

## sddec18-16: Use machine learning to predict relevant support content based on historical user

### Week 4 Report

February 4 - February 17

### Team Members

Erin Elsbernd — *Communication Coordinator and Machine Learning Lead*

Ram Luitel — *Project Manager & Software Architect*

Faizul Jasmi — *Testing & AWS Tech Lead*

Khoa Bui — *Database & Web Master #2*

Taizhong Huang — *Testing*

Christian Chiang — *Web Master & AWS Tech Lead*

### Summary of Progress this Report

- After the meeting with Workiva, we cleared up some questions about the data. First, we've learned that the data given need to be engineered to be a suitable and effective input for our models.
- We are working in increasing the datapoint to make the data more effective.
- Alex have also recommended to research on LSTM to incorporate it into our model designs. LSTM is a more effective method that is extended from Recurrent Neural Network, which allows a network to have a higher degree of memorization and a better way to organize its memories.
- The website was fully redesigned to fit our project appearance better.

### Pending Issues

- Need more datapoint from Workiva, we will be receiving it this week
- Data should be cleanse and protect what columns are the most relevant

### Plans for Upcoming Reporting Period

- Watch for trends that might appear in the new data that we will be receiving
- Learn more about LSTM and how to incorporate it with out System Architecture
- Start the use cases and system architecture

### Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Erin Elsbernd	Wrote a data processing program. Wrote an LSTM example using keras. Worked on the Statement of Work in the project plan	12	28
Ram Luitel	Worked with the first version of data to fit the data with Decision tree and random forest model. Worked on the introduction for the first project plan.	10	24
Faizul Jasmi	Tested LSTM models to see how they would	9	22

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	fit in the project. Designed the Project timeline in the project plan.		
Khoa Bui	Worked on the proposed approach of the project plan. Researched more about machine learning and neural networks.	8	21
Taizhong Huang	Worked on the proposed approach and statement of work in the project plan	7	19
Christian Chiang	Redesigned the website and updated all the new information. Worked on the resource estimation and challenges in the project plan	9	22