



PennState
College of Engineering

ISSIP Onboarding

Statement of Work

2/2/2025



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ISSIP.org
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Executive Summary

The ISSIP Onboarding Project aims to improve the organization's manual one-hour onboarding process by developing an efficient, scalable, and engaging solution using generative AI. The current system requires participants to grasp critical knowledge service system innovation concepts, ISSIP platforms, and the annual event calendar to effectively engage with ISSIP programs. The project seeks to create a comprehensive self-service or AI-assisted onboarding model to enhance user experience, reduce manual labor, and achieve measurable learning outcomes.

The project's requirements include delivering onboarding in three formats: manual sessions, self-service modules, and AI-assisted virtual tutoring. Each format is designed to meet diverse participant needs and incorporates pre- and post-assessments to measure knowledge improvement. Performance measures such as onboarding time, participant engagement, and knowledge retention will be used to evaluate success. A low-cost approach leveraging existing tools has kept expenses minimal, with \$11.19 spent from a \$1,250 budget.

Deliverables include workflow designs for all onboarding formats, interactive assessment tools, an AI demonstration, performance metrics, and a final report. These deliverables aim to provide ISSIP with an innovative, scalable solution to support its mission of fostering service innovation globally.

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1 Introduction

The International Society of Service Innovation Professionals (ISSIP) is a nonprofit organization dedicated to advancing service innovation across various sectors. Founded in 2012, ISSIP promotes the cocreation of value by fostering knowledge exchange, professional development, and community engagement among participants at all stages of their careers. With its mission rooted in supporting service innovation in an interconnected world, ISSIP strives to enhance participants' understanding of service systems, advanced technologies, and innovative business models.

The current project addresses the inefficiencies of ISSIP's manual one-hour onboarding process, which limits scalability and engagement. Its goal is to introduce new participants to the organization's core knowledge areas: service system innovation principles, ISSIP platforms, and the annual program calendar. This highlights the need for a more flexible and efficient onboarding experience.

The onboarding process will feature interactive components and advanced AI techniques to optimize learning outcomes while adhering to ISSIP's ethical standards and best practices. By improving the effectiveness of onboarding, increasing accessibility, and fostering participant engagement, the project aims to fulfill ISSIP's objectives.

(14 CFR 25.303 - Factor of safety, 2025).

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(Alley, 2025).

2 Problem Statement

The project focuses on transforming the existing one-hour onboarding session for new ISSIP participants and volunteers into a scalable and flexible self-service model, enhanced by generative AI. This shift aims to address current inefficiencies in onboarding while boosting learning outcomes, engagement, and system optimization. The project will focus on improving both accessibility and learning quality, ensuring that the onboarding is adaptable for different user needs.

Currently, participants must grasp three key concepts: (1) fundamentals of service system innovation, (2) effective navigation of ISSIP's platforms, and (3) awareness of ISSIP's events and programs. These elements are critical to enabling active participation and professional growth in service innovation. However, with the existing manual approach, scalability and engagement remain challenging, which limits participant experience and knowledge retention.

The proposed approach emphasizes a shift from solely instructor-led sessions to a hybrid format, combining manual, partial self-service, and fully self-service options. These will integrate AI-driven interactive modules and adaptive assessments, including pre- and post-tests, to monitor knowledge acquisition and progression.

The core goal is to balance automation with personalized learning to enhance ISSIP's mission of developing service innovation professionals. This ensures that the onboarding remains effective without sacrificing depth or engagement, while simultaneously reducing the administrative workload for ISSIP facilitators.

To achieve this, generative AI will assist in the creation of tailored learning experiences and optimized workflow designs. Comprehensive procedures and metrics will track the impact of the new onboarding model, focusing on improvements in performance, participant engagement, and onboarding efficiency. The minimum viable product will include a functional workflow with integrated assessments and success measures. Out-of-scope elements include revisions to ISSIP's core instructional materials outside of the onboarding framework.

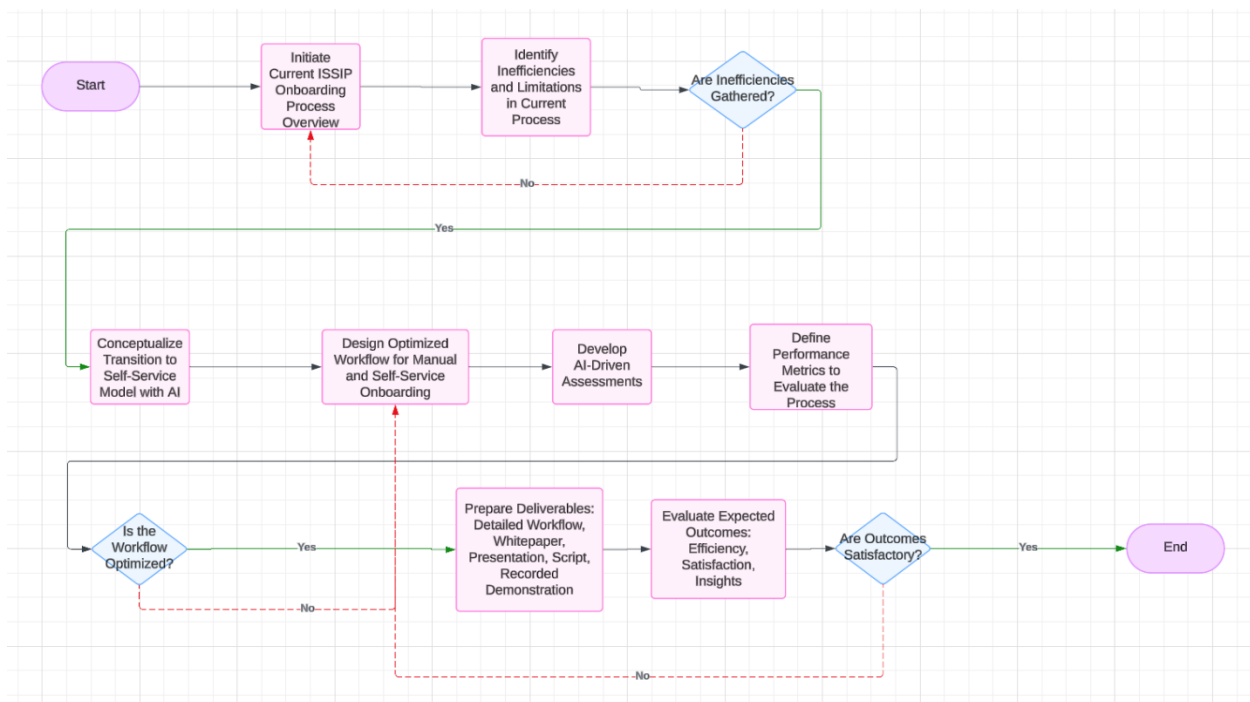


Figure 1. Problem Statement Concept Map

3 Project Objectives

The primary objective of this project is to design a comprehensive onboarding process for the International Society of Service Innovation Professionals (ISSIP) that is efficient and adaptable for a range of participants. The onboarding process is open to all participants, from students to professionals. This process will introduce participants to three main keys: building a foundation of the service system innovation concepts, familiarize participants on ISSIP's tools and platforms, and raising awareness for the participants to actively engage in ISSIP's events.

Additionally, the onboarding process will be delivered in three distinct formats to accommodate varying participants needs and preferences. The manual format will consist of live instructor lead sessions, the self-service format will feature fully independent learning through interactive modules, and the AI assistant format will use AI driven solution that acts as a virtual tutor.

To ensure the success of the onboarding process, the process will incorporate pre-tests and post-tests to evaluate knowledge, measure participant's progress, and refine the content. The assessments are critical tools for ensuring continuous improvement in the onboarding materials.

The final deliverables for this project will include an optimized onboarding workflow that outlines the steps for manual, self-service, and AI-assisted delivery methods. We will also present a script, demonstrations, and share the results of the onboarding process. These deliverables will ensure the process is well-documented and effective for all participants. By

fostering a stronger understanding of service innovation concepts, this project aims to further the organization’s mission of promoting service innovation worldwide.

Table 1. Requirements and Verification Methods for ISSIP Onboarding Process.

ID	Description	Type	Source	Verification
1	Onboarding must cover service system innovation, ISSIP platforms, and calendar.	Functional	ISSIP Handbook	Content review
2	The process must be delivered in three formats: manual, self-service, AI.	Performance	Project Scope	Test all three methods
3	Self-service modules must be interactive and engaging.	Usability	Stakeholder	User feedback
4	AI-assisted format must adapt to different participants needs.	Adaptability	ISSIP Guidelines	Persona Testing
5	Pre-test and post-test must measure knowledge improvement.	Evaluation	Project Scope	Compare pre and post test results
6	Deliverables must include workflows, presentation, and script.	Deliverable	Sponsor Request	Jim’s review and approval
7	Onboarding duration should not exceed one hour format.	Constraint	Stakeholder	Time tracking and evaluation
8	Compliance with ISSIP’s ethical code of conduct is required.	Constraint	ISSIP code of conduct	Review and approval by Jim
9	Modules must support participants from many backgrounds.	Inclusivity	ISSIP guidelines	Persona Testing
10	System must be scalable to accommodate an increasing number of participants.	Scalability	ISSIP goals	Stress testing with many users

4 Approach

To begin we started by prompting 4 different Artificial Intelligent programs (OpenAI ChatGPT, Anthropic Claude, Google Gemini, and Microsoft Bing Co-Pilot) with our entire project to get a baseline start and help visualize our end project. This was our first approach since AI will be used in most of our project. With the response of AI programs, the team sat together and marked what we liked and did not like from the results to help guide us along the journey of developing a 1-hour onboarding process.

Once the AI generated models are complete, we will use the initial ideas to develop our prototype. The prototype will be used as our initial test subject, which the test engineer will handle. Once tested we will take the feedback and refine our beta test to help address and

concerns during the test phase. The process of testing and refining will need to be done multiple times as each time the prototype will become better.

After our prototype is complete, we will create the final course using the data gathered from the prototype. When the final onboarding procedures are curated, we will check to make sure that everything the sponsor asked for is there then prepare to present it to our sponsor.

When we get the stamp of approval from our sponsor we will begin drafting any final deliverables for the class. We will prepare a whitepaper, presentation, and recording of the final deliverables which will be presented at the end-of-semester showcase.

Team meetings are regularly Tuesday at 7:00pm and Thursday at 5:00 pm. The Tuesday meeting is for preparing meeting agendas and discussing project updates of where everyone is at in their personal tasks. For the Thursday meeting the goal is to digest the information from the morning meeting with the sponsor and delegate tasks and course of action forward. Otherwise, there is a tentative Sunday meeting designed to finish task due through canvas. Budget constraints are minimal, as most of this project will be achieved online applications that are already included in team members tuition. Our sponsor meetings will occur weekly on Thursday morning at 8:30am. Our advisor meeting is a required Bi-weekly meeting with the tentative option for a weekly meeting on Fridays at 12pm. Finally, our coach meeting is bi-weekly on Thursdays at 8:00 am before our sponsor meeting.

Daniel Litvinchuk PDP:

- As team lead it is my responsibility to submit and gather assignments from the team and meetings for the duration of this project. I am also assigned to schedule meetings and act as a main source of contact point for our sponsor, coach, and advisor. As someone who is well organized and able to communicate to people well, I thrive in making sure that assignments are done on time. I have also worked in a professional setting as a program manager and through that I have developed proper and professional communication skills suited for a professional setting.
- One skill I would like to further is my usage of grammar as that has been an area that I lacked. Through constant communication with our sponsor, coach, and advisor I will develop skills of communication with people from different backgrounds that can translate into my professional career. I also will work on my skill of asking effective and meaningful questions. In this fast pace present work day, the skill of asking questions that allow people to answer entirely and quickly is a sought after skill and with the constant practice as team-lead I will be able to develop that skill.
- I can develop these skills through repetition and using AI to help structure emails. Another way to further develop these skills is by taking online classes offered through LinkedIn that hit on these topics as they are sought after skills to have. I will also take note on the way that our sponsor, advisor, and coach communicate because they have

been in the professional for a number of years and have developed natural proficiency in these areas.

Adam Qubain PDP:

- As editor, I spent some time exploring various ways to assist my teammates and our project. I believe the skill I should develop is improving structure and organization. Our project ultimately involves onboarding clients through different methods, which must be seamless and easy to understand. This is why this role is important: learning this skill is essential.
- The team role I have chosen is editor. This role involves editing important spelling, grammar, and punctuation assignments and ensuring consistency between sections. I will take on this role for most large assignments, such as the statement of work. However, this role will be shared and contributed to by all team members throughout the semester.
- I chose this role because I believe in my grammar and punctuation skills, as well as my ability to create flow in the document and ensure cohesiveness. Ultimately, this is the task at hand with this role. Although the role is only a recommended one and not an obligatory one, I feel as though it is one that is obligatory and could aid us in the many assignments we will have in this regard.
- For a learning strategy or method regarding structure and organization, I considered two possible approaches: reviewing my notes from a previous course or shadowing a more experienced team member. However, I do not want to burden them further. I believe the best option is to take a free online course. I found a great one offered by the University of Michigan on "Structure and Organization in Writing." It is a free online course that can be completed at my own pace, so I will consult that.

Gonzalo De Ramon PDP:

- As my project is about using Generative AI to create a self-service onboarding, I will learn how to create efficient and useful prompts to use on different AI services. This will improve my conversations with the AI and benefit the input I can give to the team.
- My role in the team is to be the **Treasurer**. I will keep this role for the whole duration of the project. It will be my responsibility to track all expenses throughout the project. I decided to be treasurer because it will be something new to me and I believe a skill that can be beneficial for me in the future. Keeping track of payments and purchases is necessary in our lives to keep control and track of our money. This role can help me learn more about that.

- To fulfill my role as treasurer I will look at videos/tutorials of what makes a good treasure. This way I can learn what a treasure typically does and how to do it appropriately for this project. Also, I will look into templates to organize and have a count of the purchases the team makes.

Katelyn Deek PDP:

- I plan to focus on improving my skills in data analysis and evaluation tool. I aim to become proficient in Excel and Tableau to analyze the pre-test and post-test results. These tools will allow me to quantify the effectiveness of the onboarding process. By developing those skills, I will ensure to meet our project's objectives.
- I will take the role of Test Engineer. As the test engineer, I will be responsible for developing comprehensive plans and methods for the onboarding workflows, for the self-service, manual, and AI assisted formats. My role involves designing the pre-tests and post-tests and evaluate participants' knowledge before and after the onboarding. I will also summarize the findings in reports to provide a clear understanding and improvements. This role is important for the onboarding process to ensure the efficiency and adaptability.
- I chose the role of test engineer since it allows me to directly contribute to the validation of the onboarding process by assessing its performance and identifying opportunities for optimization. I am also eager to apply my critical thinking skills to evaluate the data and provide meaningful insights for improvement.
- To develop the skills required for this role, I will first watch tutorials and take courses focused on Tableau (I already know how to use Excel). These resources will help me learn how to organize and present data effectively. Second, I will collaborate with my team members to gain insight on how we want to execute our test design. Finally, I will seek feedback throughout the project and find ways to continue improving the testing process.

Alex Aumen PDP:

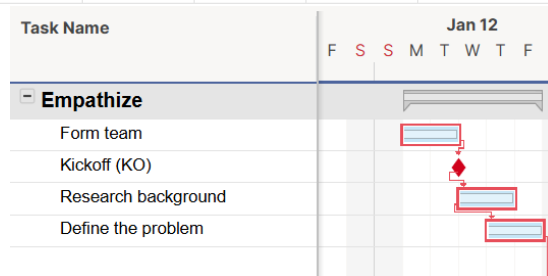
- For this project, I would like to improve my project management skills, mainly in the form of organization and time management. While I believe I am skilled in teamwork and ideation, as I engaged in venture creation through my experience in the Penn State Humanitarian Engineering and Social Entrepreneurship program, I was not the best on my team in terms of scheduling and creating detailed, organized timelines. I intend to greatly enhance these skills throughout the course.
- I will be operating as the program manager for our team. In this role, I will create the schedule for the operations of our team. This includes a day-by-day Gantt chart detailing the roles and responsibilities of each member of the team. The schedule will be attuned to our schedules, roles, and skillsets, optimizing the timing and quality with which work is completed.

- I chose to be the program manager because it allows me to ensure that I can utilize my past skillset in venture creation and project management to help the team to produce work in the most efficient manner possible while also developing skills that I believe I can greatly improve upon (organization and time management).
- My strategy to ensure success leverages the materials provided by the canvas modules and my ambition to improve my skillset. The canvas assignments provide us with plenty of videos and templates to teach us different skillsets. Coupled with this, I intend to ask plenty of questions and be highly communicative with the rest of our team and project stakeholders. By minimizing confusion and maximizing my learning opportunities, I will achieve my goals and be successful.

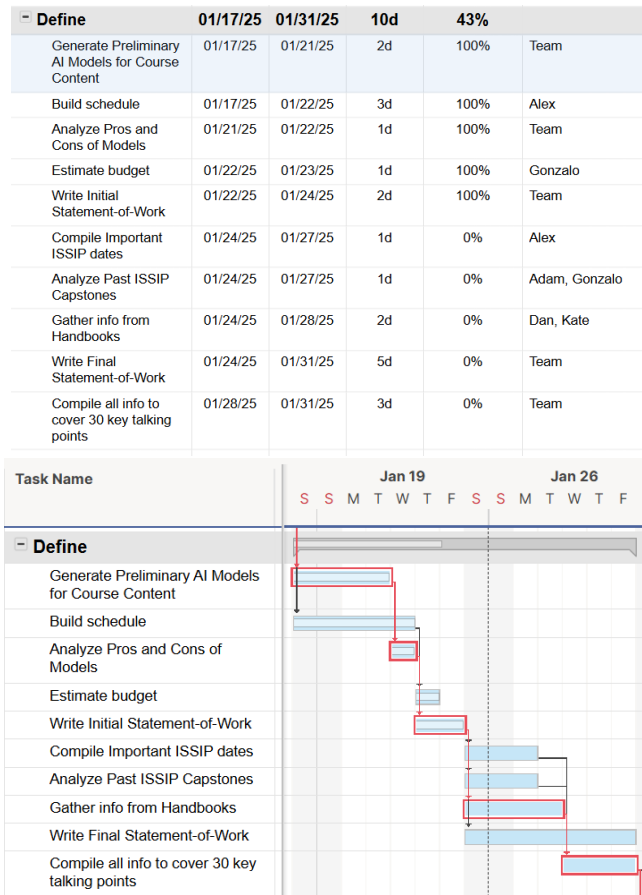
5 Schedule

Stage 1. Empathize

Empathize	01/13/25	01/17/25	5d	100%	
Form team	01/13/25	01/14/25	2d	100%	Team
Kickoff (KO)	01/14/25	01/14/25	0	100%	Team
Research background	01/14/25	01/16/25	2d	100%	Team
Define the problem	01/15/25	01/17/25	2d	100%	Team

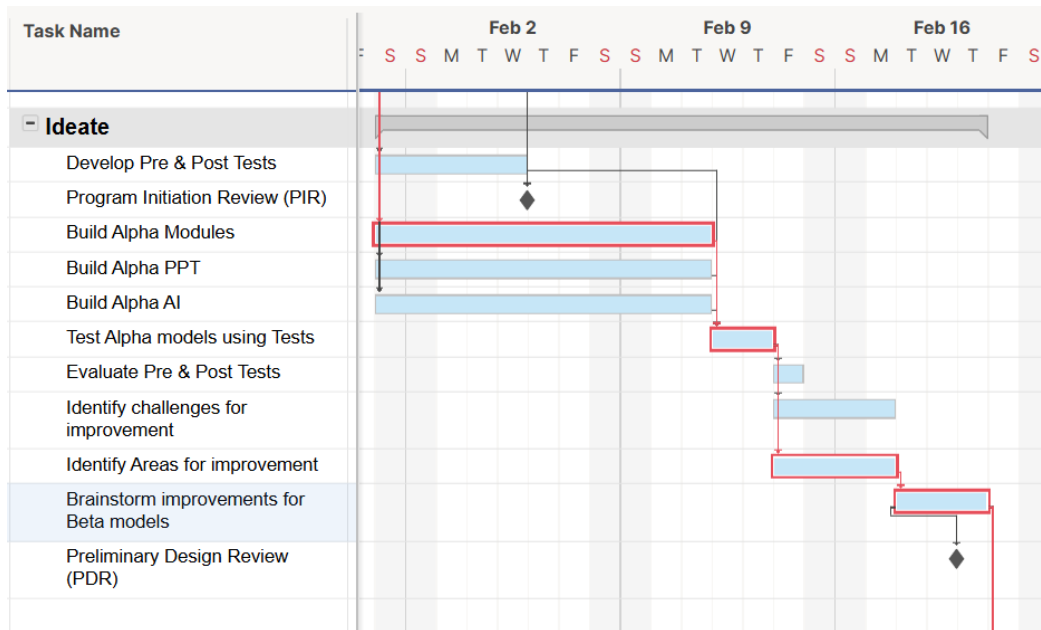


Stage 2. Define



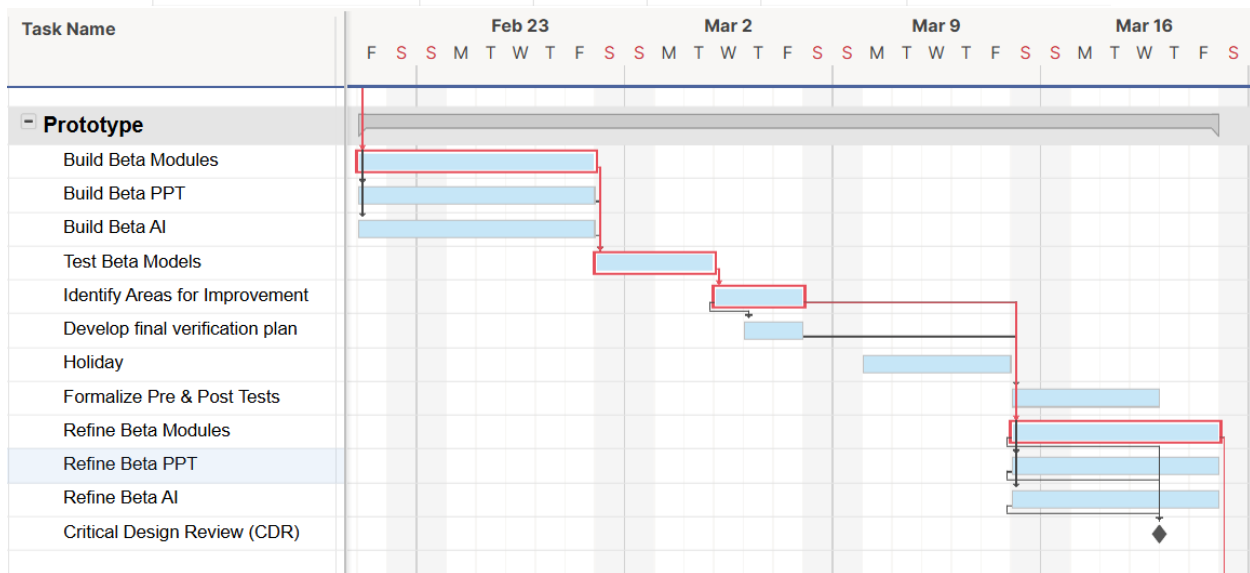
Stage 3. Ideate

Ideate	01/31/25	02/20/25	14d	0%	
Develop Pre & Post Tests	01/31/25	02/05/25	3d	0%	Kate, Gonzalo
Program Initiation Review (PIR)	02/05/25	02/05/25	0	0%	Team
Build Alpha Modules	01/31/25	02/11/25	7d	0%	Alex, Kate
Build Alpha PPT	01/31/25	02/11/25	7d	0%	Dan, Gonzalo
Build Alpha AI	01/31/25	02/11/25	7d	0%	Adam
Test Alpha models using Tests	02/11/25	02/13/25	2d	0%	Alex, Dan, Adam
Evaluate Pre & Post Tests	02/13/25	02/14/25	1d	0%	Kate, Gonzalo
Identify challenges for improvement	02/13/25	02/17/25	2d	0%	Adam, Alex, Gonzalo
Identify Areas for improvement	02/13/25	02/17/25	2d	0%	Team
Brainstorm improvements for Beta models	02/17/25	02/20/25	3d	0%	Team
Preliminary Design Review (PDR)	02/19/25	02/19/25	0	0%	Team



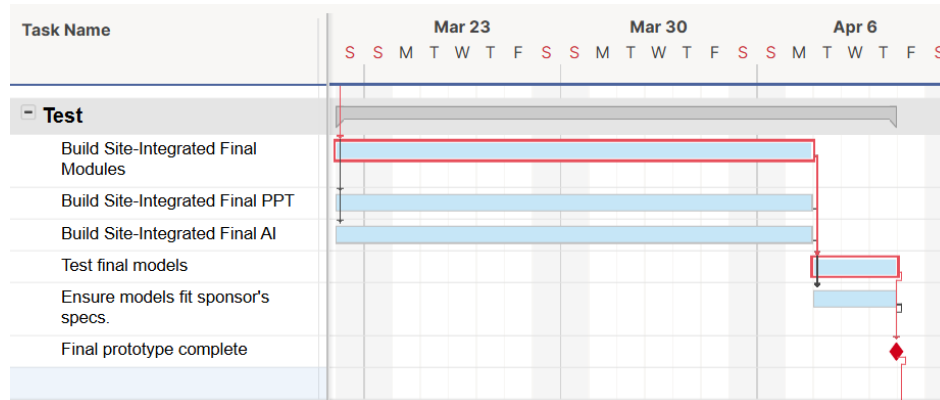
Stage 4. Prototype

- Prototype	02/20/25	03/21/25	21d	0%	
Build Beta Modules	02/20/25	02/28/25	6d	0%	Alex, Kate
Build Beta PPT	02/20/25	02/28/25	6d	0%	Dan, Gonzalo
Build Beta AI	02/20/25	02/28/25	6d	0%	Adam
Test Beta Models	02/28/25	03/04/25	2d	0%	Team
Identify Areas for Improvement	03/04/25	03/07/25	3d	0%	Team
Develop final verification plan	03/05/25	03/07/25	2d	0%	Alex, Dan
Holiday	03/10/25	03/14/25	5d	0%	Team
Formalize Pre & Post Tests	03/14/25	03/19/25	3d	0%	Kate, Gonzalo
Refine Beta Modules	03/14/25	03/21/25	5d	0%	Alex
Refine Beta PPT	03/14/25	03/21/25	5d	0%	Dan
Refine Beta AI	03/14/25	03/21/25	5d	0%	Adam
Critical Design Review (CDR)	03/19/25	03/19/25	0	0%	Team



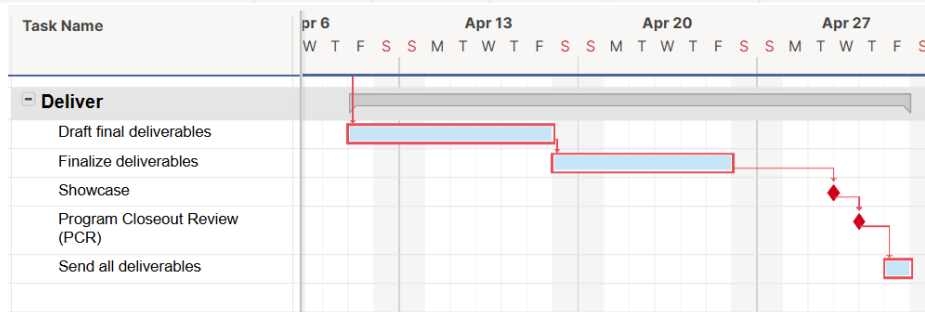
Stage 5. Test

Test	03/21/25	04/10/25	14d	0%	
Build Site-Integrated Final Modules	03/21/25	04/07/25	11d	0%	Alex, Kate
Build Site-Integrated Final PPT	03/21/25	04/07/25	11d	0%	Dan, Gonzalo
Build Site-Integrated Final AI	03/21/25	04/07/25	11d	0%	Adam
Test final models	04/07/25	04/10/25	3d	0%	Kate, Gonzalo, Adam
Ensure models fit sponsor's specs.	04/07/25	04/10/25	3d	0%	Alex, Dan
Final prototype complete	04/10/25	04/10/25	0	0%	Team



Stage 6. Deliver

Deliver	04/10/25	05/02/25	16d	0%	
Draft final deliverables	04/10/25	04/18/25	6d	0%	Team
Finalize deliverables	04/18/25	04/25/25	5d	0%	Team
Showcase	04/29/25	04/29/25	0	0%	Team
Program Closeout Review (PCR)	04/30/25	04/30/25	0	0%	Team
Send all deliverables	05/01/25	05/02/25	1d	0%	Dan



6 Budget

As a nonprofit organization like ISSIP and given the specific task assigned to us, we have no real need for raw materials, travel to a site, or other high-cost equipment or software expenses.

Therefore, our only expense to date has been a monthly subscription to Google Gemini, which was necessary for providing prompts and the ISSIP handbook. Regarding anticipated costs, we do not expect any additional expenses during the project, thanks to multiple meetings with our sponsor and advisor. We collectively believe that the best results can be achieved without incurring large or unnecessary costs in the process. Our starting budget is \$1,250, and so far, we have spent \$11.19 of that. This information is shown below.

Figure 2: Budget spending tracker ISSIP capstone

ISSIP Capstone Tracker				
Total Budget	\$1,250			
Expenses	Cost	Date	Payer	Method
AI Subscription (Gemini)	\$11.19	1/23/25	Adam Qubain	Credit Card

7 Deliverables

For this project, the deliverables represent the outputs that will be provided to our sponsor, Jim, at the conclusion of the project. These deliverables include detailed workflows, assessments, reports, and demonstrations that can enhance the onboarding process. The table below outlines the specific deliverables, with their descriptions and delivery dates.

Name	Type	Brief Description	Delivery Date
Current Process Assessment	Analysis Report	Detailed analysis identifying the inefficiencies and limitations in the current ISSIP onboarding process.	Week 1
Process Workflow	Workflow	Clear workflow outlining the steps for manual, self-service, and AI assisted onboarding	Week 2

Pre-test and Post-test	Evaluation	Measures knowledge improvement and participant progress.	Week 4
AI-Assisted Demonstration	Demonstration	Recorded demonstration showcasing the AI-driven onboarding model, adaptable for all participants.	Week 5-6
Performance Metrics Report	Metrics	Performance metrics including efficiency, satisfaction, and knowledge.	Week 7-8
Final Report	Report	Complete report summarizing all findings, workflows, results, and recommendations for improvement.	Week 9
Presentation + Script	Presentation	Professional presentation with script summarizing the project with its deliverables and outcomes for ISSIP stakeholders.	Week 10

References

The Global Hub for Service Innovation. ISSIP. (2024, August 28). <https://issip.org/>

14 CFR 25.303 - Factor of safety. (2025, January 1). Retrieved from Code of Federal Regulations: <https://www.ecfr.gov/current/title-14/section-25.303>

Alley, M. (2025, January 1). *Sample Report Format*. Retrieved from The Craft of Scientific Writing: <https://www.craftofscientificwriting.org/report-format.html>

Appendix

Prompt given to the 4 Generative AI models for onboarding portal for ISSIP:

Prompt: Transform the critical one-hour of manual onboarding into a partial self-service and full self-service offering to new ISSIP participants and volunteers. The one hour on-boarding manual design includes: (1) learning service system innovation concepts, (2) learning the ISSIP constellations of platforms, and (3) learning the ISSIP annual calendar of programs and events to participate, contribute, and develop as a service innovation professional.

ISSIP handbook:

<https://issip.org/wp-content/uploads/2024/08/ISSIP-Handbook-2024-Edition.pdf>

ISSIP webpage:

<https://issip.org/>