NASA Student Launch (SL)

Kick-off Meeting and PDR Q&A

How to use Vidyo

1. Call-in using the teleconference number provided. You will need a speakerphone with a mute option.
2. Make sure you have a camera installed on your computer.
3. You will receive a link from the SL team to join Vidyo. Click on the link and download the plug-in.
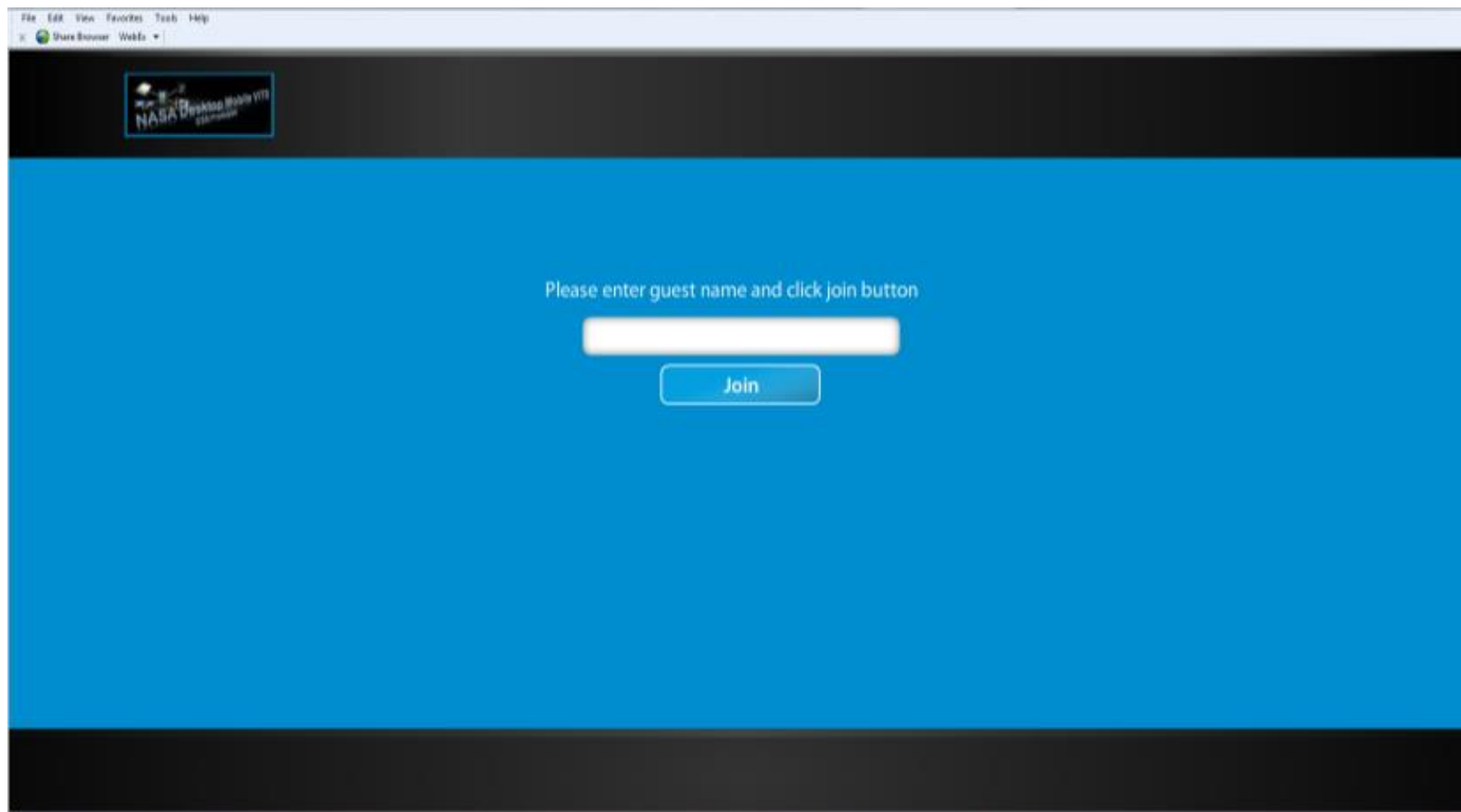

Figure 2: Download VidyoDesktop Software

Click Run after the download is complete (Figure 4).

How to use Vidyo (cont'd)

4. Continue to Install Vidyo. Click Run at each install message and then accept the terms of agreement (if applicable).
5. You will be prompted to enter a guest name. Please use your team's name in this box.

How to use Vidyo (cont'd)

2017-2018 SL Teams

SLI Teams

- American Institute of Aeronautics and Astronautics - Orange County – Irvine, CA
- Boy Scout of America Troop -17 - Charlottesville, VA
- Cedar Falls High School – Cedar Falls, IA
- Downingtown Area School District   Team 1 - Exton, PA
- Downingtown Area School District   Team 2 - Exton, PA
- Engineering and Technologies Academy at Roosevelt School – San Antonio, TX
- Krueger Middle School - San Antonio, TX
- Madison West High School -- Team 1– Madison, WI
- Madison West High School – Team 2- Madison, WI
- Maharishi School of the Age of Enlightenment - Fairfield, IA
- Newport High School – Bellevue, WA
- North Carolina School of Science and Mathematics - Durham, NC
- Plantation High School – Team Telemetry – Plantation, FL
- Plantation High School – Team Termite – Plantation, FL
- Saint Monica's Home School Group - Ridgefield, CT

SLI - 15 Teams from 11 States: CA, CT, FL, IA, NC, PA, TX, VA, WA, VA, WI

2017-2018 SL Teams (cont'd)

USLI Teams

- Auburn University – Auburn, AL
- California Polytechnic Pomona - Pomona, CA
- California State University – Long Beach, CA
- Carnegie Mellon University – Pittsburgh, PA
- Citrus College – Glendora, CA
- Cornell University – Ithaca, NY
- Fisk University – Nashville, TN
- Florida Institute of Technology – Melbourne, FL
- Florida State University, Panama City - Panama City, FL
- Georgia Institute of Technology - Atlanta, GA
- Iowa State University – Ames, IA
- Lenoir – Rhyne University - Hickory, NC
- Lipscomb University – Nashville, TN
- North Carolina State University - Raleigh, NC
- Northeastern University – Boston, MA
- Northwest Indian College - Bellingham, WA
- Northwestern University - Evanston, IL
- Oregon State University - Corvallis, OR
- Pennsylvania State University – State College, PA
- Piedmont Virginia Community College – Charlottesville, VA
- Purdue University – West Lafayette, IN
- Rensselaer Polytechnic Institute – Troy, NY
- Stony Brook University – Stony Brook, NY

- Tarleton State University – Stephenville, TX
- Texas Tech University - Lubbock, TX
- United States Naval Academy – Annapolis, MD
- University of Akron – Akron, OH
- University of Alabama in Huntsville – Huntsville, AL
- University of California, Berkeley – Berkeley, CA
- University of California, Davis – Davis, CA
- University of California, Santa Cruz - Santa Cruz, CA
- University of Cincinnati – Cincinnati, OH
- University of Florida - Gainesville, FL
- University of Illinois, Urbana Champaign – Champaign, IL
- University of Louisville – Louisville, KY
- University of Massachusetts – Amherst, MA
- University of North Carolina at Charlotte – Charlotte, NC
- University of North Dakota – Grand Forks, ND
- University of Notre Dame – South Bend, IN
- University of South Florida – Tampa, FL
- University of Tennessee - Knoxville, TN
- University of Toledo – Toledo, OH
- Vanderbilt University – Nashville, TN
- Wichita State University – Wichita, KS
- York College of Pennsylvania – York , PA

USLI - 45 teams from 21 States – AL, CA, FL, GA, IA, IL, IN, KS, KY, MA, MD, NC, ND, NY, OH, OR, PA, TN, TX, VA, WA

SLI and USLI - Total of 60 teams in 23 States

Press Release

Secure | https://www.nasa.gov/centers/marshall/news/news/releases/2017/17-070.html

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NASA Selects Student

Oct. 6, 2017
MEDIA ADVISORY   17-070

Prepare for Flight: 2018 Student Launch Teams Announced

The crack and roar of Student Launch will again echo across the fields of North Alabama on April 4-8, when teams face off in the 2018 competition. Held near NASA's Marshall Space Flight Center in Huntsville, Alabama, 60 selected middle school, high school and college teams representing 23 states will vie for top honors.

The teams are participating in the 18th year of the competition that challenges them to design, build, test and fly a high-powered, reusable rocket to an altitude of one mile above ground level while carrying a payload.

Student Launch is managed by the Academic Affairs Office at Marshall to further NASA's major education goal of attracting and encouraging students to pursue degrees and careers in science, technology, engineering and mathematics (STEM.)

"We're excited to engage students in hands-on challenges that connect classroom theory to applications in real-world, working environments," said Katie Veal Wallace, Student Launch manager. "Throughout the process, students interact with NASA scientists and engineers, better preparing them for success in future aerospace and engineering careers."

Communicating with the SL team

- Email is the best way to get in touch with us.

- Please copy all SL team members on emails: Katie, Fred, Zach, and Ryan

- Include all of your team's POC's on email as well.

- Subject Line: School or Organization Name - Topic

    For example: Plantation High School - Talent Release Forms Attached

Forms

Educational Engagement Form
Please complete and submit this form each time you host an educational engagement event.

Team name:

Date of event:

Location of event:

Grade level and number of participants:
PreK-4 (1-9 years):
5-8 (10-13 years):
9-12 (14-18 years):
12+ (18+ years):

_a special group/organization (i.e. Girl Scouts, 4-H, school)?   Y   N

_ization?

_ivities with this group:

_uation of your educational engagement? If so, what were the results?

Milestone Review Flysheet
PDR, CDR, FRR

Institution Name		Milesone	

Rocket Properties	
Diameter (in)	
Length (in)	
Gross Liftoff Weight (lbm)	
Launch lug/button size	
Motor Retention	

Motor Properties	
Manufacturer	
Designation	
Peak, Avg Thrust	
Mass (before, after burn)	
Total Impulse	

Stability Analysis	
CP, CG (in. from nose)	
Stability Margin	
Thrust-to-Weight Ratio	
Rail size, Length	

Ascent Analysis	
Max Velocity (ft/s)	
Max Acceleration (ft/s^2)	
Peak Altitude (ft)	
Rail Exit Velocity (ft/s)	

Recovery System Properties	
Drogue Parachute	
Size	
Configuration	
Alt. at Deployment (ft.)	
Velocity at Deployment (ft/s)	

Recovery System Properties	
Main Parachute	
Size	
Configuration	
Alt. at Deployment (ft.)	
Velocity at Deployment (ft/s)	
Velocity upon Landing (ft/s)	

Recovery System Properties			
Electronics/Ejection			
Altimeter(s) Make, Model			
Redundancy Plan (altimeters, switches, batteries, etc.)			
Pad Stay Time (launch configuration)			
Rocket Locator (Make, Model)			
Frequencies of Transmitting Electronics			
Black Powder Mass (grams)	Main		Drogue

Payload/Science	
Succinct Overview of Payload/Science Experiment	
Identify Major Components	
Mass of Payload/Science	

Test Plan Schedule / Status	
Ejection Charge Test(s)	
Subscale Launches	
Full-Scale Launches	
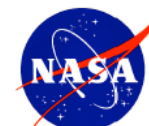
NASA Media Release for Adults
(Do Not Use for Minors)

I, _____ do hereby give permission to be
(Please print name your name)

interviewed, photographed, and/or videotaped by NASA or its representatives in connection with a NASA production.

I understand and agree that the text, photographs, and/or videotapes thereof containing my name, likeness, and voice, including transcripts thereof, may be used in the production of instructional, promotional materials, and for other purposes that NASA deems appropriate and that such materials may be distributed to the public and displayed publicly one or more times and in different formats, including but not limited to, webites, cablecasting, broadcasting, and other forms of transmission to the public. I also understand that this permission to use the text, photographs, videotapes, and name in such material is not limited in time and that I will not receive any compensation for granting this permission.

I understand that NASA has no obligation to use my name, likeness, or voice in the materials it produces, but if NASA so decides to use them, I acknowledge that it may edit such materials. I hereby waive the right to inspect or approve any such use, either in advance or following distribution or display.

I hereby unconditionally release NASA and its representatives from any and all claims and demands arising out of the activities authorized under the terms of this agreement.

By signing below, I represent that I am of legal age, have full legal capacity, and agree that I will not revoke or deny this agreement at any time.

I have read the foregoing and fully understand its contents.

Accepted by:

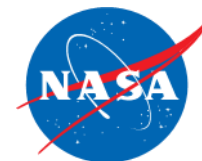Signature:_____ Date:_____

Name and Location of Event:_____

Address: _____

Telephone: _____

Email Address: _____

Proposal and Milestone Review feedback, safety concerns

Websites – Due November 3rd

Design Reviews

- **Must be posted on the website by the due date/time AND email sent to the SL management team.** Attach documents to email if possible (Our file size limit is 20gb but you may have a smaller limit. Try to keep files small!)
- Must include all 3 documents: PowerPoint, Flysheet, and Report.
- File name format: School – 2018 – Milestone – Report/Flysheet/Presentation.pdf
  Ex. "University of Akron – 2018 – PDR – Flysheet.pdf"
- SLI – present for 30 minutes, Q&A for 15 minutes. (1 hour)
- USLI – present for 45 minutes, Q&A for 15 minutes. (1 ½ hours)
- Q&A session prior to each Design Review
- FAQ Page

Due Dates:
- PDR Due: Nov. 3 at 8:00 a.m. Central
- CDR Due: Jan. 12 at 8:00 a.m. Central
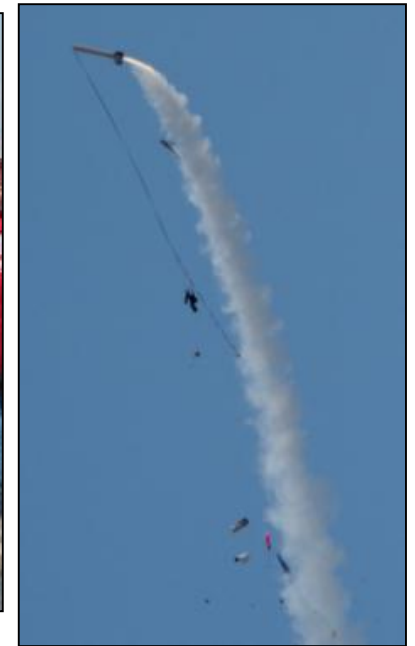- FRR Due: Mar 5 at 8:00 a.m. Central
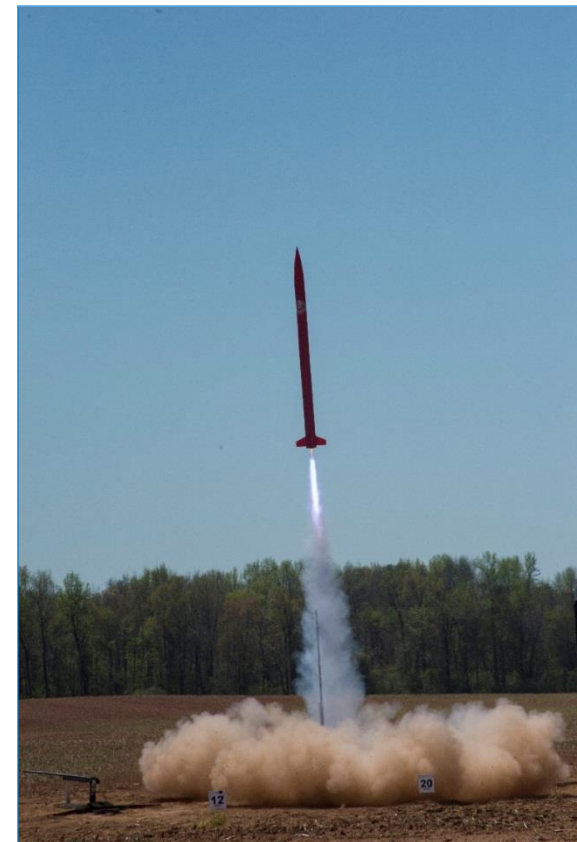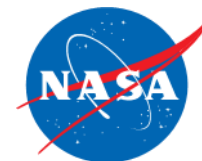
Example Review Schedule

Draft - NASA Student Launch 2017-2018
Preliminary Design Review Schedule

Monday November 6th	Tuesday November 7th	Wednesday November 8th	Thursday November 9th	Monday November 13th	Tuesday November 14th	Wednesday November 15th	Thursday November 16th	Friday November 17th	Monday November 27th	Tuesday November 28th	Wednesday November 29th
USLI 8 am	USLI 8 am	USLI 8 am	Time slot not available	USLI 8 am	USLI 8 am	USLI 8 am	USLI 8 am	USLI 8 am	SLI 8 am	SLI 8 am	Delta 8 am
									SLI 9 am	SLI 9 am	Delta 9 am
USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	USLI 9:30 am	SLI 10 am	SLI 10 am	Delta 10am
									SLI 11 am	Time slot not available	Delta 11am
Break									Break		
USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	USLI 12:30 pm	SLI 1 pm	SLI 1 pm	Delta 1pm
USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	USLI 2 pm	SLI 2 pm	SLI 2 pm	Delta 2pm
									SLI 3 pm	SLI 3 pm	Delta 3pm
USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	USLI 3:30 pm	SLI 4 pm	SLI 4 pm	Delta 4pm

Launch Week

Feedback to NASA

NASA Student Launch Projects 2012
Educator/Mentor End of Event Survey

Name of school or institution:_____

City:_____ State or territory_____ Zip code:_____

Type of institution: Check all that apply.

☐Public ☐Parochial ☐Private ☐Charter ☐Rural ☐Suburban ☐Urban

☐Other:_____

Email address:_____

What grade(s) and subject matter(s) do you teach?_____

_____

To what extent do you agree with the following statements?
  5-Strongly Agree   4-Agree   3-Neutral   2-Disagree   1-Strongly Disagree

_____This NASA experience has inspired me to bring NASA content into my classroom.

_____I can immediately apply what I learned from this NASA experience to my teaching about science, technology, engineering, and mathematics (STEM).

_____These resources will be effective in increasing my students' interest in STEM topics.

_____This NASA experience provided ideas for encouraging student exploration, discussion, and participation.

SL Awards

- Vehicle Design Award – USLI

- Experiment Design Award – USLI

- Safety Award – USLI

- Project Review Award (PDR, CDR, FRR) – USLI

- Educational Engagement Award – SLI and USLI

- Web Design Award – SLI and USLI

- Altitude Award – SLI and USLI

- Best Looking Rocket Award (peer award) – SLI and USLI

- Best Team Spirit Award (peer award) – SLI and USLI

- Best Rocket Fair Display Award (peer award) – SLI and USLI

- Rookie Award – USLI

- Overall Winner – USLI
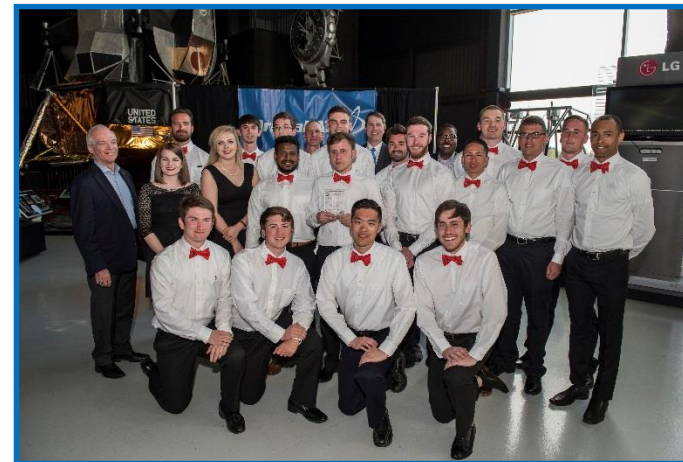
Contact Information

Katie Wallace (Project Manager): katie.v.wallace@nasa.gov
Fred Kepner (Technical Coordinator): fred.kepner@nasa.gov
Zach Koch (Safety Engineer): zach.a.koch@nasa.gov
Ryan Connelly (Logistics/Communications): ryan.j.connelly-1@nasa.gov

Fax Number:
256-544-2511

Mailing Address:
NASA Marshall Space Flight Center
Mail Code: HS30
Marshall Space Flight Center, AL 35812

NASA Student Launch
Preliminary Design Review
Question and Answer Session

Purpose of PDR

- Demonstrates that the preliminary design meets all requirements with acceptable risk.
  - Design not final, but a clear design path established.
  - Verify requirements (show how your design meets them).
- Demonstrates that the final, detailed design is feasible within your funding and schedule constraints.
- Establishes the basis for proceeding with the detailed design.
- Demonstrates correct design options selected, interfaces identified, verification methods described.
  - Clear test plans for vehicle and payload identified.
- Provides payload design and objectives.
- Baseline cost and schedule included and presented.
  - Not just our schedule, but yours too!
  - An itemized budget with everything your team will need.

Payload Information

- Triangulation payload option is eliminated from competition.
- Target detection tarp samples will be mailed out soon. Targets will be yellow, blue, and pink. Ryan will confirm your address by email.
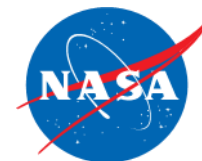- Rover payload – be aware of terrain/field conditions.
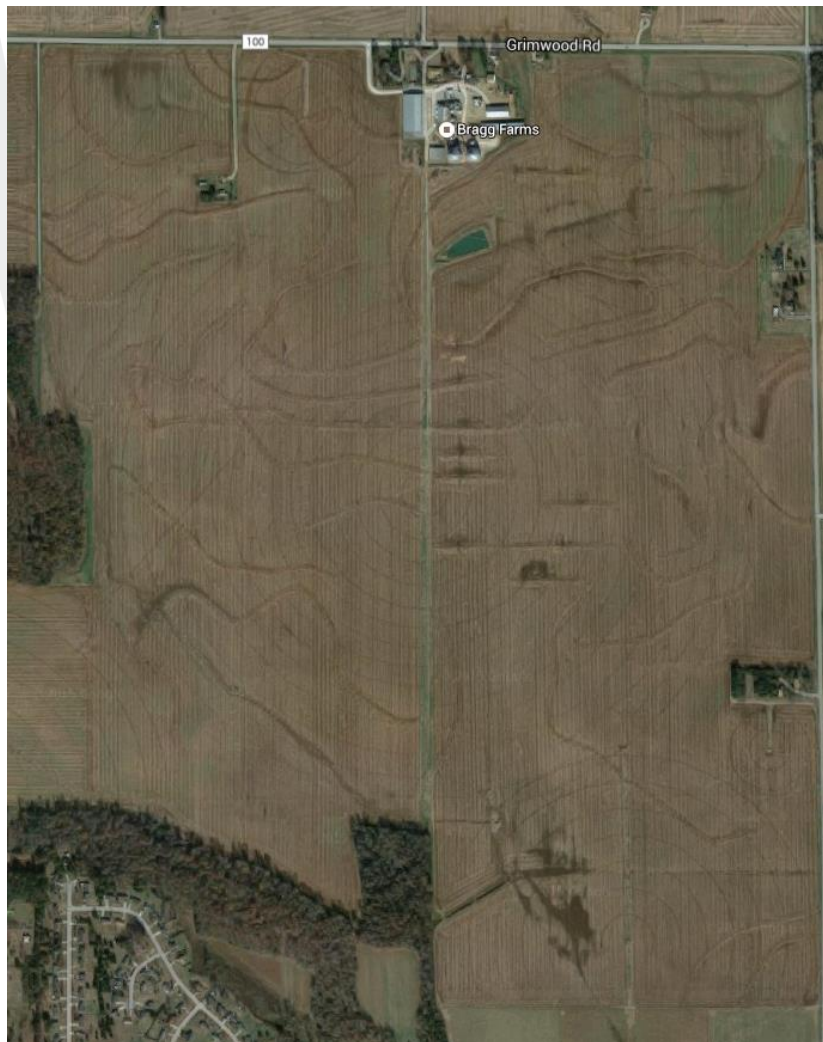
Target RGB values (approximate)

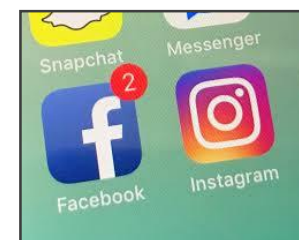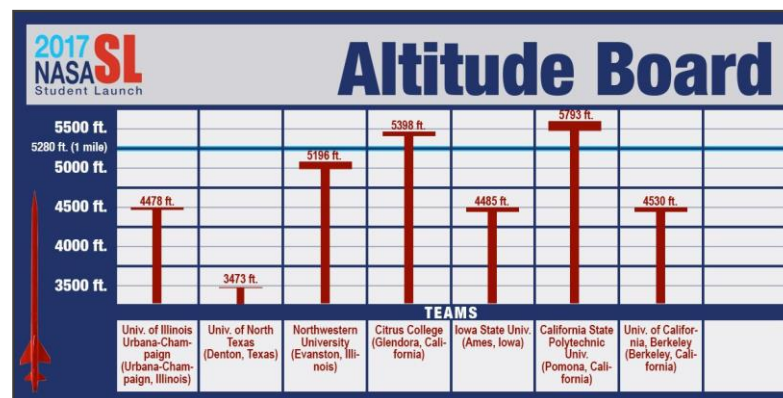Yellow – 255, 210, 30
Blue –   14, 64, 114
Pink –   226, 86, 95

Social Media

- Again, websites are due Nov. 3rd. Email URLs to Ryan
- We a collecting all social media platform information over the course of the project
- Facebook, Twitter, Instagram, Flicker, YouTube, etc.
- Great opportunity to tell your team story.

Advice from the Review Panel

- Address every bullet in the PDR requirements and the SOW (Statement of Work).
- Write your PDR in the order that the requirements are listed in the SOW.
- Include a table of contents, list of figures, etc.
- Include page numbers on all pages.
- Balance text and graphics.
- Use light slides with dark text for the PowerPoint presentation.
- Submit Milestone Review Flysheet. It **is** scored!
- Upload documents to website and send notification and attachments to Katie, Zach, Fred, and Ryan. **Do not wait until the last minute as you may encounter unforeseen issues.**
- Design is not final but should not change drastically.
    - Major design changes made after PDR require justification and RSO approval.
    - Pictures, schematics, diagrams, CAD models shown for as-designed system in as much detail as possible.
- Professionalism
    - Spelling, grammar, layout of documents
    - Practice your presentation before-hand
    - Look professional (dress, behavior, etc)
    - Speak loudly, clearly, and in turn

Questions