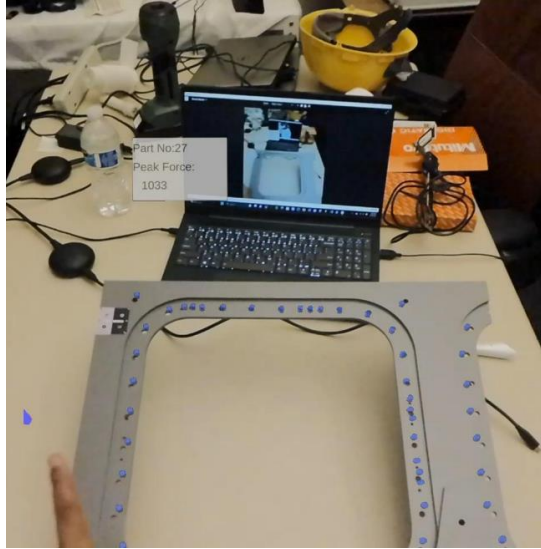# L+G Software Development Internship

Amirita Manickandan
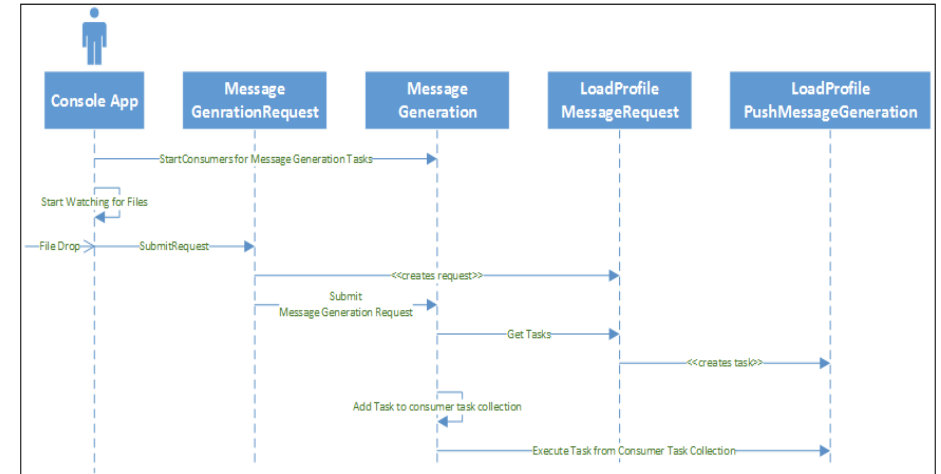
About Me

- Rising Senior at Georgia Tech
- Computer Science Major
- Previous Internship in AR headset app development

Project Details

- Team: TEPCO NAM8

- Customer: TEPCO
  - Fukushima Nuclear Disaster
  - Over 20 million meters deployed
  - Meters replaced every 10 years

- Application: M2M Test Harness - a console-based application to simulate mass deployment of smart meters to test issues on scalability and performance

- Task: Change JSON file-based operations to database-driven operations

- Goal: Facilitate the process of testing meters by allowing state management

```
"PayLoads": [
  {
    "BeginSerialNumber": "60040000",
    "EndSerialNumber": "62039999",
    "MeterType": "920-920",
    "EndPointType": "1",
    "HwModelId": "1",
    "Description": "REV4",
    "AMRheaderVerion": "10",
    "OneMinVoltageDS": "false"
  },
  {
    "BeginSerialNumber": "30000000",
    "EndSerialNumber": "31411199",
    "MeterType": "920-920",
    "EndPointType": "4",
```

Tasks Completed

- Moved contents of a JSON file specifying meter parameters to PostgreSQL database
- Coded the logic necessary to connect to the database from Visual Studio and retrieve these parameters
- Removed redundant parameters such as description and metertype (corresponded to endpointtype and hwmodelid)
- Created a script to move data from Oracle to PostgreSQL to populate this table with real data

```
{
  "PayLoads": [
    {
      "BeginSerialNumber": "1",
      "EndSerialNumber": "100",
      "MeterType": "920-920",
      "EndPointType": "1",
      "Description": "REV4",
      "AMRheaderVerion": "10",
      "OneMinVoltageDS": "false"
    },
  ],
  "Collectors": [
    {
      "BeginSerialNumber": "32000001",
      "EndSerialNumber": "32000079"
    }
  ]
}
```

	serialnumber [PK] integer	amrheaderversion character varying (5)	isoneminvoltageds boolean	hwmodelid integer	endpointtype integer
1	1	10	false	2	1
2	2	10	false	2	1
3	3	10	false	2	1
4	4	10	false	2	1
5	5	10	false	2	1
6	6	10	false	2	1
7	7	10	false	2	1
8	8	10	false	2	1
9	9	10	false	2	1
10	10	10	false	2	1

	serialnumber [PK] integer	hwmodelid character varying (5)	endpointtype character varying (5)	amrheaderversion character varying (5)
1	22671879	65683	1	10

Landis+Gyr

What I Learned

- Experience with various technical tools
- Applied OOP principles in a practical context
- Communicated with development team through sprints and standups
- Debugged and optimized scripts for performance

Reflection

- Benefits to L+G

- Streamlined data transfer between Oracle and PostgreSQL
- Developed scripts to automate database tasks

Special Mentions:

- Manager: Neelima Katpalli
- Mallesu Kante
- Luke Fischinger
- Siva Suthram
- TEPCO NAM8 Team

Recommendations

- More collaboration between interns in the software development team

- More opportunities to shadow team members and learn about other teams and projects

Thank You