Milestone 4

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SmartStride

Milestone 4

Task	Progress	To Do
Setup AWS's IoT or S3	50%	Move to future works
Connect Raspberry Pi to lambda function	100%	N/A
Create a new webpage for drag and drop	100%	N/A
Create drag and drop functionalities	100%	N/A
Connect device to website	35%	Collect data from sock (Bela) and finish ML (Alec)

S3 Bucket

- Holds data before uploading it to database
  - *Ensures no data lost in large uploads and with many uploads*
- Should be used with many devices
- Did not complete due to budget issues
  - *Can accomplish all goals without S3 Bucket*
  - *Will be moved to future goals*

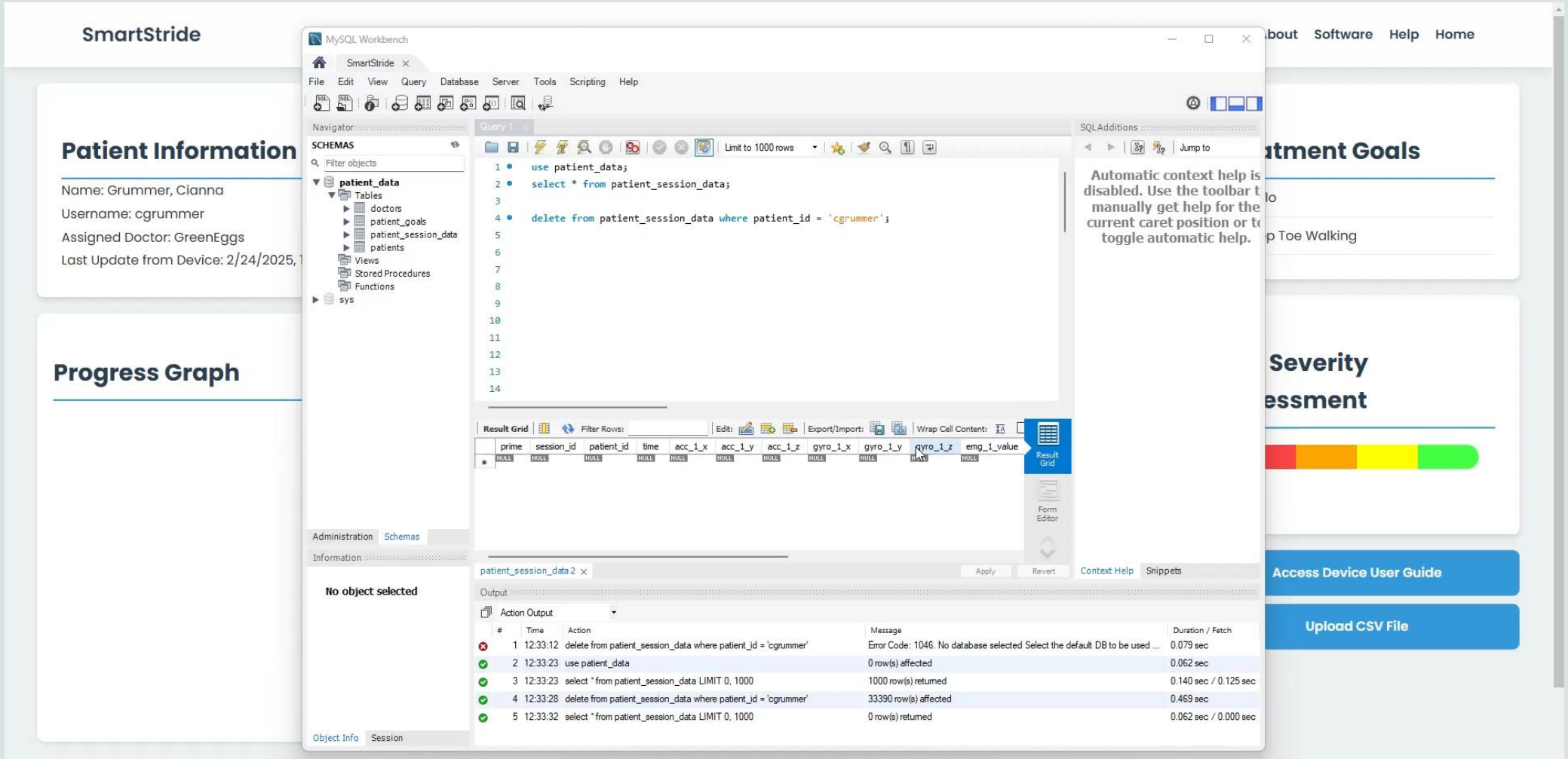
Connecting Raspberry Pi

- Created an app on raspberry pi for easy use
  - *Used Python and Tkinker to create functions and GUI*
  - *User opens app and types in their username and clicks start monitoring*
    - Message box tells the user if any files are found and if upload was successful
  - *App checks folder called "CSV Data"*
    - This is where data from the ML will be saved
  - *Connects to Drag and Drop API to handle upload of data*

New page for Drag and Drop

- New page is accessible through patient dashboard

Button called “Upload CSV File”



Connecting Device to Website

- Raspberry Pi can upload files to database using Drag & Drop API and Lambda
  - *Lambda uploads CSV data as separate sessions*
- Only 35% completed
  - *Sensors are still broken*
  - *ML is having issues with template matching*

Milestone 5

Task	Progress	To Do
Update database structure	15%	Talk with group to see what data will be used
Define graphs	35%	Make necessary changes to HTML
Create pie chart	10%	
New page for past results	40%	Add the API calls to HTML and redirection links, refine looks
Create API and Lambda functionalities for pie charts	0%	Create Lambda and functions as well as API
Create API and Lambda functionalities for past results page	0%	Need to create lambda and API functions

Define Graphs

- Changes to be made:
  - *Rename EMG Analysis to "Gastrocnemius EMG Activity"*
  - *Remove "Gait Analysis with step classification" tile*
  - *Remove figures from "Last PT Session Details"*
  - *Pie Chart Visible to Patient and Doctor*
  - *Pie Chart will go under "Last PT Session Details"*
  - *Will put average ITW foot angle under "Last PT Session Details" (doctor)*
  - *The time series plot showing averages over 1 gait cycle for ITW vs Normal Step (x = time, y = angle (degrees) (doctor)*

Pie Chart and Past Results Page

- Pie Chart will be visible to patient and doctors
- 100% of pie chart is the total steps taken in a month
  - *Pie chart will be divided into sections of Normal, Mild, Severe, and Extreme*
    - Labels will be changed
    - Step Identification will occur during the ML stage on the Raspberry Pi
- Past Results page will hold all past results separated by months
  - *Accessible through patient dashboard*

Device & ML Update

- Device not working due to past wires
  - *Would turn on but not take readings*
- Switching to coax wires
  - *Almost completed soldering for testing*
  - *Coax wires have a shield of metal braids around wires that prevents interference from reaching our signals*
- ML
  - *Can identify where and how many steps were taken*
  - *Currently working on extracting signal segments from the steps to feed into the ML*

Questions?