**MIS 4033**

**Business Programming 3**

**Professor: Akhilesh Bajaj**

# **ACME Medical Project (10 points)**

In this project, we will create a web application using HTML5/JavaScript/PHP, to help keep track of patients, medications, and lung tests for these patients. The web application will be developed using the SCRUM methodology.

For a review of what SCRUM is, please see the following7 minute video:

https://www.youtube.com/watch?v=9TycLR0TqFA

Here are some additional videos:

https://www.youtube.com/watch?v=kYajjGi5-qM

<https://www.youtube.com/watch?v=_U7Py7W-Qng>

Take notes as you see the videos, listing the different concepts you come across. We probably need to see the **first video** at least **two or three times** in order to make sense of SCRUM. See it as often as necessary throughout the sprint.

**ACME Medical Requirements (these are actual requirements from the ACME Product Owner)**

ACME supplies medications to patients that can’t afford the treatment and medications. They need user friendly GUI’s to capture the needed information as well as a GUI to easily retrieve patient info to then add new information for each visit. Report functionality would be ideal as well. ~~They need to have a login page with encryption.~~

GUI’s/ Information:

* General Patient Information
  + First Name
  + Last Name
  + Gender
  + Birthdate
  + Genetics (Text Box)
  + Diabetes (Yes or No)
  + Other Conditions (text field)
* Medication for a patient
  + Vest (Yes or No)
  + Acapella (Yes or no)
  + Plumozyme (Yes or No, Quantity and Date received)
  + Inhaled Tobi (yes or no)
  + Inhaled Colistin (Yes or No)
  + Hypertonic Saline (Yes 3%, Yes 7%, or No)
  + Azithromycin (Yes or No)
  + Clarithromycin (Yes or No)
  + Inhaled Gentamicin (Yes or N0)
  + Enzymes
    - Yes or No
    - Type/Dosage ( Type Field)
* Doctor Visit/ FEV1 for a patient
  + Date of visit and doctor seen
  + FEV 1 (Multiple inputs per day)

The FEV 1 is a lung test. With this entry we need to be able to enter in multiple results for the same date.

For example:

Date 1/1/2018

FEV 1: 89

FEV 1: 88

FEV 1: 91

For the GUI that will be used to easily bring up patient information, we need it to show all the results from each Data Entry GUI, and from the FEV 1 it needs to show the Highest number.

**Example Patient Information:**

1. Jenny Smith, BD: 1/13/1993 Age: 25, F
   1. Vest (Y), Acapella (N), Pulmozyme (3 mo. Received on 2/12/2018), Inhaled Tobi, (Y), Hypertonic saline (Yes 7%), Azithromycin (N), Clarithromycin (Y), Gentamicin (N), Enzymes (Yes, Creon 2400)
   2. Fev 1 90, 85, 95 on 4/2/2018
      1. FEV1 = 95
2. Bill Nye, BD : 4/2/2010, Age 8, M
   1. Vest (N), Acapella (Y), Pulmozyme (1 mo. Received on 3/23/2018), Inhaled Tobi (Y), Hypertonic saline (Yes 3%), Azithromycin (Y), Clarithromycin (N), Gentamicin (N), Enzymes (Yes, Creon 1000)
   2. Fev 1 77, 80 , 79 on 3/1/2018
      1. FEV1 = 80
3. Edith James. BD: 1/12/2006, Age 12, F
   1. Vest (Y), Acapella (N), Pulmozyme (N), Inhaled Tobi, (N), Hypertonic saline (N) Azithromycin (Y), Clarithromycin (N), Gentamicin (Y), Enzymes (N)
   2. Fev 1 65, 70, 68 on 2/25/2018
      1. FEV1 = 70
4. Casey Jones : BD: 12/29/1990, Age 27. F
   1. Vest (Y), Acapella (N), Pulmozyme (3 mo. Received on 1/1/2018), Inhaled Tobi, (Y), Hypertonic saline (N) Azithromycin (N), Clarithromycin (N), Gentamicin (N), Enzymes (Y, Creon 2400)
   2. Fev 1 : 77, 79, 85 on 3/18/2018
      1. FEV1 = 85
5. Austin Phillips : BD: 08/11/2014, age 3
   1. Vest (Y), Acapella (N), Pulmozyme (1 mo. Received on 2/12/2018), Inhaled Tobi, (Y), Hypertonic saline (No) Azithromycin (N), Clarithromycin (N), Gentamicin (N), Enzymes (N)
   2. Fev 1: 99, 95, 97 on 3/30/2018
      1. FEV1= 99

The *Product Owner* for this web application is Dr. Bajaj. Each team needs to select a *Scrum Master* for the project. The other members of the team will be the *Developers/Testers*. The Scrum Master can take on a Developer role as well.

**Product Backlog:**

User Story Patient Info

User Story Medications

User Story Visits/FEV1

**User Stories:**

User Story Patient Info:

*As an* AM user,

*I need to*

be able to create, retrieve, update, delete patient information

*So that* *(Acceptability Criteria)*

I can record general information on all our patients over time

User Story Medications:

*As an* AM user,

*I need to*

be able to create, retrieve, update, delete medication information

*So that* *(Acceptability Criteria)*

I can record and view which medications were given to which patient over time

User Story Visits/FEV1:

*As an* AM user,

*I need to*

be able to create, retrieve, update, delete visits/FEV1 information

*So that* *(Acceptability Criteria)*

I can record and view visits and lung function values for each patient over time

The sprint is worth **10** points. The breakdown of the 10 points is shown below.

**Sprint 1 (10 days): Dates April 4th – April 18st 2023**

Sprint Planning Ceremony or Meeting

Break the user stories into deliverable tasks or code chunks[[1]](#footnote-2) that developers can deliver. Set a timeline for each. Sequence them for dependence and importance. **(1.5 points)**

Sprint Backlog

User Story Login

User Story Patient Info

User Story Medications

User Story Visits/FEV1

Burndown chart: **(1.5 points)**

X-axis is time for the 5 days the team has a scrum. Each unit is one day.

Y-axis is the number of deliverable tasks still remaining for that sprint. These tasks came from the sprint planning meeting.

Daily Scrum meeting (total 5)

Meet to review what you are going to do that day, any help you need, what you have already accomplished, etc. **(2 points)**

**The Scrum Master needs to maintain records of the**

-Sprint Planning meeting (date, time, who attended and minutes of the meeting discussion),

-List of Sprint Tasks (the code chunks)

-Burndown Chart of the Sprint

-Daily Scrum Meeting Minutes

**Sprint Review and Retrospective Ceremony APRIL 20th 2023 IN CLASS**

The team meets with the Product Owner (Dr. Bajaj) and showcases the product. **(4 points)**

Next, there is a discussion on what the team can do to improve the process going forward. **(1 point)**

**Teams:**

**Team 1 :** Ben Francis, Daria Jackson, Grayson Migliore, Taylor Spyres, Emmeline Alvizo

**Team 2:** Caleb Ackley, Kaitlyn Short, Sam Knight, Seth Carlson, Weston Burr

**Team 3:** Leroy Lane, Mason Davenport, Parker Greenfield, Sam Gaskin, Shyam Subramanian

1. A code chunk could be an HTML5 page, a method, a group of methods, a class either in Javascript (client side) or PHP (server side). [↑](#footnote-ref-2)