Data Analysis for ITSM Incident Management

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Presentation link:

IST 707 Data Analytics
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Problem Statement

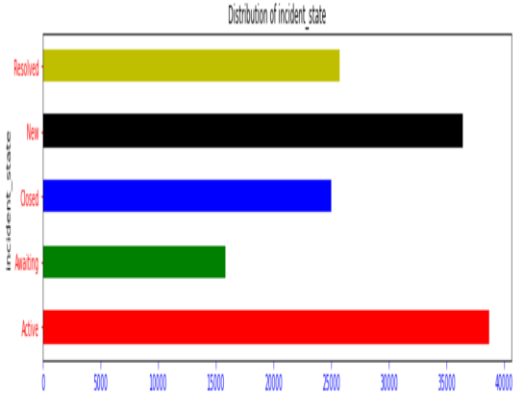
IT firms usually work by using test management tools for requirement gathering and solving system related or user related problems using those tools. By predicting when those issues were supposed to be resolved and when they were, we can find whether employees are resolving those issues considering urgency and those priorities and how impactful it is when those system or user issues are closed before the actual time mentioned.

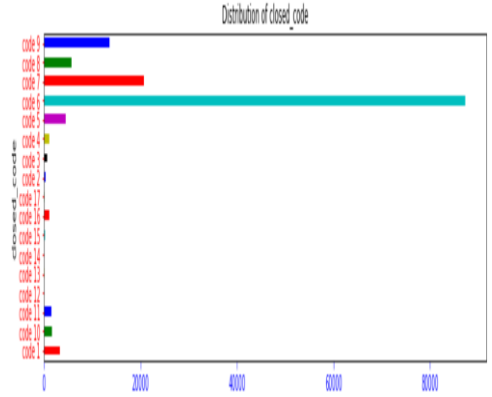
Project Objective

The objective of this project is to correctly predict if a system or user issue is resolved, time taken to resolve those tasks . We will also be looking at important attributes that will help us predict the reasons behind the time taken for an incident to be resolved and closed.

Dataset Description

The training dataset consists of a total of 36 assessment parameters. The group of independent variables is a mix of categorical and numerical type of data. The dataset consists of 1 case identifier, 1 state identifier, 32 descriptive attributes and 2 dependent variables. There are 28 categorical, 5 continuous numerical and 3 discrete numerical variables.





Models Used

Model	Accuracy
Decision Tree	82.5%
Gradient Boosting	81.3%
Support Vector Machine	86%
Logistic Regression	76%

Performance Evaluation

Model Comparison

Conclusion

By implementing different models, we were able to predict the issues resolved by the employees and their total duration to prioritize the tasks based on their importance.

Dash App

An application that enables customization of parameters to predict the issues.