Team Project - Deliverable 1

Due: Friday, February 9 @ 23:59

1. `product.md`
   Describe what your product is, who the users are and why they would choose to use your product. Also, present the key insights and decisions that led to your planned product.
2. `iteration-01.plan.md`
   Summarize your planning meeting.
3. `iteration-01.review.md`
   Summarize your review meeting.

Grammar checking：https://app.grammarly.com/

Teamname: Instaline

> _Note:_ This document is meant to evolve throughout the planning phase of your project.
> That is, it makes sense for you commit regularly to this file while working on the project (especially edits/additions/deletions to the _Highlights_ section).

Q1: What are you planning to build? **(Wrote by Eason, Sean; Reviewed by Jack)**
Completed

YOUR ANSWER GOES HERE ...

* Short (1 - 2 min' read)
* Start with a single sentence, high-level description of the product.

High-level description of the product :

* Be clear - Describe the problem you are solving in simple terms.

We are developing an Android application that lines up diners for restaurants in a virtual way, which leads to savings in time and other potential costs that could appear.

When people decide to dine in a restaurant, they usually find that they'll have to line up for tables. A traditional way of lining up for a restaurant, in general, is to walk in personally and join a queue. However, the status quo actually comes with too many problems. Lining at the scene brings huge potential time costs to diners, not to say it also requires considerable amount of time, labour and space spared by restaurants to manage the line. Diners also don't have access to their lining status, including an approximate time measure of the waiting time for each one of them. And, essentially, people might want to line up for more restaurants but they are usually limited by physical distances from place to place. Moreover, they might at the very least concern about which restaurants are available and which ones requires to wait in line when they are choosing a dining place. Our app aims at providing an efficient solution that helps customers and restaurants to resolve this situation. We will help diners obtain clear information about lining up in a restaurant. As for restaurants, our app offers a general solution to manage diners who are waiting for a table in a digital way.

Q2: Who are your target users? **(BY Jasmine, Hao, and Bill)**
Completed

YOUR ANSWER GOES HERE ...

* Short (1 - 2 min' read max)
* Be specific (e.g.)
* Feel free (but not obligated) to use personas.
You can create your personas as part of this Markdown file, or add a link to an external site (for example, [Xtensio](https://xtensio.com/user-persona/)).

Customers who want to line up for restaurants, however they are not convenient to wait at the restaurant, or they want to line up multiple restaurants. And those restaurants do not want too many customs crowd at the entries.

Example 01 (Customer side): (new)

Bill is working on his project in BA, today is the last day before due. Now it's lunch time, he wants to have soup and sushi in CUBE, he knows that there must be a lot of people waiting in line at this moment, how he wish he could save the time on his project! He searches CUBE on Instaline, adds himself in the waiting list. It shows that his estimated waiting time is 30mins, so, Bill goes back to lab, fixes some bugs and heads off to CUBE when the app shows there's only 5 mins wait.

Bill is on the way to his clinic, he has an appointment for flu shot, which will be approximately 10mins. Suddenly he noticed that he and his new girlfriend planned to go to restaurant A, which may have a long waiting list, Bill doesn't want his girl wait outside, in a -20 snowing weather, so the best scenario is he waited first, and when his girlfriend come she can directly be seated. The clinic and restaurant are in opposite direction, there is not enough time to do flu shot first and then line up in the restaurant. Bill download our app, it shows that a 35 mins wait is needed until there are seats available, so he line up on the app, then go to his clinic, and arrived at restaurant A, just in time.

Example 02 (Customs Side): On Sunday night, Bill is at home thinking of what to eat tonight, there are 4 super popular (have to wait outside) restaurants at four different directions, each one needs around 10-mins drive. it will be delightful if Bill can dine at any of them. Bill calls all of them, one of them say that they do not accept reservation, two say they can not queue Bill up over the phone, the other line is always busy. He is a little bit hungry and has no idea which one he should go to eat as soon as possible. He downloaded our app, register with his phone number and some basic info which takes 2 mins. He jumps in the end of each queue of these four restaurants. Then he goes to a shower. After about an hour, he gets a message showing that Restaurant A is ready for him in 20 mins. He picks up his jacket and drive to the restaurant. Once he arrives, the app cancels all other three

Lining-up. Bill has a great dinner and he decides to continue using the App Instaline.

Example 03 (Restaurant Side): a new popular BBQ restaurant just opened at spadina ave. Many BBQ lovers line up for this restaurant. One staff is assigned to do the registration for the waiting customers. However, the area of this restaurant is not large enough. The entrance gets more and more crowded, causing the doorway hard to get through. In the meantime, customers begin complaining about the service. Obviously the staff is too busy to take care of every customer. Some waiting customers even begin leaving. The restaurant owner wants to solve this problem and register his restaurant on the app Instaline. Now, they use our app Instaline to let their customs line up online. The people open the app and choose the restaurants they want to queue up. The staff who used to do the registration use the app as an administrator user to manage the queue. He notified the user about the upcoming available spot around 15 mins earlier. The entrance is not crowded anymore and customer feels happy entering the door. After a month, the popularity does not decrease due to the crowdedness. Users give good feedbacks and the manager is happy as well.

Q3: Why would your users choose your product? What are they using today to solve their problem/need? **(By Jasmine; committed by Jerry; Reviewed by Jack)**
Completed
The users use phone calls or physically visiting to see if the restaurants have available seats without reservation. If so, for lining up, they have to physically lining up outside the restaurants. The app allow users to see the realtime lining status without physically visit the restaurants. Customers can utilize their waiting time and do something else. It saves users time physically lining up outside the restaurants, depending on the popularity of the restaurants. It also provides users with a map of the popularity of the restaurants based on the preference of majority.
YOUR ANSWER GOES HERE ...

* Short (1 - 2 min' read max)
* We want you to "connect the dots" for us - Why does your product (as described in your answer to Q1) fits the needs of your users (as described in your answer to Q2)?
* Explain the benefits of your product explicitly & clearly. For example:
    * Save users time (how much?)
    * Allow users to discover new information (which information? And, why couldn't they discover it before?)
    * Provide users with more accurate and/or informative data (what kind of data? Why is it useful to them?)

Highlights **(By Bill , 已commit)** **### Completed ###**
YOUR ANSWER GOES HERE ...

Specify 3 - 5 key decisions and/or insights that came up during your meetings

and/or collaborative process.

* Short (5 min' read max)
* Decisions can be related to the product and/or the team process.
    * Mention which alternatives you were considering.
    * Present the arguments for each alternative.
    * Explain why the option you decided on makes the most sense for your team/product/users.
* Essentially, we want to understand how (and why) you ended up with your current product plan.

What we discussed in our Project:
Product name: Instaline;
Structure of product: designed main functions of the app;
UI design: designed the prototype of user interface;
Team member roles: discussed the responsibilities of every team member;
Goal: set what we want to achieve at the end of the development.

Alternative considerations we discussed:
Car-Pooling Application: User can pick up passengers who are heading to the same destination, charging lower fees comparing with Uber; other users can have chances to get a ride with low price.
Coursemate and Event Gallery Application: users are allowed to have online group chat rooms, group by the course code/major category, to find classmates, share opinions or find friends who took the same course etc easily. This app can also gather up, plan and share all your study events with coursemates.
Searcher of Nearly Expired Products: For customers, they can be informed with stores that are promoting products with soon expiry dates; for sellers, the sells amount of expired products will become easier.
Course Seeker: Users can add their timetable and their interest major/area into this app, then it will generate a recommended course list without conflict with user's current timetable.
Course Database: Because lots of students are too shy to ask questions about courses on SNS, especially some materials like past exams, this app allows users to discuss course-related topic anonymously.

Arguments of these ideas (i.e. reasons for NOT using these ideas):

1. Similar applications are already existing at the market. There are lots of carpooling applications on the internet. Coursemate and Event Gallery APP is similar to some sub-applications of facebook like facebook event.
2. The solution we provide to users is not specialized (i.e. developer cannot focus on solving a specific problem). Coursemate and Event Gallery Application intend to solve multiple problems at once, which will make the goal of project team unclear.

3. User demand is small because users are satisfied with what they are currently using, and do not need the new solution. Few people want to use Searcher of Nearly Expired Products since promotion products are not nearly expired products only, and users enjoy shopping and discovering discount items by themselves. The solution of Course Seeker can also achieve by just using U of T Acorn and Calendar, with few more steps.
4. Course Database may cause academic offence since some courses are not allowed students to share course materials.
5. Also, Searcher of Nearly Expired Products has feasibility problem. The data management is hard to achieve in a course project.

How we choose Instaline:
We discussed 5 different ideas before, and they all have drawbacks. We made arguments to get a more clear view of what we should develop. The ideas we proposed before were already existing at the market, did not provide a clear and specialized solution, had small user demands, may offend the academic law, and has feasibility problem. We did research on application market, summarized opinions from friends and TAs, interviewed potential users, studied how to popularize applications. After all, we choose Instaline to be the ONE.

Why we choose Instaline (e.g. why Instaline we decided on makes the most sense for our team):
First, compared with other ideas we made before, Instaline has fewer arguments. It is a software that is not already existing at the market, provides a clear and specialized solution, has a number of user demands, will not offend the academic law, and has good feasibility. Second, Instaline is strong enough to provide a win-win solution for all users. Instaline is able to let customs to line up at multiple destinations virtually, and also allow businesses to manage the virtual line by themselves. Last but not least, this idea not just convinced all of our team members, but also attracted our friends, interviewees, and the TA. Most of them shown their interests in this app.

YOUR PRODUCT / Team 01

> _Note:_ This document is meant to be written during (or shortly after) your initial planning meeting.
> It does not really make sense for you to edit this document much (if at all) while working on the project - Instead, at the end of the planning phase, you can refer back to this document and decide which parts of your plan you are happy with and which parts you would like to change.

Iteration 01 ### Completed

* Start date: 01/22/2018
* End date: 02/09/2018

Process

This entire section is optional. Note that you will have to fill it out and more for the next 3 deliverables so it's good to start soon and get feedback.

Roles & responsibilities **(By Bill)** ### Completed

Describe the different roles on the team and the responsibilities associated with each role.

Management: Jack (Ni)
User Flow Design: Sean (Yecheng Song)
User Interface Design: Jerry ()
Scrum Master: Eason (Guan)

Functionality Design: Hao (Hao Wang)
Back-end Design: Bill (Zhihong Wang)
Testing & QA: Jasmine (Xiaomo Li)

Events **(By Jasmine)已上交** **### Completed ###**
Describe meetings (and other events) you are planning to have:

* When and where? In-person or online?
* What's the purpose of each meeting?
* Other events could be coding sessions, code reviews, quick weekly sync' meeting online, etc.

01/22/2018 BA3200
In-person meeting: The purpose of this meeting is:

1. Deciding on the project domain.
2. Knowing each other in the team.
3. Assigning the team members to do research about our interests.

01/29/2018 BA3200
In-person meeting: The purpose of this meeting is:

1. Sharing the information each one gathered last week.
2. Deciding on the project topic and the platform we want to build on.
3. Gathering the information and strength about each member for further convenience of assigning work.

02/03/2018 E.J. Pratt Library
In-person meeting: The purpose of this meeting is:

1. Do the planning for the following meetings including the time, location and topic.
2. Deciding on the project name.
3. Do the user stories.
4. Discuss about the main functionalities we want to achieve in the project.
5. Complete the planning meeting, start on editing product.md.

02/04/2018 E.J. Pratt Library
In-person meeting: The purpose of this meeting is:

1. Continue discussing about the features in the project.
2. Do the CRC for the project.
3. Do the draft of product.md.

02/05/2018 BA3200
In-person meeting: The purpose of this meeting is:

1. Continue discussing about the features in the project.

2. Update product.md.

02/08/2018 BA3200
In-person meeting: The purpose of this meeting is:

1. Do the review meeting.
2. Do the planning for the next deliverable.

########################## Optional ##########################
Artifacts Jack

List/describe the artifacts you will produce in order to organize your team.

 * Artifacts can be To-do lists, Task boards, schedule(s), etc.
 * We want to understand:
   * How do you keep track of what needs to get done?
   * How do you prioritize tasks?
   * How do tasks get assigned to team members?

We are using google doc to list all tasks and the assignments of the work, also to keep track of the progress made by each member. To be specific, we are using Task boards to list all the work to be done, the people doing it, the priority level as well as the due date. We prioritize our tasks by giving each task a priority level. For example, level 5 means most needed features/tasks, level 1 means enhancement features etc those are least necessary. The tasks are assigned to team members according to their interest, good terms and experiences.

Completed
Product

This entire section is mandatory.

Goals and tasks

 * Describe your goals for this iteration and the tasks that you will have to complete in order to achieve these goals.
 * Order the items from most to least important.
 * Feel free (but not obligated) to specify some/all tasks as user stories.

The goals: (From most to least important)
1.Deciding on the project domain, topic, and the name.
Tasks: a. Do some chatting, questionnaire with potential users.

b. Do some research on the existing apps/websites etc related to the areas we are interested in.

c. Ask the TA for more suggestions.

2. Deciding on the main features of the project.

Tasks: a. Do some users stories on the topic.

b. Do some research on the existing apps/websites etc having the same target users as we do.

c. Ask the TA for more suggestions.

3. Deciding the roles and responsibilities of each member of the team

Tasks: a. Everyone lists their skills and priority interest.

b. Dividing the people into frontend team and backend team.

c. Deciding on the fixed meeting time available to everyone every week.

4. Doing the draft UI design with a style that everyone agrees on

Tasks: a. Do the drafts, discuss, then improve till everyone satisfies.

########## NOT Completed ##########

Artifacts (By Sean)

List/describe the artifacts you will produce in order to present your project idea.

* Artifacts can be text, code, images, videos, interactive mock-ups and/or any other useful artifact you can think of.
* Make sure to explain the purpose of each artifact (i.e. Why is it on your to-do list? Why is it useful for your team?)
* Be concise, yet precise.
  For example: "Build the website" is not precise at all, but "Build a static home page and upload it somewhere, so that it is publicly accessible" is much clearer.

User stories that illustrate the functionalities and the usage using comics which is clear and interesting to the audience.

Instaline

> _Note:_ This document is meant to be written during (or shortly after) your review meeting, which should happen fairly close to the due date.
>
> _Suggestion:_ Have your review meeting a day or two before the due date. This way you will have some time to go over (and edit) this document, and all team members should have a chance to make their contribution.

Iteration 01 - Review & Retrospect **(By Jerry Yi)** **### Completed ###**

* When: FILL IN THE DATE WHEN YOU ACTUALLY HAD YOUR REVIEW MEETING
* Where: PHYSICAL LOCATION AND/OR ONLINE

First Group Meeting
When: 01/15/2018
Where: BA3200

Accomplishments: The first group meeting was successful; we had the opportunity to know everyone in the team and express the opinions we had in mind. We did brainstorming and narrowed down project ideas that are the most interesting.

Second Group Meeting
When: 01/22/2018
Where: BA3200
Accomplishments: We had a meeting right after tutorial, where we got extremely helpful suggestions from our TA. Back to square one, we attempted the topic with another approach. Instead of coming up with an idea, we decided to think of a question in reality that we are will be solving. By the end of the meeting, we screen out the questions that are solvable within our ability and limitation of time. Every team member were assigned with the task of doing research on the questions.

Third Group Meeting
When: 01/29/2018
Where: BA3200
Accomplishments: We had another quick meeting right after tutorial. With the approval of idea from our TA, each team member were asked to do deeper research about the whole idea of "virtual queuing system". This includes: finding competitive or similar apps on the market, the functionality we will be implementing and the best way we can solve this question via enforcing our idea.

Fourth Group Meeting
When: 02/03.2018
Where: E.J. Pratt Library
Accomplishments: During this meeting, we mainly shared the result of our research and most importantly, we had finalized the name of our project to be InstaLine. Moreover, we discussed about in what scenario our application is needed, who would be our potential users and what impact could our application made, etc.

Fifth Group Meeting
When: 02/05.2018
Where: BA 2270
Accomplishments: Together, we came up with user stories. Base on that, we discussed more on the features that we could include in this project.

Process - Reflection **(By Jerry Yi)** **### Completed ###**

This entire section is optional. Note that you will have to fill it out and more for the next 3 deliverables so it's good to start soon and get feedback.

Decisions that turned out well **(By Jerry Yi)** **### Completed ###**

List process-related (i.e. team organization) decisions that, in retrospect, turned out to be successful.

* 2 - 4 decisions.
* Ordered from most to least important.
* Explain why (i.e. give a supporting argument) you consider a decision to be successful.
* Feel free to refer/link to process artifact(s).

1. Decision on proposing ideas: in the very first stage, we decided to ask every team member to come up with an idea and propose ideas in the group meeting at once. This turned out to be very inefficient. It was hard to go over each proposal idea in detail within a limited period of time. In most case, ideas turned out to be immature or not applicable due to incomplete on research. As soon as we see the flaw of this workflow, we decided to ask every team member to not only come up with an idea, but also do a comprehensive research on the idea. Moreover, instead of proposing the idea in a group meeting, we post the ideas that are applicable in a private group chat, so that other team members can proof read the idea and comment it in different perspective. As a result, we quickly narrow down the final idea in the next group meeting, which we consider this decision to be very successful.

2. Decision on approaching this project: As this is the first software project for most of us, we are very excited and looking forward to get our hand on this project. When we were approaching this project in the very beginning, we considered some complicated ideas and attempted to achieve all of them in once so that our project would be comprehensive and fancy. However, the ideas were vague and ambiguous, we omitted the principle and the purpose of this project. After receiving suggestions from our TA, we quickly adjusted our approach. We decided to shrink our idea into solving one simple and specific question and eventually expand it with more features. This decision cleared out some inapplicable ideas in our mind and greatly benefits us on picking our final idea.

Decisions that did not turn out as well as we hoped **(By Jerry Yi)**
Completed

List process-related (i.e. team organization) decisions that, in retrospect, were not as successful as you thought they would be.

* 2 - 4 decisions.
* Ordered from most to least important.
* Feel free to refer/link to process artifact(s).

1. Decisions on distributing tasks: At the beginning, we distributed tasks to each member omitting the dependency between tasks. However, team members have diverse timetable, where some members might have lectures to attend or some members need to work. Thus, members will work on their task in different timing. If member A's task depends on member B's task and member B start on his task very late due to other work, member A will spend a lot of time waiting. This decision is inefficient.

2. Decisions on assigning over specific tasks to one member: In the beginning of iteration 1, we assigned very specific tasks to members. However, when we are reporting our task in the first meeting, we discovered that members know nothing about the overall progress other than the part he or she is responsible on. Moreover, communication is lacking between members due to this decision. The result is not as good as we expected when we put every members work into one piece. This decision is not successful.

Planned changes (By Jerry Yi)
Completed
List any process-related changes you are planning to make (if there are any)
* Ordered from most to least important.
* Explain why you are making a change.

1.Changes on distributing tasks: We change our task distribution method by assigning tasks based on member's interest and timetable, meanwhile, assured that dependency between member's tasks is minimal. The reason for this change is that randomly assigning tasks can be extremely inefficient. As a result, members get to finish their task in much shorter period of time.

2.Changes on decision of assigning over specific tasks to members: We change this decision by assigning more high level tasks, or even tasks in different area to team member. Moreover, we discuss each tasks in a meeting in details. The reason for this change is to allow every member have a recognition on the overall progress. As a result, everyone in the team get to know what is happening even they are not responsible for that specific area.

3.Changes on goal and tasks: We excluded UI and CRC card designing from deliverable 1. The reason for this change is to complete and perfect our idea before moving into further steps. It would be costly to make changes once we have started those steps, so to consolidate our idea is more important.

Product - Review **(By Jerry Yi)**

This entire section is mandatory.

Goals and/or tasks that were met/completed:**(By Jerry Yi)**
Completed

* From most to least important.

* If a goal/task was not part of the original iteration plan, please mention it.

1.Deciding on the project idea: We have finalized our project idea on solving lining up problems.(Ex. I don't want to waste time lining up for a restaurant, but I really want to go.)

2. Deciding on the main features of the project: To accomplish this goal, we did research on the whole idea of "virtual queueing" and test out the applications on the market that attempted to solve similar problems. We tested those applications by using them in real life, concluded on what they are lacking and what are the difference comparing with our idea. Combining with the result obtained from our TA, we specified the problem we will be solving and narrowed down the very main feature that we will be implementing and try to expand it if time allows.

3.Deciding the main roles and responsibilities of each member of the team: Over the group meetings, we get to know each other in much better way, and learned that we are different in terms of interest and speciality. Main roles and responsibilities are assigned to team members based on their priority of interest. By main role, we are saying that the member is leading such area, but not implementing the part individually.

4. Deciding on the project name: We have finalized our project name to be InstaLine. Many other names came across our drawing board such as: EQ(easy queue), Line me up, EazyLine etc.

Goals and/or tasks that were planned but not met/completed:**(By Jerry Yi)**
Completed

* From most to least important.
* For each goal/task, explain why it was not met/completed.
  e.g. Did you change your mind, or did you just not get to it yet?

1.Doing draft UI: we haven't get to this part yet in iterable 1. Besides, we think it is a bit too early to draft out the UI design. We think the better approach is to finalize our idea and features and eventually integrate into the designing phase.

2.Writing CRC cards: Without finalizing idea features, it would be too rush to write up crc cards. So this task is not complete in iteration 1, but will resume as soon as we start the phase of implementing features.

Meeting Highlights

Completed

Going into the next iteration, our main insights are:**(By Eason)**

1) **Implement basic algorithm/backend features for the user side of the application, include and not limited to the algorithm for suggesting nearby restaurant, the algorithm for multiple line-up from a single user, the algorithm for calculating expected wait time, and the basic database for storing user information.**
2) **Implement basic algorithm/backend features for the restaurant side of the application, include and not limited to the combination of virtual and physical lineup (such that the restaurant can manually add lineup number if guests who are non-user comes in), and the basic database for storing restaurant information.**
3) **Create connection between the backend and the APIs / database that we will be using during the development of the application, such as the google map API.**
4) **Design the basic user interface for both side (user, restaurant) of the application, such as the number of pages and the basic user flow of the application.**

* 2 - 4 items
* Short (no more than one short paragraph per item)
* High-level concepts that should guide your work for the next iteration.
* These concepts should help you decide on where to focus your efforts.
* Can be related to product and/or process.