Sprint 1 Backlog

2/10 - 20/10

Sprint Goal: Have a basic GUI from which the user can view information about the connected 5G base stations and power them on/off through the connected SCADA server.

Jira Board:
https://5im4ortr3ss.atlassian.net/jira/software/projects/TAG/boards/1

Feature ID	Feature Name	Description	Priority	Effort Estimate
F1	**Simulate 5G Base Station (basic)**	**Connect/Disconnect to UEs, status (up/down), single BS to start**	**Must**	**20**
F1.1	Singular UE with connectivity to BS	The simulation won't need multiple base stations in sprint 1, and should have 1 UE per station		6

F1.2	Connect/Disconnect functionality for UEs/BS	The base station should be able to disconnect/connect via the HMI, possibly by turning the power off		8
F1.3	Status (up/down) monitoring for the BS	The HMI should be able to communicate with the simulation and see if a station is up/down		3
F1.4	Bandwidth monitoring for the BS	The HMI should be able to communicate to the simulation and see what a base stations bandwidth currently is		3
F2	**SCADA HMI (basic)**	**View tower, turn on/off**	**Must**	**10**
F2.1	UI to view/manage the BSs power	Implement a basic HMI that allows users to view the tower's status and relevant information.		5
F2.2	UI to view the BSs Bandwidth	Implement a basic HMI that allows users to view the tower's bandwidth.		5
F3	**Simulate User Equipment (basic)**	**Simple UEs connect to BSs**	**Must**	**10**
F3.1	UEs to connect to BSs	Create a simple simulation environment where UEs can connect to the base stations automatically to establish connections.		4
F3.2	UE user value variable	A value indicating how many users there are per base station, might fluctuate during run		2
F3.3	Reconnection attempts *after*	After disconnection, a UE needs to automatically		4

	disconnection from BS	connect to the basestation, same with a disconnection from UE side.		
F4	**Simulate Base Station SCADA**	**SCADA server communicates with BSs with industrial protocol**	**Must**	**80**
F4.1	Send ON/OFF BS ConPot packets	The HMI need to realistically communicate with the towers PLC by sending packets (ModBus)		15
F4.2	Receive ON/OFF ConPot packets and call backend	The PLC on the tower needs to receive these and know what to change		10
F4.3	Send Bandwidth ConPot packets to HMI	The PLC/monitoring device on the tower needs to send packets to the HMI so it can monitor activities		15
F4.4	Receive Bandwidth ConPot packet from BS and display it	The SCADA receives packets from the base stations containing information about them, reads the data, and displays it in HMI		10
F4.5	Integrate ConPot with python Flask	For ConPot to work as a HMI it needs to be integrated and work within python Flask		30
F6	**View All Base Stations' Info**	**List general info, (up/down), nr connected UEs**	**Should**	**10**
F6.1	Display all BSs on dashboard	All BSs should be displayed		
F6.2	Display all BSs status	Their statuses (up/down) should be visible and their change should also be		

F6.3	Display the amount of users connected	The UEs user variable should display for the end user		
F6.4	Small info tab (i.e what kind of station it is)	Small information of tower and where it is, and what kind of tower it is (i.e. power consumption)		
F12	**Simulation Dashboard (basic)**	**GUI for simulation, information, and HMI**	**Must**	**25**
F12.1	Tabs for HMI/Dashboard, and future stuff	Tabs for all the future menus, they might not lead to anywhere		10
F12.2	Dynamic website	The website should update dynamically to ensure maximum user experience		15