**Project 3 Part 1: Use Cases, Requirements, Sequence Diagrams**

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**Use Cases**

Case: IMPORT STUDY DATA

* Title - Import Study Data
* Primary Actor - Researcher
* Stakeholders – Instructor, Group Members, Backer
* Precondition - Have data file to import (XML/JSON).
* Success Condition – Data from XML/JSON file is read.
* Main Success Scenario -
* Locate file using UI.
* Check file extension.
* Extension is “. json”: use JSON parser to read data.
* Extension is not “.xml”: use XML parser to read data.
* Data read from the file is display in GUI.
* Frequency: Every time.

Case: Export data to JSON

* Title: Export data to JSON
* Primary Actor – Researcher
* Stakeholders – Instructor, Group Members, Backer
* Precondition – Have data to export
* Success Condition – Data is written to the JSON file.
* Main Success Scenario
* Researcher clicks on Export file button in UI.
* UI asks for the file name.
* Researcher types in the file name.
* Data is written to a file and saved.
* Frequency: Every time.

Case: SAVING STATE WHILE CLOSED

* Title - Saving state while closed
* Primary Actor - Researcher
* Stakeholders – Instructor, Group Members
* Precondition - Data must be within the software
* Success Condition – State is retained after the program is restarted
* Main Success Scenario -
* Researcher closes program
* Software asks if researcher would like current data saved?
* Software exports data to a file for storage (state.json)
* Researcher opens program
* Software checks if file (state.json) exists and opens it before display opens.
* Frequency – When state.json exists.

**Scientific Study Requirements**

* Software shall support running on an Android phone.
* Files to be imported into the system shall be saved under “data->data->com.example.datacollection->files” folder.
* File shall export to the “data->data-> com.example.datacollection->files” folder.
* Software shall implement a GUI with point and click functionality.
* UI shall provide a mechanism for researcher to browse file from their computer.
* UI shall display the data from the file.
* UI shall provide a mechanism to start and end site collection.
* UI shall let researcher input particular site they want to read.
* UI shall provide interface to add new reading.
* UI shall provide a way to export data to JSON file format with a user-specified name.
* Software shall keep track of which readings are collected and for which study.
* Software shall display the study name and a unique ID for each study.
* Software shall retain the sites, readings, and studies that were previously entered.
* Software shall be able to integrate XML format files in addition to JSON.
* Software shall be able to error check files being imported.
* Software shall have unit tests integrated in the code.
* Software shall use the date the data are read if the recorded date is not specified.
* Software shall apply a unit to each data imported.