



TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
10/03/2022 - 10/09/2022 1.	Researching different websites to find inspiration and brainstorming ideas for our website	3 hrs	NK, SP, RJ, SK, SD, YM	
10/10/2022 - 10/16/2022 2.	Chose our specific idea, researched the technologies to make it possible	6 hrs	NK, SP, RJ, SK, SD, YM	We needed ThreeJS for our planets and TailwindCSS for convenient utility classes apart from the vanilla JS/HTML/CSS stack
10/17/2022 - 10/23/2022 3.	Learning the basics of ThreeJS w/ tutorials in order to be able to make our solar system.	10 hrs	NK, SP, RJ, SK, SD, YM	Learned how to make ThreeJS scenes, create geometry, and apply textures
10/24/2022 - 10/30/2022 4.	Setting up our project, making the ThreeJS scene, making the Earth, making it rotate and move accurately, and making	10 hrs	NK, SP, SK, SD,	Structured our project, built our space scene, renderer and camera, made the Earth using non-copyrighted textures. and generated white stars in random positions
10/31/2022 - 11/6/2022 5.	stars. Making the Moon	6 hrs	NK, SP, YM	Made the Moon and used grouping to make the moon rotate around the earth while the Earth and the Moon also both have their own respective rotations
11/7/2022 - 11/13/2022 6.	Making all the other planets with their respective rotations	15 hrs	NK, SP, RJ, SK, SD, YM	

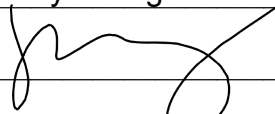
Advisor Name: Jocelyn LongStudent Initials: SK, SD, SP, RJ, YM, NK

Advisor Signature: \_\_\_\_\_



TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
1. 11/14/2022 - 11/20/2022	Planned out the rest of our page, what information we would need, structuring, etc.	6 hrs	NK, SP, RJ, SK, SD, YM	
2. 11/21/2022 - 11/27/2022	Made a navbar and footer to navigate between our pages	7 hrs	NK, SD, YM	Wrote the content for our About page
3. 11/28/2022 - 12/4/2022	Built out the About page	7 hrs	NK, SP, RJ, SK, SD, YM	From this point on, we are also writing the content for the pages we are about to write
4. 12/5/2022 - 12/11/2022	Built out the Products page	8 hrs	RJ, SP, SK, SD,	
5. 12/12/2022 - 12/18/2022	Built out the launch, Launch Vehicles and Launch Safety pages	10 hrs	NK, SP, YM, RJ, SK	
6. 12/19/2022 - 12/25/2022	Built out the Launch Recovery and Launch Training pages	10 hrs	NK, SP, RJ, SK, SD, YM	

Advisor Name: Jocelyn Long Student Initials: SK, SD, SP, RJ, YM, NK

Advisor Signature: 



TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
12/26/2022 - 1/2/2023 1.	Made all the pages responsive	14 hrs	NK, SP, RJ, SK, SD, YM	Changing/hiding images based on screen size, moving horizontal layouts to vertical
1/3/2023 - 1/9/2022 2.	Made the navbar and footer responsive, checked for broken links, built preloader	8 hrs	SK, SP, RJ	Made the navbar collapse into a hamburger menu, since so sometimes ThreeJS, built a preloader to make the website feel smoother
1/10/2022 - 1/13/2022 3.	Button animations, other small tweaks	3 hrs	NK, SP, RJ, SK, SD, YM	Changing the color of some alternate backgrounds, slide-in button animation
4.				
5.				
6.				

Advisor Name: Jocelyn Long Student Initials: SK, SD, SP, RJ, YM, NK

Advisor Signature: 

TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
1/18/23-1/24/23 1.	Remade Home Page: Added sun and fixed planets	9 hours	SP, YM, RJ, SD, SK, NK	We started the process of remaking the main page. We added a sun and made the planets scientifically accurate with the correct distance apart from each other and is mostly to scale
1/24/23-1/29/23 2.	Improved Info Page	7 hours	SP, YM, RJ, SD, SK, NK	We improved the the statistics and added more information. We reorganized the text and redesigned the interface. After redesigning, we made it responsive again.
1/30/23-2/6/23 3.	Remade Products Page	8 hours 30 minutes	SP, NK, SK, SD	For each of the items on the products page, we added hover effects to all of the cards. After, we reorganized and changed the design. Then we made it responsive.
2/7/23- 2/10/23 4.	Fixed Text information and Design	8 hours	RJ, SP, NK, YM, SK	Added more information. Made all font sizes bigger of both headers and text. Added text decoration as well. Added more accent colors to our palette and removed blue color
2/10/23- 2/11/23 5.	Remade Recovery Page	4 hours 30 minutes	SP, NK, SK,SD	Added more information, and displayed it in more visually appealing and creative ways, rather than body paragraphs
2/12/23- 2/18/23 6.	Worked on Remodeling Main Page	7 hours	YM, SK, SD, NK, SP, RJ	Remade all of the stars to optimize main page. Now instead of having a bunch of instantiated sphere meshes, there is a point cloud mesh to allow for much more stars

Advisor Name: Jocelyn LongStudent Initials: SP, NK, RJ, SK, YM, SD

Advisor Signature: \_\_\_\_\_



TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
2/18/23-2/26/23 1.	Optimized main page	10 hours	SP, YM, SD, SK, NK	Made textures load asynchronously in order to load pages smoother, Made a resources.js module to centralize all reused three.js functions for modularity
2/27/23-3/3/23 2.	Improved Camera Following	6 hours	SP, YM, RJ, SD, SK, NK	Made camera follow the planets. Remade camera function to enter from far away, and then lock on to a planet. Made transitions so the camera could move between planets
3/4/23-3/10/23 3.	Remade Vehicles Page	10 hours 30 minutes	SP, NK, YM, SD	We put all of the information in collapsibles to make it less cluttered. The page used to have embeds of the rocket and lander, now there are pictures that, if clicked, will open a modal
3/10/23- 3/14/23 4.	Changed page appearance of planets	6 hours	RJ, SP, NK, YM, SK	Changed all other pages to have a planet as a hero overlay rather than a random image. We also made the body go from a black to blue gradient to transition into the page
3/15/23- 3/21/23 5.	Improved About and Product page	9 hours 30 minutes	SP, NK, SK,SD	Added more information and redesigned both pages to fit better with the interface. Removed embeds with images that can be clicked for images
3/21/23- 3/25/23 6.	Added parallax Effect	7 hours	SD, SK, NK, SP, YM	To employ a 3D parallax effect, we added a parallax effect using the scroll offset to move the planets and stars on every page.

Advisor Name: Jocelyn LongStudent Initials: SP, NK, RJ, SK, YM, SD

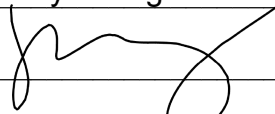
Advisor Signature: \_\_\_\_\_





TECHNOLOGY STUDENT ASSOCIATION PLAN OF WORK LOG				
Date	Task	Time involved	Team member responsible (student initials)	Comments
3/27/23-4/3/23 1.	Reworked the Navbar	15 hours	SP, YM, RJ, SD, SK, NK	Instead of a normal navbar with a row of buttons, we remade ours to have a stylized solar system with our different navigation links placed on it. Made it responsive as well
4/5/23-4/7/23 2.	Remade Training Pages	9 hours	RJ, SP, NK, YM, SD	Added a carousel with images and captions to show the different steps our company will take the user through to get them ready for space travel.
4/7/23-4/11/23 3.	Optimized Planet Graphics	6 hours	RJ, SP, NK, SD, SK	Used Sphere Geometry instead of Dodecahedron Geometry to load planets faster. We also added a texture loader manager to load textures concurrently.
4/10/23- 4/12/23 4.	Testing and Debugging	2 hours	SP, YM, RJ, SD, SK, NK	We worked on testing the website and debugging all errors.
5.				
6.				

Advisor Name: Jocelyn Long Student Initials: SP, NK, RJ, SK, YM, SD

Advisor Signature: 

# STUDENT COPYRIGHT CHECKLIST (for students to complete and advisors to verify)

**STUDENT:** Answer question 1 below.

- 1) Does your solution to the competitive event integrate any type of music and/or sound? ☐ YES ☒ NO

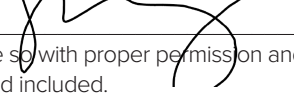
If NO, go to question 2.

If YES, is the music and/or sound copyrighted? ☐ YES ☐ NO

If YES, move to question 1A. If NO, move to question 1B.

- 1A) Have you asked for author permission to use the music and/or sound in your solution and included that permission (letter/form) in your documentation? If YES, move to question 2. If NO, ask for permission and if permission is granted, include the permission in your documentation.
- 1B) Is the music/sound royalty free, or did you create the music/sound yourself? If YES, cite the royalty free music/sound OR your original music/sound properly in your documentation.

**CHAPTER ADVISOR:** Sign below regarding your student's answer(s) to the use of music/sound in his/her competitive event solution. Even if your student answers "NO" to question 1, please sign below noting that you have evaluated the competitive event solution and the student answered the question(s) accurately.

I,  (chapter advisor), have checked my student's solution and confirm that any use of music/sound is done so with proper permission and is cited correctly in the student's documentation and/or the solution has been found to have no music/sound included.

**STUDENT:** Answer question 2 below.

- 2) Does your solution to the competitive event integrate any graphics/videos? ☒ YES ☐ NO


If NO, go to question 3.

If YES, is(are) the graphics/videos copyrighted, registered and/or trademarked? ☐ YES ☒ NO

If YES, move to question 2A. If NO, move to question 2B.

- 2A) Have you asked for author permission to use the graphics and/or videos in your solution and included a permission (letter/form) in your documentation for graphic/video used? If YES, move to question 3. If NO, ask for permission and if permission is granted, include the permission in your documentation.
- 2B) Is(are) the graphics/videos royalty free, or did you create your own graphic? If YES, cite the royalty free graphics/videos OR your own original graphics/videos properly in your documentation.

**CHAPTER ADVISOR:** Sign below regarding your student's answer(s) to the use of graphics/videos in his/her competitive event solution. Even if your student answers "NO" to question 2, please sign below noting that you have evaluated the competitive event solution and the student answered the question(s) accurately.

I,  (chapter advisor), have checked my student's solution and confirm that the use of graphics/videos with proper permission and is cited correctly in the student's documentation and/or the solution has been found to have no graphics/videos included.

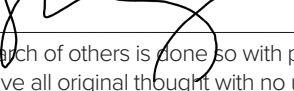
**STUDENT:** Answer question 3 below.

- 3) Does your solution to the competitive event use another's thoughts or research? ☒ YES ☐ NO

If NO, this is the end of the checklist.

If YES, have you properly cited other's thoughts or research in your documentation? ☒ YES ☐ NO

**CHAPTER ADVISOR:** Sign below regarding your student's answer(s) to having integrated any thoughts/research of others in his/her competitive event solution. Even if your student answers "NO" to question 3, please sign below noting that you have evaluated the competitive event solution and the student answered the question(s) accurately.

I,  (chapter advisor), have checked my student's solution and confirm that the use of the thoughts/research of others is done so with proper permission and is cited correctly in the student's documentation and/or the solution has been found to have all original thought with no use of other's thoughts/research.

Student Name: SP, NK, SD, RJ, SK, YM

Chapter Advisor Signature: 

## References

(2023b). Alphacoders.com.

<https://images4.alphacoders.com/936/936378.jpg>

(2023h). Astronomy.com.

[https://astronomy.com/-/media/Images/News%20and%20Observing/News/2022/11/Mars\\_microbeexploration.jpg?mw=600](https://astronomy.com/-/media/Images/News%20and%20Observing/News/2022/11/Mars_microbeexploration.jpg?mw=600)

[Online Image]. (2023). In *Sierraspace.com*.

[https://www.sierraspace.com/wp-content/uploads/elementor/thumbs/SS\\_03\\_BloomClouds\\_02-scaled-pomhdchon4y931mnclly8ahkfgp95bb4guf4sz928n4.jpg](https://www.sierraspace.com/wp-content/uploads/elementor/thumbs/SS_03_BloomClouds_02-scaled-pomhdchon4y931mnclly8ahkfgp95bb4guf4sz928n4.jpg)

Alexander Gerst in spacewalk training. (2023). [Online Image]. In *Universetoday.com*.

[https://www.universetoday.com/wp-content/uploads/2013/08/Alexander\\_Gerst\\_in\\_space\\_walk\\_training.jpg](https://www.universetoday.com/wp-content/uploads/2013/08/Alexander_Gerst_in_space_walk_training.jpg)

Artist's impression of Ceres. (2013). [Online Image]. In *ESA*.

[https://www.esa.int/var/esa/storage/images/esa\\_multimedia/images/2014/01/artist\\_s\\_impression\\_of\\_ceres/13498472-1-eng-GB/Artist\\_s\\_impression\\_of\\_Ceres\\_pillars.jpg](https://www.esa.int/var/esa/storage/images/esa_multimedia/images/2014/01/artist_s_impression_of_ceres/13498472-1-eng-GB/Artist_s_impression_of_Ceres_pillars.jpg)

Cassini Grand Finale. (2023). [Online Images]. In *Sci.news*.

(2023i). Esa.int.

[https://www.esa.int/var/esa/storage/images/esa\\_multimedia/videos/2020/12/solar\\_orbiter\\_flyby\\_of\\_venus/22391903-1-eng-GB/Solar\\_Orbiter\\_flyby\\_of\\_Venus\\_pillars.jpg](https://www.esa.int/var/esa/storage/images/esa_multimedia/videos/2020/12/solar_orbiter_flyby_of_venus/22391903-1-eng-GB/Solar_Orbiter_flyby_of_Venus_pillars.jpg)

[https://cdn.sci.news/images/enlarge5/image\\_6492\\_1e-Cassini-Grand-Finale-Science.jpg](https://cdn.sci.news/images/enlarge5/image_6492_1e-Cassini-Grand-Finale-Science.jpg)



(2021b). Esa.int.

[https://www.esa.int/var/esa/storage/images/esa\\_multimedia/images/2021/09/bepicolombo\\_mercury\\_flyby4/23479079-1-eng-GB/BepiColombo\\_Mercury\\_flyby\\_pillars.jpg](https://www.esa.int/var/esa/storage/images/esa_multimedia/images/2021/09/bepicolombo_mercury_flyby4/23479079-1-eng-GB/BepiColombo_Mercury_flyby_pillars.jpg)

Flyby of Mars. (2014). [Online Image]. In *Nasa.gov*.

[https://mars.nasa.gov/system/content\\_pages/main\\_images/378\\_maven.jpg](https://mars.nasa.gov/system/content_pages/main_images/378_maven.jpg)

g

Great red spot. (2021). [Online Image]. In *Ytimg.com*.

<https://i.ytimg.com/vi/dwDvVLN2OVI/maxresdefault.jpg>

Greg Rakozy. (2015, October 15). *Silhouette photography of person*. Unsplash.com.

<https://unsplash.com/photos/oMpAz-DN-9I>

Hall, N. (2021, May 13). *Rocket Propulsion*. *Www.grc.nasa.gov*.

<https://www.grc.nasa.gov/www/k-12/airplane/rocket.html#:~:text=In%20a%20rocket%20engine%20%2C%20fuel>

Kennedy, J. (1962, September 12). Address at Rice University on the Nation's Space Effort,

September 12, 1962 | JFK Library. In *www.jfklibrary.org* [Transcript].

<https://www.jfklibrary.org/archives/other-resources/john-f-kennedy-speeches/rice-university-19620912>

*Konstantin E. Tsiolkovsky*. (2013, June 5). NASA.

<https://nasa.gov/audience/foreducators/rocketry/home/konstantin-tsiolkovsky.html>

Lyon, C. (2022, May 19). *Deploying in 2023, Dream Chaser opens New Horizons for commercial space travel*. Sierra Space.



*Orbital Lander - 3D model by sprunghunt*. (n.d.). Sketchfab.com. Retrieved January 14, 2023, from <https://sketchfab.com/models/185a7a53383e49fdb3698a6bf434d526/>

(2023f). Pixelstalk.net.

<https://www.pixelstalk.net/wp-content/uploads/images6/Outer-Space-HD-Wallpaper-Free-download.jpg>

(2023c). Pixelstalk.net.

<https://www.pixelstalk.net/wp-content/uploads/images6/4K-Space-Wallpaper-HD-Free-download.jpg>

(2023d). Pixelstalk.net.

<https://www.pixelstalk.net/wp-content/uploads/images6/Astronaut-Wallpaper-HD-Free-download.jpg>

Sherbakov, V. (2013). A view of St. Paul's Cathedral and the Millennium Bridge in London [Online Image].

In *unsplash.com*. [https://unsplash.com/photos/xS\\_RzdD5CFE](https://unsplash.com/photos/xS_RzdD5CFE) Solar Orbiter Flyby of Venus Pillars.

(2021a). S-Nbcnews.com.

[https://media-cldnry.s-nbcnews.com/image/upload/newscms/2021\\_13/3461687/210402-uranus-al-0919.jpg](https://media-cldnry.s-nbcnews.com/image/upload/newscms/2021_13/3461687/210402-uranus-al-0919.jpg)

(n.d.). [Online Image]. In *ESA*. Retrieved January 13, 2023, from

[https://www.esa.int/var/esa/storage/images/esa\\_multimedia/videos/2020/12/solar\\_orbiter\\_flyby\\_of\\_venus/22391903-1-eng-GB/Solar\\_Orbiter\\_flyby\\_of\\_Venus\\_pillars.jpg](https://www.esa.int/var/esa/storage/images/esa_multimedia/videos/2020/12/solar_orbiter_flyby_of_venus/22391903-1-eng-GB/Solar_Orbiter_flyby_of_Venus_pillars.jpg) *Space Shuttle - 3D model by Korn (@Howl)*. (n.d.). Sketchfab.com. Retrieved January 14, 2023, from

<https://sketchfab.com/3d-models/space-shuttle-6cbf64ebdd474dc7910218c30e03fbe9>  
Spacewalk training. (2019). [Online Image]. In *Nasa.gov*.

[https://www.nasa.gov/sites/default/files/styles/full\\_width\\_feature/public/thumbnails/image/edu\\_srch\\_spacewalk\\_training-a.jpg](https://www.nasa.gov/sites/default/files/styles/full_width_feature/public/thumbnails/image/edu_srch_spacewalk_training-a.jpg)

Titan: electric sands. (2023). [Online Image]. In *Sci.news*.

[https://cdn.sci.news/images/2017/03/image\\_4742\\_1-Titan-Electric-Sands.jpg](https://cdn.sci.news/images/2017/03/image_4742_1-Titan-Electric-Sands.jpg)  
Vu, J. (2014). Shooting stars under blue sky [Online Image]. In *unsplash.com*.

<https://unsplash.com/photos/TIrXot28Znc>  
(2023e). Wallpaper-Mania.com.

[https://wallpaper-mania.com/wp-content/uploads/2018/09/High\\_resolution\\_wallpaper\\_background\\_ID\\_77701892044.jpg](https://wallpaper-mania.com/wp-content/uploads/2018/09/High_resolution_wallpaper_background_ID_77701892044.jpg)  
(2023a). Wallpaper-Mania.com.

[https://wallpaper-mania.com/wp-content/uploads/2018/09/High\\_resolution\\_wallpaper\\_background\\_ID\\_77701895579.jpg](https://wallpaper-mania.com/wp-content/uploads/2018/09/High_resolution_wallpaper_background_ID_77701895579.jpg)  
(2023). In *Wikimedia.org*.

[https://upload.wikimedia.org/wikipedia/commons/b/ba/Saturn\\_eclipse.jpg](https://upload.wikimedia.org/wikipedia/commons/b/ba/Saturn_eclipse.jpg)  
(2023g). *Wikimedia.org*.

[https://upload.wikimedia.org/wikipedia/commons/b/ba/Saturn\\_eclipse.jpg](https://upload.wikimedia.org/wikipedia/commons/b/ba/Saturn_eclipse.jpg)