Crystele Dierickx

Henry Vu

Matthew Affa

Victor Zavala

Report #1

Client: Northrop Grumman

California State University San Marcos

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EXECUTIVE COMMUNICATION

Thomas Usrey
Northrop Grumman
16765 W. Bernardo Dr.
San Diego, CA 92127

Dear Mr. Usrey,

On behalf of the TSP team we would like to thank you for giving us the opportunity to develop a solution for your company. Our team is confident that we will deliver the expectations and quality solutions to carry out the project that was developed prior to cater to your requirements. Since our meeting held on Thursday February 8,2018, we have defined and discussed the project requirements, technologies, communication methods, weekly schedules, and deliverables. Our objective for the next phase is to revise requirements based off input, make a team GitHub repository, research and make notations if necessary to last years code.

So far, our project has incurred an approximate cost of $3,451 with an estimated completion cost of $17,313. The accrued cost of 9 hours * $29 USD/ Hour= $225/4 team members =$56.25 per team member.

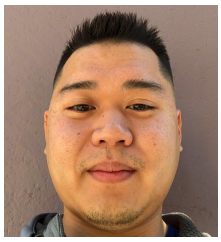
If you have any questions or concerns regarding the project, please do not hesitate to contact us via email or Slack.We are very excited to work with you and look forward to our next meeting. Thank you.

Sincerely,

Matthew Affa
Project Lead
Solid Project CSUSM@gmail.com

Stakeholder Approval
I _____(print), approve the current project and continuation under the predetermined terms by The Solid Project team, will provide any non-confidential materials that contributes to the overall success of the project, and will allow The Solid Project team to manage all deliverables set by the project sponsor.
Client Signature: _____ Date: _____ /_____ /_____

Team Summary

DEVELOPERS	SUMMARY & SKILLS
 **Crystele Dierickx** Project Manager Developer	I am a senior at Cal State University of San Marcos pursuing a Bachelor's of Science in Computer Information Systems with an interest in Cybersecurity. I currently work for a software firm that uses artificial intelligence, algorithmic science, and machine learning for endpoint security. The Project Management and Coordinating skills I acquired during my internship and current employer will help me manage our project as well as develop.
 **Henry Vu** Software Developer	Senior pursuing a Bachelor's of Science in Computer Information System at Cal State San Marcos. Worked for Asus Computers as a Computer Technician before being promoted to Data Analyst. I moved to Murrieta after transferring to CSUSM. Previously interned for a startup doing quality assurance.
 **Matthew Affa** Project Lead / Developer	Graduating senior at Cal State San Marcos with a Bachelor's of Science in Computer Information Systems with a minor in Business. I am currently employed at a FinTech company called AppTech in Carlsbad that specializes in Payment and Information technology.
 **Victor Zavala** Software Developer	I am a senior student at California State University San Marcos pursuing a Bachelor's degree in Computer Science with a concentration in Information Systems, which I anticipate earning in May of 2018. I am currently working part-time at Fabian Leadership Resources as a full stack web developer.

Team Norms and Expectations

- Be professional, responsible and punctual.
- All team members are expected to be present at all team meetings.
- Business casual for all meetings with customer.
- Be respectful, honest, and open about team members' issues and concerns.
- Encourage response and feedback.
- Critical decision making should be made by majority vote.
- Clearly articulate the desired outcome.
- Clearly identify constraints and boundaries.
- All costs associated with the project will be split evenly among team members.
- General communication will be made through Slack.
- All tasks are scheduled and managed through Trello.
- All work must be uploaded to Github.
- All work submitted must be on time and has to meet high quality standards.

Application Development

Business Context:

Northrop Grumman is an American global aerospace and defense technology company. They develop integrated Communications, Navigation and Identification systems for tactical aircraft, covert communications and tactical radio systems for the Department of Defense and other national security clients. Their product development involves mechanical, electrical, software, and engineering.

Business Problem:

Northrop Grumman works on multiple projects that vary in size across multiple organizations. As they continue to grow ,leaders are required to manage more projects and more people. The company currently uses homegrown workflow applications and data management solutions to manage their processes and need a software solution for collecting, analyzing, controlling data. Northrop Grumman would like to standardize their workflow and bring more interactive visualizations to increase tool efficiency while maintaining the best user experience for workflow, layout, and scheduling (Gantt).

Project Proposal:

We propose a Web-based workflow visualization tool using a widget. This widget will be styled using CSS and have the functionalities that include adding multiple workflow objects, altering / adding workflow status , and displaying capabilities within Northrop Grumman's supported browsers.

Statement of Deliverables

- Working widget will be able to take in JSON information and display it in a workflow diagram.
- Widget will be dynamic so user can add, remove, edit and update existing workflow states.
- Will work on IE11+, Firefox 45+, and on Edge.
- Documentation
- Source Code

What form or medium will your deliveries be in:

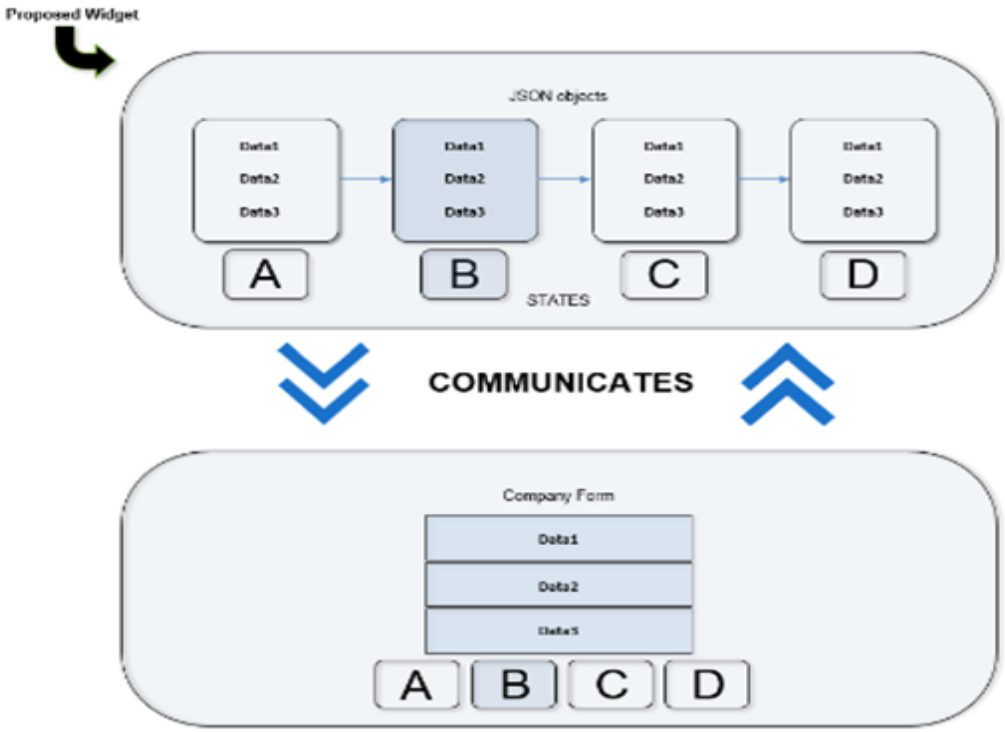
Executable source code customer can run on their local machine via web browser (IE+11, Firefox 45+, and Edge)

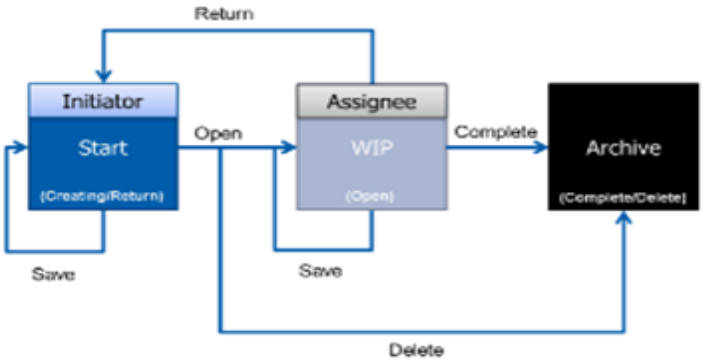
Project Measures of Success Outline

Phase	Details
1	● Hold JAD1 meeting on site at. 2/8/18 ○ Discuss communication method. ○ Discuss the customer's problem. ○ Define project scope and requirements.

	○ Request source code from previous group. ● Set up tools for project. ○ Slack for communication. ○ Google Drive for documentation. ○ Trello for task management. ○ Github for development platform.
2	● Review Vortek Solutions documents and source code. ● Hold JAD2 meeting on site. ○ Discuss issues and concerns. ○ Confirm project requirements. ○ Review Report 1. ● Finalize Report 1.
3	● Implement admin interface prototype. ● Finalize Report 2. ○ Hold Prototype 1 meeting on site. ○ Present admin interface prototype. ○ Get feedback. ○ Discuss briefly next phase of the project. ● Make changes to admin interface prototype if needed.
4	● Implement different themes for workflow diagram. ● Finalize Report 3. ● Hold Prototype 2 meeting on site. ○ Present themes for workflow diagram prototype. ○ Get feedback. ○ Discuss briefly next phase of the project. ● Make changes to workflow diagram prototype if needed.
5	● Implement shop floor visualization. ● Thorough testing of all functionalities. ● Finalize Report 4. ● Present final product.

Visual Representation


Proposed Widget
JSON objects
Data1
Data2
Data3
A
B
C
D
STATES
COMMUNICATES
Company Form
Data1
Data2
Data3
A
B
C
D

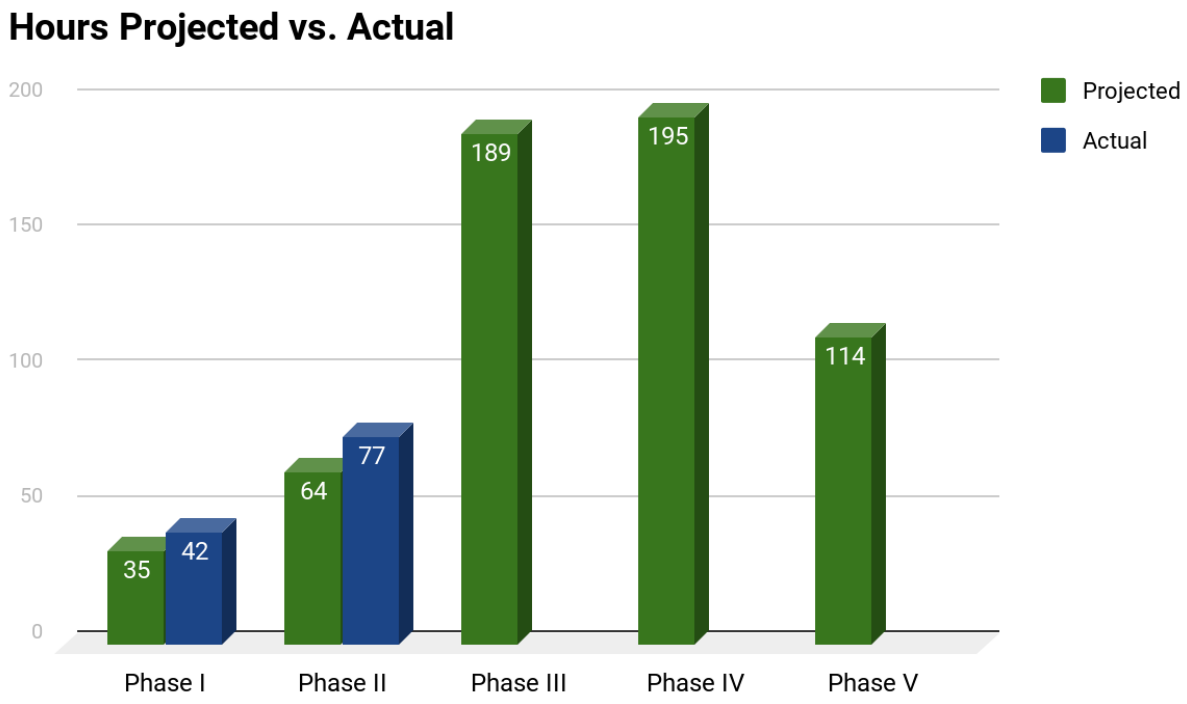

Return
Initiator
Start
(Creating/Return)
Open
Assignee
WIP
(Open)
Complete
Archive
(Complete/Delete)
Save
Save
Delete

Requirements Matrix

Requirement #	Description	Implemented (Yes/No)
R1	Widgets will run on IE 11+.	NO
R2	Widgets will run on Firefox 45+.	NO
R3	Widgets will run on Edge.	NO
R4	Workflow widget will receive JSON data from source, including incomplete data. Must save in the same format as received.	NO
R5	Widget will render data in a workflow diagram.	NO
R6	Workflow widget will be interactive to the browser.	NO
R7	Widget will display a shop floor visualization.	NO
R8	Workflow widget will self contain D3 object.	NO
R9	Workflow widget can be styled with CSS.	NO
R10	Workflow widget will have an admin mode (edit, insert node, add branch)	NO
R11	Workflow widget will have zoom feature	NO
R12	Workflow widget will have node collapse/expand feature	NO

Project Management

Initial Project Cost Tracking Chart



Schedule for Tasks and Deliverables

Deliverables	Dates
Report 1	**2/20/2018**
Report 2	**3/6/2018**
Prototype 1	**3/15/2018**
Report 3	**4/3/2018**
Prototype 2	**4/12/2018**
Report 4	**4/24/2018**

Estimated Total Cost of Project

Week #	Hours	Total Cost
1	10	$290
2	32	$928
3	41	$1,189
4	36	$1,044

Outline of Resources

What resources we will need from Northrop Grumman:

- They have provided us with the following material:
    1. Vortek Solutions Source Code
    2. Project Presentation
- Timely feedback on requirements clarification and approval.
- Northrop Grumman will no not provide is with access to their network and production data.

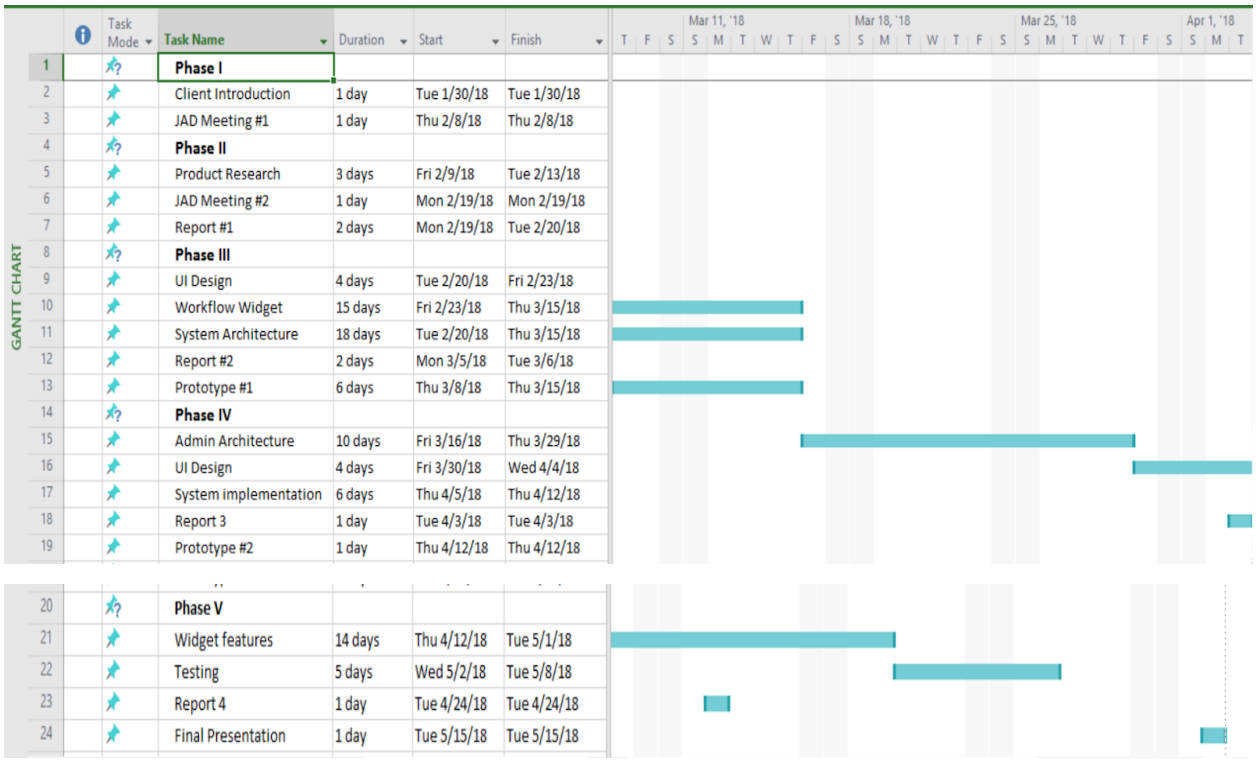
What resources we need from the Instructor:

- The instructor needs to give us access to a group server for database, development, and testing.
- Timely response on questions regarding project and guidance.

What resources will TSP: The Solid Project supply:

- Open source software that is needed for development and research purposes
- Github Repository
- Testing environment to show the widget in production
- All research and developed material will be given to Northrop Grumman

Gantt Chart of Major Phases



	Task Mode	Task Name	Duration	Start	Finish
1		**Phase I**			
2		Client Introduction	1 day	Tue 1/30/18	Tue 1/30/18
3		JAD Meeting #1	1 day	Thu 2/8/18	Thu 2/8/18
4		**Phase II**			
5		Product Research	3 days	Fri 2/9/18	Tue 2/13/18
6		JAD Meeting #2	1 day	Mon 2/19/18	Mon 2/19/18
7		Report #1	2 days	Mon 2/19/18	Tue 2/20/18
8		**Phase III**			
9		UI Design	4 days	Tue 2/20/18	Fri 2/23/18
10		Workflow Widget	15 days	Fri 2/23/18	Thu 3/15/18
11		System Architecture	18 days	Tue 2/20/18	Thu 3/15/18
12		Report #2	2 days	Mon 3/5/18	Tue 3/6/18
13		Prototype #1	6 days	Thu 3/8/18	Thu 3/15/18
14		**Phase IV**			
15		Admin Architecture	10 days	Fri 3/16/18	Thu 3/29/18
16		UI Design	4 days	Fri 3/30/18	Wed 4/4/18
17		System implementation	6 days	Thu 4/5/18	Thu 4/12/18
18		Report 3	1 day	Tue 4/3/18	Tue 4/3/18
19		Prototype #2	1 day	Thu 4/12/18	Thu 4/12/18
20		**Phase V**			
21		Widget features	14 days	Thu 4/12/18	Tue 5/1/18
22		Testing	5 days	Wed 5/2/18	Tue 5/8/18
23		Report 4	1 day	Tue 4/24/18	Tue 4/24/18
24		Final Presentation	1 day	Tue 5/15/18	Tue 5/15/18