Team 6 – Predicting Potential Patient Issue – Iteration 0 Report

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Summary of what was completed by the team during the last iteration

- ## What stories were planned? Completed? Are still in progress?

    Because this is iteration 0, we did not have any stories planned prior to the iteration.

Accomplishments (not necessarily stories)

- Established contact with project customer.
- Established Slack channel for project communication.
- Established team standards and social contract.
- Determined preliminary project requirements.
- Completed project charter.
- Established customer's MVP for next iteration.
- Acquired a server for the backend of the project.
- Acquired access to eICU data set for machine learning.

- ## New stories (and story points) added since beginning of iteration

Note: stories are not yet groomed to include points or other details.

Features:

- As a medical professional, I need to be able to see a patient's medical history so that I can make inferences about the patient's condition based on the machine learning predication and my expertise.

- As a medical professional, I need to be able to see a list of patients with a severity indicator ranging from low to high so that I know which patients are a priority to see first.

- As a medical professional, I need to log in to my account with my username and password so that I can access patient information in the application.

- As a nurse, I want to be able to float over a patient's ECG in order to know what kind of medication they need

- As a nurse, I want to be able to float over a patient's ECG in order to calculate their QTC

- As a critical care nurse, I want to be able to float over all patient vital signs to predict if patient needs blood pressure medication

- As a critical care nurse, I want to be able to float over all patient vital signs to calculate mean arterial pressure

- As a nurse, I want to be able to input patient FO2 so I can calculate their PF ratio

- As a nurse, I want to be able to input patient arterial oxygen so I can calculate their PF ratio

- As a patient, I want the data recorded of my health to be held in a secure network, so that my personal medical information is protected.

- As a medical provider, I want to associate a patient with my user account so the service keeps track of my current patients.

- As a medical provider, I want to receive notifications when the system predicts a patient event so that I can prepare for treatment.

- As medical provider, I want to have a user account so that I can log in to the UI.

- As a medical provider, I want to be able to enter patient data into the UI so the system can predict patent events.

Spikes:

- As a software developer, I need to install and configure NetExtender VPN so that I can access the remote TN Tech server off-campus.

- As a software developer, I need to train a python machine learning model that can accurately (>90%) predict if a patient is going to code/crash and make it accessible to the python webserver.

- As a software developer, I need to acquire a TN Tech server with at least 100 GB of data so that I can store project files, datasets, and development code for the whole team.

- As a software developer, I need to download and build the eICU dataset databases on PostgreSQL so that I can begin looking through the data.

- As a developer, I want to learn more about PostgreSQL so I can use the test databases more efficiently

- As a developer, I want to learn how to use python for machine learning so I can help with the creation of the machine learning model

- As a developer, I want to learn how to encrypt patient data so I can make sure patient data is secure

- As a developer, I want to learn more about HIPAA compliance so the software stays HIPAA compliant

- As a developer, I want to create a RESTful service on the server so that clients can access the CRUD.

- As a developer, I want to create CRUD interface to interact with the database on the server.

- As a software developer, I want to configure a python webserver for the deployment of the project

- As a software developer, I need to install and configure PostgreSQL on the development server so that we can have a database accessible to our application.

Plan for next iteration

- **Which stories are in the iteration backlog for the next iteration?**

  As of now, the stories are not assigned to specific iterations. Our team plans to groom the backlog and plan for iteration 1 on Tuesday, November 9th, 2021. We will prioritize stories/spikes necessary for the MVP.

- **How has this changed from what was originally planned?**

This will be the initial backlog planning.

- **Include the number of points to be attempted.**

We have not yet groomed the stories so unable to estimate points.
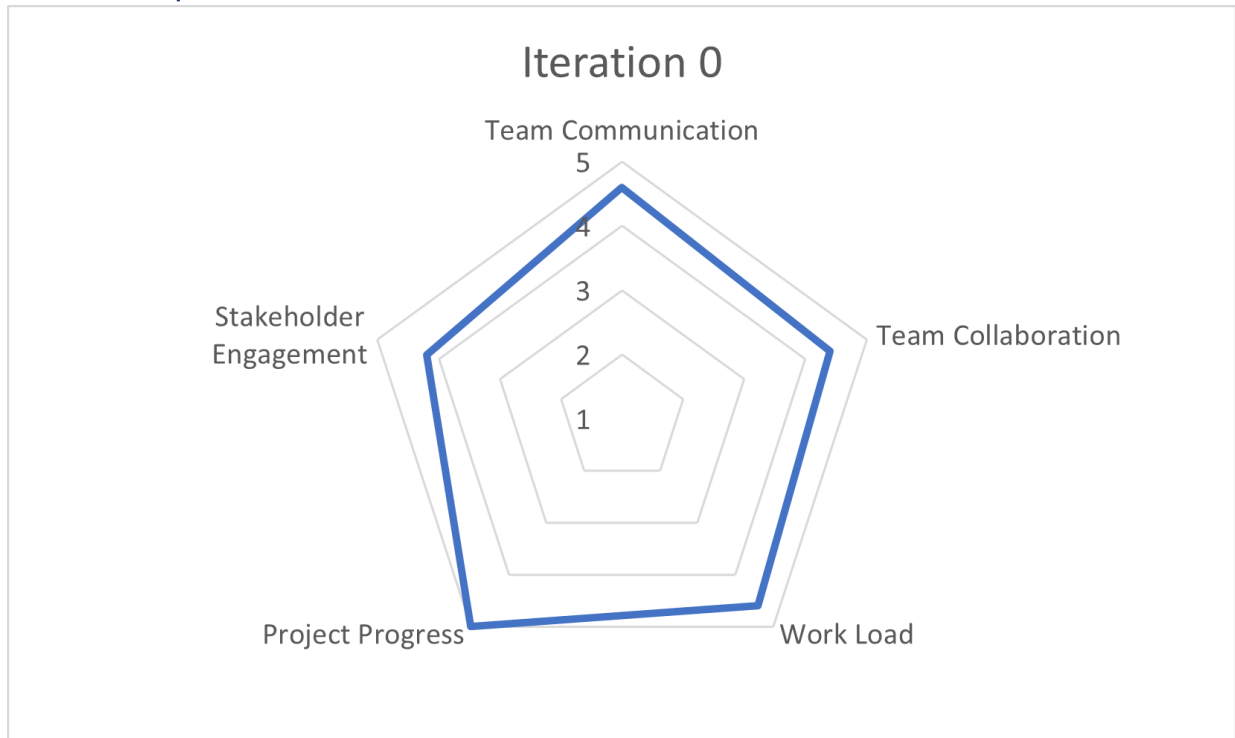
Burndown / Burnup Chart

Not applicable since no stories we assigned to this iteration.

Retrospective summary

- Working Well
  - Communication with customer.
  - Communication among team.
  - Understanding of overall goal of project.
  - Infrastructure setup.

- Could Work Better
  - Team has not fully utilized scrum process.

- Questions
  - Understanding specific goals of machine learning models.
  - Understanding how to implement machine learning to the data set.

- Action Items

The immediate focus for the next iteration will be backlog grooming and determining stories for the MVP.

Team Temperature

Iteration 0

- Team Communication
- Team Collaboration
- Work Load
- Project Progress
- Stakeholder Engagement

5
4
3
2
1

Showcase

Not applicable for iteration 0. Team focused on establishing contact with customer and project infrastructure.