

E1.0X – Your Project Name

Statement of Work

PM's name, Project Manager

List remaining team members here, one name per line,
first name, last name, alphabetically by last name

Sponsored by:

Company Name

Street Address

City, State Zip Code

Date: Month, Day, Year

With sponsors permission only, put sponsor logo below and to the left and move the Texas State logo to the right.



Use the statements in red italics to help you write this document. Delete all the red italics when you are done.

The Statement of Work (SOW) is a response to a Request for Proposal (RFP) or a Request for Quote (RFQ). It states, “Here’s what we think you asked for and here is our plan to develop a solution.” It also clearly details what you will require from the sponsor to be successful. It is the contract between you, the supplier, and the sponsor which summarizes who will do what and the requirements for success.

SOW = The response to an RFP stating objectives, general timeframe, and responsibilities.

The Product Specification defines your product in detail. What you are making, how it works, how it is used and how it will be tested.

Each section shall have a named author, but all team members are responsible for the overall document. Meaning one team member writes the section and the other team members review it for errors. List the author of each section immediately following the heading and in the author table in the grading rubric at the end. Example: “This section was written by John Doe.” It is the team and each members’ responsibility to divide the document equitably. Individual scores will be determined by the quality and quantity of each person’s work.

Remember the goal is to convey all the information – not applicable because.... is relevant information. Use bulleted lists and white space smartly. Include figures and tables as required and necessary. For each table and figure, write a brief introductory sentence “As shown in Table 2 five different sensors are used...” Put the detail in the figures and tables, keep the paragraphs short and do not duplicate information needlessly. Your goal is to convey the full amount of information in the shortest possible document.

You need to maintain a Revision History Table like this: (Not this exact table with ONLY the dates changed)

Revision History Table		Template Date 6/15/2022
Version	Summary of Changes	Date
V5	Added a “Ground Rules” section	6/15/22
V6	Added Sponsor and Advisor requirements	8/17/22
V7	Moved the sponsor, advisor, and team requirements to an Appendix section	10/24/22
V8	Updated the Top Level Block Diagram example	7/20/23
0.1	Section Owners assigned; draft Introduction added	mm/dd/yy
0.5	Template info removed; first draft of all sections completed	mm/dd/yy
0.9	All sections updated during team review	mm/dd/yy
1.0	Version submitted for signatures	mm/dd/yy

The revision history table documents major revisions to the document. In addition to showing the evolution of the project it also provides a way for reviewers to quickly see which sections have changed so they do not have to reread the entire document each time. It is a high-level summary, minor edits, spelling corrections, etc. should not need to be summarized in this block. It is your responsibility to determine which sections have significant changes that merit review and decide when it makes sense to declare a revision number (hint: call a team meeting to review it page by page). Less detail is required for early revisions. Typically, teams use collaborative tools like Google Docs or Office 365 to allow real-time editing. There may be hundreds of changes made in a few days; the revision block should reflect

only the high-level changes. E.g., “Section 2.1 was updated to reflect the switch to the xyz processor.” For a shorter document such as the SOW you may only have 2 or 3 versions. If you do update it later be sure to include the revision information.

The table of contents below is auto generated – as long as you use Heading 1 and Heading 2 styles you should not have to type anything into the table. You will have to refresh it. The pagination on this template is not set, use your best judgement on when to start a new page for clarity balanced with keeping excessive white space out of your document. A suggestion is to have the revision block and TOC on one page, insert a page break before the Executive Summary, then do what make sense and looks professional after that.

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1. Executive Summary

The Executive Summary was written by John Doe. (Complete this with the author of each section)

The executive summary is a short review of the important aspects of the project. It is very similar to the elevator pitch you are developing for your “one pager” but it is slightly longer with more detail. This section should be about 3 paragraphs and about ¾ of a page.

1st paragraph - Introduce your product - What is your product and its key features? (“Our product [is a high efficiency controller/web-based application/wireless smart sensor/....] that [displays/computes/transforms/...] [temperature data/DC current/] into [easy to read graphs/control signals/wireless data] while [lowering cost/improving response time/achieving high efficiency/].

2nd paragraph - Explain Why the sponsoring business needs the product and how it improves the current situation, (Is there a current solution – if so, how will this be better? If not, what will it enable? Some context is needed here but only enough to establish “Why?” product will benefit the sponsor.) If it is an internal project, state why it is important. This may be to facilitate learning, but hopefully it also has a tie to some greater good for society. Find credible sources and cite them in a footnote. Don’t say “everyone knows flooding is an issue...” research and say, “according to <insert credible reference, peer reviewed paper, gov’t agency, etc> flooding in 2019 caused \$32M in damages in Acme County, our product will aid in the detection....”

3rd Paragraph - Describe the process of development: What work will you be doing (“We will be /building a prototype PCA/Writing code to display/Integrating new sensors with an Arduino/...) Who is involved, Where the project work will take place, what you will have completed at the end of D1 and what you will have complete at the end of D2 (high-level such as “a working prototype on a breadboard will be completed by SDD December 3, 2020.

Include a table as shown. For this and all tables you do not want to repeat the information in the table – that’s what the table is for. Rather you should introduce the table and point out anything significant. Something like “Table 1 shows the preliminary division of responsibilities among the team members. Since the User Interface for this product is quite complex, we have divided it among multiple team members as listed.”

Team Member	Subsystem
Violet Parr	User Interface: Touchscreen and Display
Bob Parr	Wireless Communications
Dashiell Parr	Ambient Sensors: Temperature and Angle
	Power: Battery, Charging, Power Budget
Helen Parr	Remote Management Application (Web based)

Table 1 Preliminary Subsystem Responsibilities

After a quick read through, a person should feel familiar with your project, and understand the team and the high-level tasks that you will perform. The rest of the document will provide more details on the topics introduced in the summary. In fact, many people find it easiest to write the summary last by pulling key items from the following sections.

Executive summary max 300 words.

2. Top Level Block Diagram

The top-level block diagram was drawn by John Doe. (Complete this with the author of each section)

The top-level diagram of our system is shown in Figure 1. Add a few sentences as if you were showing this figure to someone for the first time. What is interesting about the division of items, inputs, outputs, etc. Wording does not have to be detailed (that's what the diagram is for) but introductory.

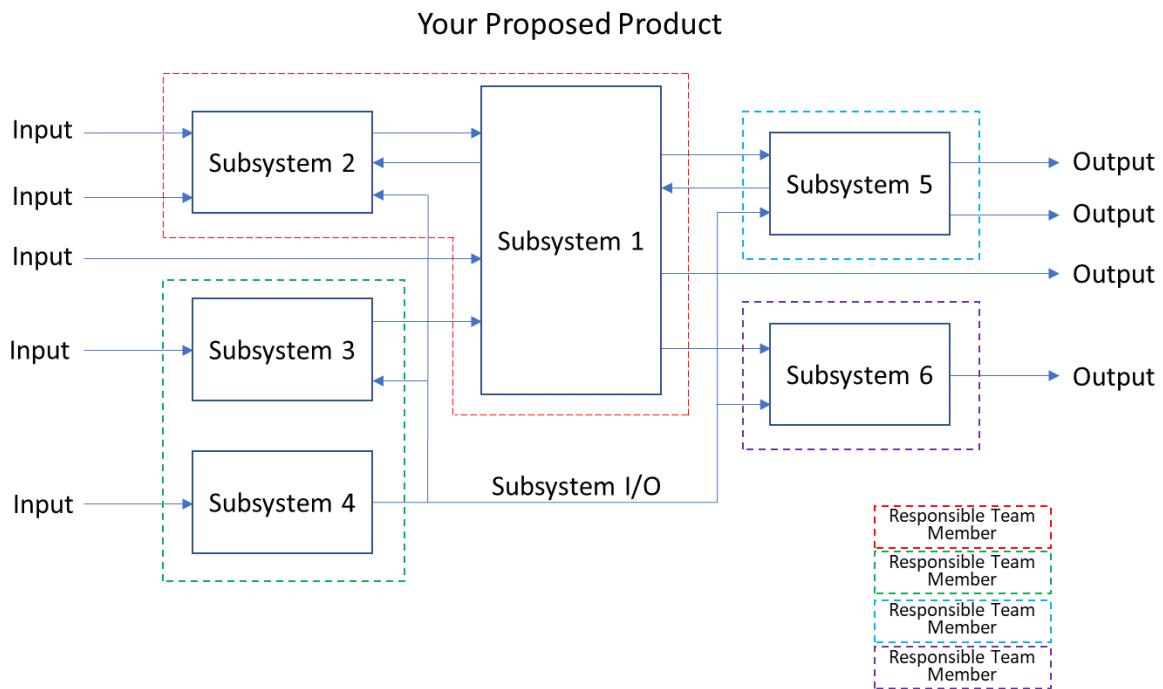


Figure 1: Top-Level Block Diagram

Critical for your top-level diagram – list the inputs and the outputs. The figure above is generic and abstract – you will have items such as “ambient light” as inputs and “HTML data” as outputs. If possible, put the inputs on the left and the outputs on the right. Understanding the inputs and outputs are key to starting the design. Then you will consider how to partition the functions required into subsystems such as: battery and power, microprocessor, computer vision, analog filtering, etc.

At this point, avoid jumping to solutions, for example you are trying to decide what the key inputs and requirements are (processing power, power consumption, network capabilities, etc.) so that you can then decide what microcontroller (if any) to use. To put it another way, “Raspberry Pi 4b” is not a subsystem it’s an implementation choice – “navigation”, “computer vision” etc. might be applicable subsystems.

3. Product Features

This section describes the scope and features of the product created by the project. It is what the project will PRODUCE.

The key objective of the next section is to:

- list all the key features of the product “What does it do?” and who will do them. Be sure you have covered all the requirements from the PRD.*
- summarize the parameters for each feature – think min, max, frequency, accuracy, range, etc.*
- briefly elaborate on the relationship between the product and the business need it addresses. “Why does the sponsor want this feature? What benefit does it provide?”*

The product features are the major functional items that the team agrees they will accomplish. Features typically describe what a user of the product will interact with or observe about the product. Once all the items are completed it will represent the final project. This will be one of the criteria for judging the success of the project. It is very important to limit the scope to only what you can accomplish. It also protects the team from other people adding new product features or functions later (the dreaded “feature creep”). Use tables and bulleted lists in this section to keep it concise.

A feature is an item that would be listed on the sales pitch to get a customer interested in buying the product. This is not a sales pitch to Engineers; it is a description of what the product accomplishes. i.e., a feature of a display for User interface. Not a 7-inch OLED 24-bit 1080x720P display.

Feature 1: Wireless Transmission of Data

This section was written by (the owner of the subsystem that implements this feature should write this section.)

Write a sentence to briefly describe the feature and introduce the table of parameters. Think hard about how to define the requirements – usually min and max measurable values of some sort. Example:

The system will transmit the water level readings from the remote unit located at the retention pond to the main unit located in the construction office. The requirements for transmission are summarized in Table 1.

<i>Parameter</i>	<i>Min</i>	<i>Max</i>	<i>Comments:</i>
<i>Transmission Distance</i>	<i>n/a</i>	<i>500m</i>	<i>Without obstructions e.g., trees</i>
<i>Transmission Time</i>	<i>n/a</i>	<i>200mS</i>	<i>1 full data packet</i>
<i>Wireless Transmitter Power Consumption</i>	<i>1mW</i>	<i>500mW</i>	<i>Min value applies during sleep mode, max during active transmission</i>

Table 2: Wireless Transmission Parameters

Feature 2: Temperature Sensing and Logging

This section was written by (the owner of the subsystem that implements this feature should write this section.)

Repeat format from Feature 1 as needed. You should have a minimum of 3 key Features, and a maximum of 8. Most projects will have 4 or 5.

4. Key Milestones

List the major deliverables and decision points of the project. You must establish early in the project how you are going to approach the project and get the work done.

Milestones from the Master Schedule are pre-populated in the table. You will need to add the dates for the current semester. You will need to add your project specific objectives and deadlines.

List the MAJOR STEPS needed to complete your project – this includes work done in D1 and D2. A very common mistake is to build the schedule to have a functional project by D2 Senior Design Day. This leaves no time for testing and modification (100% guaranteed everything won't work correctly the 1st time), allow 6-8 weeks for testing minimum). Also leaves no time to recover if early dates slip.

At this stage you should have about 10 – 15 items in addition to the milestones from the Master Schedule. Do not include more milestones from the course master schedule. Create your own meaningful decision or progress checkpoint milestones.

Milestone	Date
Project Team Assignment	
Statement of Work Complete	
Preliminary Project Plan Complete	
Initial Product Specification Complete	
Initial Design Review	
D1 Final Documents Due: SOW Product Specification Project Plan	
D1 Senior Design Day	
Individual Sub-System Report Complete	
Progress Presentation	
D2 Project Demo	

Final Design Review	
D2 Final Documents Due: SOW Product Specification Project Plan	
D2 Senior Design Day	

Table 3: Milestone Schedule

Some items to consider as examples:

- *Determining the sub-system partitioning and assignments*
- *Preliminary hardware selection*
- *Selecting a microcontroller/programming language/application framework*
- *Ordering material (this is a biggie)*
- *Determining the required power budget*
- *Individual sub-system builds complete*
- *Individual sub-system testing complete*
- *Complete system build Integrating the sub-systems together*
- *Full function testing complete*
- *Full stress and corner case testing complete*
- *Full feature demonstration*

The Project Manager should ensure that the milestones and SOW are reviewed constantly by team members, your D2 mentors your advisor, and the sponsor.

5. Approvals

The project SOW is a document that needs the approval of everyone to move forward. If approval is denied, rework the SOW to fix the issue and begin the approval cycle again.

The Faculty Sponsor should be consulted often for the purposes of creating the SOW. After the Faculty Sponsor and the Team are comfortable with the contents of the SOW, only then should it go to the Sponsor for review.

If the Faculty Sponsor and Sponsor are the same person, try to be reasonable regarding what is possible to accomplish.

Type in the names in the "Approver Name" column, written signatures only in "Signature" and "Date" columns.

WARNING: Sponsors and Faculty Advisors require lead time to approve documents. Do NOT send a document to them and expect them to read/approve it immediately. Be courteous - give at least 3 business days. Thus, if the SOW is due by 5pm Friday, email it to them on the preceding Tuesday.

If your sponsor requests an email signature, please talk to your instructor. It is strongly preferred that they print the signature page, sign, and email a scan of the page.

Your instructor does not sign before submission, your instructor will sign after grading if the document passes.

<Keep the language below>

The signatures of the people below indicate an understanding of the purpose and content of this document by those signing it. By signing this document, you indicate that you approve of the proposed project outlined in this Statement of Work, the division of work, the Ground Rules and that the next steps may be taken to create a Product Specification and proceed with the project.

This document is based upon and supersedes the *<PRD title> Version X.X*. Deviations, (versus clarifications), from the PDR have been clearly noted. For any requirements not listed in this SOW, the PRD requirements shall remain in effect.

Approver Name	Title	Signature	Date
<i>Type in Names here</i>	Team Project Manager		
<i>All team members must sign the SOW</i>	Team Member		
	Team Member		
	Team Member		
	D2 Project Manager		
	Faculty Advisor		
	Sponsor		

	Instructor		
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Contingencies

This section contains any approval contingencies as noted by the Product Sponsor, Advisor, Mentor, or Instructor.

Approver Name	Contingency

Engagement Modifications

This section contains any deviations or additions to the Sponsor, Advisor or Team engagement requirements as listed in the Appendixes.

Appendix Section	Modification
<i>Sponsor Engagement</i>	<i>The Sponsor Support Elements table was updated to include specialized test equipment that will be provided by the sponsor.</i>

The instructor signs the document after it has been graded.

Before you submit to advisor/sponsor for review:

- *Refresh the table of contents*
- *Verify every table and figure has a number and caption (right click on the square thing upper left of figure/table and select insert caption). There should be at least one introductory sentence for every table/figure.*
- *White space is correct. Word can be a real pain, but you need to clean up your whitespace (adjust column sizes, make sure page breaks are in proper spot – don't cut tables in half or put in too many page breaks so that there are ton of mostly blank sheets).*
- *Make sure the revision block is correct.*

Before you submit for grading – update the author table below. It does not have to be 100% accurate but should be updated if there are major changes and should give the instructor a good idea of how much each person has contributed.

You can highlight the words in a section to get the word count (it will be displayed in the lower left). For tables and diagrams just put n/a for the word count.

Section	Author	Word Count
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<i>1. Introduction</i>	<i>Jane Doe</i>	<i>268</i>

6. Appendix

A. Sponsor Engagement

This section describes all forms of support that the project needs from the Sponsor and the expected interaction/responsibilities between the project team and the Sponsor. All support elements should be listed along with when they are needed, and for how long. A detailed list helps both you and the Sponsor to determine what will be needed and make plans.

For example:

- *Will you need software from the Sponsor?*
- *Mentoring needs*
- *Do they need to provide equipment or a place to test your design?*
- *Some companies require 4 weeks to clear a poster before it may be publicly displayed. By making your Sponsor aware of the poster publication date they will have sufficient time to go through this process.*
- *The Sponsor may have lead time for purchasing parts or supplies.*

1) Project Team Responsibilities

- The Project Manager will set up and facilitate a weekly call/meeting with the Sponsor. The Project Team will provide weekly status updates to the Sponsor including upcoming deliverables, critical issues, and any adjustments to the Project Plan.
- Documents will be provided to the Sponsor with adequate time for review and signature. The time necessary for review will be agreed with the Sponsor. The minimum review time will be 3 days prior to the document due date.
- Design files will be provided to the Sponsor as requested in a format agreed to with the Sponsor.
- Support requirements will be clearly requested from the Sponsor with the dates required and an adequate time for fulfilling the request.
- The Project Team will respond to Product Requirement, (PRD), change requests from the Sponsor within 1 week with a description, plan, and rationale for accepting, rejecting, or modifying the request.
- Modifications to the Product Requirements, (PRD), requested by the Project Team will be communicated to the Sponsor immediately with a description, plan, and rationale for the request. No changes to the product will be implemented until agreement has been reached with the Sponsor.
- Modifications requests to the Project Plan by the Sponsor or Project Team will be resolved and documented within 1 week of the request.

2) Sponsor Responsibilities

- The Sponsor will participate in a weekly call/meeting with the Project Team to review the project status, upcoming deliverables, priorities, issues, and progress to the agreed Project Plan.
- The Sponsor will provide document review, feedback and approval, rejection, approval with contingencies with adequate time for the Project Team to meet the course due dates. The

Sponsor will clearly outline the time necessary for deliverables review. The minimum review time will be 3 days prior to the document due date.

- The Sponsor will provide feedback to requested support requirements from the Project Team.
- The Sponsor will respond to Product Requirement, (PRD), change requests from the Project Team within 1 week with a rationale for accepting, rejecting, or modifying the request.
- Modifications to the Product Requirements, (PRD), requested by the Sponsor will be communicated to the Project Team immediately with a description and rationale for the request.
- Modifications requests to the Project Plan by the Sponsor or Project Team will be resolved and documented within 1 week of the request. If necessary, as agreed with the Project Team, the Sponsor shall provide technical advice from a subject matter expert(s), to provide guidance to the Project Team answering inquiries approximately 1 hour per week from start to finish of the project.
- Attend one design review during each semester and attend Senior Design Day each semester.

Sponsor Support Elements		
Element	First Needed	Needed Until
<i>Sponsor's Technical Advisor, at least 1 hour/week</i>	<i>9/21/15</i>	<i>5/4/16</i>
<i>Compiler</i>		
<i>Test chamber</i>		

B. Faculty Advisor Engagement

1) Project Team Responsibilities

- The Project Manager will set up and facilitate a weekly call/meeting with the Faculty Advisor. The Project Team will provide weekly status updates to the Faculty Advisor including upcoming deliverables, critical issues, and any adjustments to the Project Plan.
- Documents will be provided to the Faculty Advisor with adequate time for review and signature. The time necessary for review will be agreed with the Advisor. The minimum review time will be 3 days prior to the document due date.
- Design files will be provided to the Faculty Advisor as requested in a format agreed to with the Advisor.
- Support requirements will be clearly requested from the Faculty Advisor with the dates required and an adequate time for fulfilling the request.
- Modifications requests to the Project Plan by Faculty Advisor will be reviewed and agreed to within 1 week of the request.

2) Faculty Advisor Responsibilities

- The Faculty Advisor will participate in a weekly call/meeting with the Project Team to review the project status, upcoming deliverables, priorities, issues, and progress to the agreed Project Plan.
- The Faculty Advisor will provide document review, feedback and approval, rejection, approval with contingencies with adequate time for the Project Team to meet the course

due dates. The Advisor will clearly outline the time necessary for the deliverables review. The minimum review time will be 3 days prior to the document due date.

- The Faculty Advisor will provide feedback to requested support requirements from the Project Team. This includes feedback and guidance on design implementations decisions, design files, test plans, test procedures and test results.
- The Faculty Advisor shall provide technical advice and guidance to the Project Team answering inquiries approximately 1 hour per week.
- Modifications to the Project Plan by the Project Team will be resolved and documented within 1 week of the request.
- Attend design reviews and presentations each semester providing feedback and guidance for the Project Team
- Attend Senior Design Day each semester.

C. Ground Rules

How the team will conduct the business of completing this project. What are the expectations and ground rules the team will agree to? How will you conduct discussions, manage dissenting views, and make decisions? How will you hold each other accountable for completing this project? Each team member must sign the Approvals section below indicating their acknowledgement of these Ground Rules. Do not remove items from this list, but you may add items to this list.

As a team and as individual team members, we agree to:

1. Stay focused on our objectives and goals.

Each time the team meets, we will clearly define our objectives and desired outcomes at the beginning of the meeting. We will politely remind team members if we are getting off track.

2. “Sidebar” any issues that are relevant but not consistent with the immediate objectives.

Occasionally, important matters are raised that are not relevant to the immediate goals of the meeting. To keep the group on track, but avoid losing the issue, create a “sidebar” where these topics can be listed and discussed later.

3. Listen when others are speaking.

We will listen and consider others’ input before adding our own comments.

4. All viewpoints will have an opportunity to be heard.

We understand that some team members may be quieter than others. We will make an effort to get each team member’s viewpoint and that no one dominates the discussion.

5. Differences of opinion will be discussed respectfully

We will identify areas of agreement before assessing areas of disagreement. We will encourage each other to look beyond our own point of view. We will discuss different ideas respectfully. As a team, we will weigh the merits of different opinions and agree on a process for choosing a direction. All team members will respect and follow the decision or direction.

6. Look for the good points in new ideas.

We will endeavor to explore the value in each idea as we assess and select our path forward.

7. Focus on the future, not the past.

We will use our past experience to inform our decisions, but focus the discussion on the future

objectives. Blame for past performance is counterproductive, we will focus on finding solutions.

8. Agree upon specific action items and next steps.

At the end of each meeting and discussion, we will summarize and agree on specific next steps, action items and assignments.

9. Accountability

As team members, we will each be responsible for our individual assignments and contribution to achieving the team objectives and goals. We will honor our responsibilities and not let our team members down.