This document is intended as a guide for the senior project team to assess its performance in a number of dimensions. You need not answer each question in detail, rather, use the questions as a guide for the kinds of items to assess. Add items you feel are appropriate.

This self-assessment will be one of multiple elements that your faculty coach uses to arrive at an assessment of the team's performance for this first term. The other elements that the faculty coach will use include: direct observation of the team, team peer evaluations, reviews by other faculty during the interim project presentation, sponsor evaluation. These self-assessments will also be used as part of the SE program's accreditation effort.

To complete this self-assessment, the team should carefully consider each of the questions and provide an honest evaluation of the team's performance.

Product

1. Did the team prepare all the documentation artifacts requested by your faculty coach and sponsor? Were these documents carefully inspected prior to delivery? How would you assess the quality of the document artifacts?

   The team was able to prepare all requested documents and were all carefully inspected by both the team members and the sponsor before delivery. Overall the quality of the documents were quite high as each one was carefully worked on with the entire team present and went through an additional review process to ensure it was up to standard.

2. How well did the team elicit the requirements? Are the requirements fully specified at this point? What approaches were used to elicit the requirements? Were key requirements missed? What methodology was used to document and validate the project requirements?

   The team did well eliciting the requirements given the restriction of not fully understanding the Shopify domain until implementation began. The sponsor provided a requirements document that simplified much of the initial requirements gathering. The team ensured that as many edge cases were considered before going further through personal experience and individual research. No key requirements were missed, but some were not fully fleshed out due to the lack of experience in the domain previously mentioned. Whenever this occurred, the team made sure to follow the Scrum methodology and discuss with the sponsor that the redefined requirements aligned with their expectations. To further support this, demos and mock-ups were provided to the sponsor for them to better visualize and understand our perspective.

3. Did the team explore the entire design space before arriving at a final design? Have there been many errors found in the design? Was it necessary to make major changes to any part of the design? What were the reasons for the change? Do you have a complete design at this point?

   The team explored as much of the design space as possible before arriving at our current design. Once again limited experience affected our initial design compared to where it is now, but also there was a major scope shift in terms of how customers would be notified with remedies and what data we want to collect. Given the development experience thus far, we have a complete design but on some functionality that has yet to be fully completed (bonus features expected in the next semester) it is likely that those subsystems will change as we begin development on those.

4. How has the development and implementation progressed? What percentage of the product do you estimate is complete at this point? Is the team providing the documentation within the implementation artifacts?

   Development and implementation has been quite the rigorous journey as each of us have hit roadblocks in some way with how Shopify handles certain information that we require, but we did the best at each roadblock, sharing what we knew at each meeting to combat those blockers. At this point 95% of the MVP is completed, but many bonus features are still planned, likely leaving the project as a whole at ~60% completion depending on how many additional bonus features the sponsor would like.

5. What is the team's testing strategy? Has the team developed a test plan? Is the team performing unit testing? Is the team using any test frameworks, such as JUnit? What are the testing results to date? Were any major defects found during the system test?

   The team's testing strategy will be majority user acceptance testing, meaning that we will provide step-by-step instructions to give to users to ensure that each flow works as expected (both positive and negative) Shopify apps built with our tech stack don't support automated UI testing as other apps may expect, so this is our workaround. Furthermore, we will be having beta testing rounds with users in industry to provide valuable feedback to further improve our system and make sure everything is working as expected.

6. Products need to be designed within guidelines and constraints appropriate for each project. It is also important to consider the impacts of the products that are designed. In the following categories discuss the constraints and impacts that have a bearing on your project. Note that there may be one or two categories that have no bearing on your project but your project is probably affected by almost all of these.

   Economic issues

Constraint: In times of economic hardship our product has a high chance of being used far less as people would be looking to save money, and subscriptions are likely some of the first things that people will stop buying.
In addition, the application will only be deployed to the shopify app store. This means that only merchants who use the Shopify platform can be considered potential customers.

Impact: Improper implementation can lead to wasting company time and money. At the very least our project has to provide value to companies with the subscription management and analytics, if not then that serves as an issue.

Environmental issues

Constraint: If there are environmental issues such as natural disasters, it can bring servers down leading to businesses losing money.

Impact: Utilizing AI and servers to host and run business raises concerns with resources consumptions. Servers can consume large amounts of energy which can have negative impacts on the environment.

Social issues

Impact: Our project can be viewed as slightly anti-consumer since it adds another layer before they can fully cancel their subscription, but at the same time we offer and do provide discounts.

Political issues

Constraint: AI regulations may affect the ChurnGuard AI model. Depending on how legislation wants cancellations to work

Ethical issues

Impact: The scope of the project changed from emailing potential lost subscribers before they cancel to intervening when they attempt to cancel. Sending an email to an inactive customer may remind them of a subscription they forgot they had. Thus, the design is taking advantage of people forgetting they are subscribed. Additionally, getting in the way of customers canceling is not great from a consumer perspective.

Constraint: Since the main distinguishing feature of this service involves discounts, some customers may attempt taking advantage of the discount system. We need to prepare for this.

Health and safety

N/A

Manufacturability

Constraint: If a product isn't able to be produced quickly, or produced as quickly as the demand requires, then subscriptions for our product become hard to manage/impractical

Impact: Our project can help advertise certain products a merchant has, and if a certain one or many get very popular, the manufacturer may struggle keeping up with demand.

Sustainability

Constraint: Our project is only available if Shopify is available. Even though it is unlikely Shopify goes down, it's always a possibility.

Impact: If the app is not user friendly then admins will have trouble creating and managing subscriptions.

7. What industry and engineering standards must your project adhere to? Were these new standards that the team had to learn? Did your sponsor provide you support for understanding these standards? Did you have to educate your sponsor about these standards?

   There are several standards that Shopify apps must adhere to in order to be validated as "built for Shopify". This rating requires that the app is GDPR compliant, follows the Polaris UI guideline standards and is generally not a malicious app. The sponsor made clear that meeting these standards is a requirement of the application and provided us resources for us to research this topic. We did not have to educate the sponsor on this topic since he educated us.

Process and Project

1. What is your process methodology? Has this been clearly outlined to your sponsor and received the sponsor's approval? How is the process documented?

   Our process methodology is Scrum, which has been clearly relayed to our sponsor and approved. The process is documented through actual documents by our sponsor in google drive, and through our project board on github projects.

2. Was there a large requirement to learn the problem domain? What approach was used to gain domain expertise? Did your sponsor provide adequate support? What forms of support did you receive?

   There was an extremely large requirement to learn the problem domain, and we will continue to do so as we flesh out future features. Our approach was pretty basic with just doing individual research through searching online or watching youtube videos, but we adapted halfway through the semester to create channels within our discord to share this knowledge more effectively and to put it into writing. Our sponsor did not provide much support in this area other than the fact of noting some common Shopify constraints for deployment, but most of the questions on how Shopify managed certain things were self-resolved.

3. What mechanisms is the team using to track project progress? How well has the team tracked its project progress? How often do these artifacts get updated on the department project website?

   The team is using the scrum board (GitHub Projects) to track project progress. We created all the required tickets for MVP at the beginning of the project, with some additional bonus features that were noted, and so we compare against how many tickets we have left to track project progress. It's done decently well, but there have been times where certain tickets were bigger than expected so we had to split it into parts so how much we have done is not as "honest" as we would like. The scrum board is not found on the website, but weekly 4-Ups and Time Tracking are. These do not need to be manually updated on the website, as they are links to shared documents.

4. Is the team conducting effective meetings? What can be changed to make the team meetings more productive?

   The team does conduct very effective meetings, but the simple fact is we have too much to do, so meetings go on for very very long. One improvement we could make is that we tend to go deep into our current issues during stand-up, but perhaps we could leave those in-depth discussions until the end of the meeting to better

prioritize the items on our initial agenda. There are plans in place to potentially hold more frequent and descriptive standups to avoid them taking up too much time in our regular meetings.

5. Has the team met all project milestones to date? Which milestones, if any, were missed or were met ahead of schedule? What contributed to this schedule change? What will the team do differently to ensure that future milestones are met?

   The team has unfortunately not hit every milestone to date. The one that we did not hit was the beta deployment deadline which was supposed to be Thanksgiving. Several factors have contributed to this, mainly being additional senior project artifacts, issues with our sponsor-provided cloud account, unexpected Shopify restrictions, and other classes eating up far more time than expected. The team still plans to get the beta up and running by the beginning of winter break.

6. Was the team required to adopt new technologies? What were these technologies? What approach did the team use for selecting the appropriate technology for the project? Did the sponsor provide any support for learning these technologies? How well did the team ramp up on the new technologies and begin to apply them effectively?

   The only new technologies the team had to adopt were those that came with the starting shopify polaris app, e.g. prisma db, as well as implementing AI and cloud features. Additionally, the whole team had to struggle with learning how to make queries to the Shopify API. The process wasn't very rigorous for choosing appropriate technologies, as they were mainly laid out beforehand by our sponsor, and already aligned with most of our developer experience.

7. How well has the team maintained quality control over the project artifacts? Have all artifacts been reviewed for adherence to quality standards? What is the review process used by the team?

   Overall, the team has submitted quality artifacts. The only exception to this would be the end-of-semester presentation, which the team did not have any time to rehearse. At minimum, two members of the team have had input on any given project artifact. After the last person has finished working on an item, at least one other person looks at it before it is submitted.

8. Has the team had any issues with configuration management? How were these problems solved? What percentage of project artifacts is under configuration control?

   The team has had some issues with configuration management, mainly when testing out PR's or pulling in other branches. To combat this we created a list of commands to run to standardize our environments immediately when bringing in other code.All documents are hosted via google docs which means they are covered in terms of configuration control.

9. What is the set of metrics that the team is tracking? Has the team gathered these metrics on a consistent basis? What has the team learned from the review of these metrics?

The set of metrics that the team is tracking are sprint velocity, effort by type, SUMI scores, weekly time tracking, and web core vitals. We have been taking note of the process ones effectively, but most of our product metrics require for it to be fully deployed for beta testing which we haven't achieved quite yet. The team is learning that we are scaling well with the project and putting in incredibly high amounts of effort.

Communication and Interaction

1. How well has the team been communicating project progress to the sponsor? What regular communication does the team have with the sponsor? Has the team been maintaining this communication to the satisfaction of the sponsor? Were any adjustments needed in the communication over time? Were these changes initiated by the team or the sponsor?

The team has been communicating project progress with the sponsor very well with consistent updates on blockers and weekly project demos. The sponsor has been very satisfied with our project progress and our communication consistency. A notable adjustment we made in terms of communication was adding them to our discord server for more consistent communication as their emails were being sent to spam, and allowing for both parties to be notified immediately if reached out to. This change was initiated by the sponsor.

2. Did the team need to provide technical input to the sponsor? How well did the team educate the customer in these areas? What mechanism did the team use?

The team has provided technical input to the sponsor in terms of issues we've run into with Shopify. The quality of this is hard to evaluate as most of these issues have been self-resolved. The mechanism we've used for this has mainly been our weekly sponsor meetings, or if they are incredibly urgent, directly reaching out to them.

3. Is this an effective team? What has been contributing to and detracting from the team's effectiveness? What are the team's weak points? What are the team's strong points? What changes can the team make for next term that will make it more effective?

Overall the team has been pretty effective given all the constraints. One of our initial pitfalls was overlapping research since multiple of us were doing research on the same things, but not discussed beforehand. To mitigate this we created those

aforementioned discord channels for knowledge sharing. Another potential weak point is properly scoping out tickets as most of our tickets end up turning into entire epics. A strong point though is our dedication and communication, especially at the end of this semester. The commitment from each team member was evident and because of it, we were able to wrap up and deliver functionality at a much faster pace than anticipated.

4. What mechanism does the team use to communicate with the faculty coach? Has communication with the coach been effective? Are there any trouble spots with the faculty coach communications? What can the team change for next term to make their communication to the faculty coach more effective? What can the faculty coach change to make his or her interaction with the team more effective?

   The team mainly communicates with the coach each Tuesday at the end of our sponsor meetings. This has proven to be mostly effective. However, the team feels that deadline communication could improve. Specifically, the team feels that since we rightly put more emphasis in the product than the class artifacts we would like to discuss the flexibility of Senior Project deliverables. Some of them could certainly have been submitted later to give more time to focus on the product.

5. Has the team needed to interact with department staff personnel, i.e. the office staff or KURT? Has this been handled in a professional manner? Were there any problems with these interactions?

   There has been no need to interact with department staff personnel thus far.

6. Does the team have a complete website with all project artifacts stored and up-to-date on the software engineering department webserver, i.e. linus.se.rit.edu? How often are entries on the webserver updated?

   The website is not on the software engineering webserver as per guidance from our coach. It is hosted on GitGub pages, with every document-like artifact viewable from the Deliverables page. Entries on the website are updated approximately every two weeks.

7. How well has the team made presentations to the sponsor and faculty coach? Was the interim project presentation done in a professional manner? What can be done to improve the team's presentations?

   The team has made decent presentations to the sponsor and faculty coach. Overall, our presentations tend to be lengthy and we could do better in summarizing our points. Our interim presentation was professional, but needed to be more fluid. The biggest contributor to this was time constraints due to other projects and actual

development. If the team had time to rehearse the presentation, we would have been able to trim down certain points and fit the presentation within 20 minutes.

8. How well has the team worked with other senior project teams, coordinating access to lab space and equipment, sharing experiences and ideas, etc.?

   We haven't had any interactions with other teams other than the presentation.

Achieving Customer Satisfaction

1. In the team's opinion, has the work accomplished to date satisfied the project sponsor? Were there any weak spots in this regard?

   Our opinion is that the work accomplished has been mostly satisfactory. The sponsor has not provided much negative feedback and in fact expresses gratitude at each sprint demo. The team unfortunately missed the initial MVP deployment deadline however, since we are well on our way and making great progress towards it, we still feel that the work is satisfactory.

   One weak spot is that the sponsor could be more critical of our project and or give more constructive criticism.