Rear Drive – Concept CAD Model	Adam	07/19/2019
CDR: Dual Rear Drive – Concept CAD Model	Saleh	07/19/2019
Structure Wiki for CDR: Add spec columns to Concept Design table	Omar	07/22/2019
Details, Graphics of Concepts on Wiki-site and PPT Slides	All	07/22/2019
Create decision matrix for CDR	All	07/23/2019

Location: Gauss Johnson Design Suite

Date: 7/23/2019

Time: 11:00 a.m.

#### **Attendance**

Adam Thurgood, Saleh Alkhathami, Dr. Beyerlein

## **Agenda Items**

1. Value Proposition

- 2. Design Review Slides
- 3. Stock Skid Re-assembly

#### **Previous Action Items**

Item:	Assigned to:	Due by:
Schedule Design Review	Adam	07/16/2019
CDR: HydroStat – Find CAD picture from previous team	Omar	07/16/2019
CDR: Single Rear Drive – Estimate costs, weights of belts,	Adam	07/18/2019
tensioners		
CDR: Dual Rear Drive – Estimate costs, weights of belts, tensioners	Saleh	07/18/2019
CDR: EPT – Estimates costs, weights, sizes of components	Adam	07/18/2019
CDR: HydroStat – Estimate costs, weights, sizes of components	Omar	07/19/2019
CDR Slide Order: 1 <sup>st</sup> Iteration	Omar	07/19/2019
CDR: EPT – Rough size/block CAD Model	Adam	07/19/2019
CDR: Single Rear Drive – Concept CAD Model	Adam	07/19/2019
CDR: Dual Rear Drive – Concept CAD Model	Saleh	07/19/2019
Structure Wiki for CDR: Add spec columns to Concept Design table	Omar	07/22/2019
Details, Graphics of Concepts on Wiki-site and PPT Slides	All	07/22/2019
Create decision matrix for CDR	All	07/23/2019

#### **Additional Notes**

Dual drive bonuses: Being able to replace drivers with wheels to change driver geometry.

Increased efficiency in weighted acceleration event.

See e-mail from Saleh containing Dr. Beyerleins' edits to Value prop.

Use stock skid in CDR as a prop.

Item:	Assigned to:	Due by:
Investigate Belt Tensioning	Adam & Saleh	7/25/2019
- How does it work?		
- Purchase or fabricate?		
Draft Concept Design Decision Matrix	Omar & Adam	7/24/2019
Get prices for skid parts, mainly rails	Adam	7/24/2019
Email our CDR Slides for review	Adam	7/23/2019
- Populate slides with information	Team	7/24/2019
Draft 2 <sup>nd</sup> edit of the Value Proposition	Adam & Saleh	7/24/2019
Schedule skid re-assembly for this weekend or next week	Adam	7/25/2019