

Requirement	Title	Description
FR1	Enhanced Model	The provided model needs to be re - visited and enhanced to meet the performance requirements.
FR2	Model Input	The model shall receive as input only a text review. No other input variables should be considered.
FR3	Model Output	When given a text review, the model will output the probability that the review is positive. A review is considered positive if the associated rating is > 0.5 .
FR4	Model Evaluation	The model will be evaluated using 0 - 1 loss on the test set.
FR5	Data Set	The model that will be used in production must be trained on the entirety of the provided dataset: "AppReview.csv".
FR6	Software Hosting System	As part of the solution, a system will be provided to host the model on the client's internal company network and provide controlled access.
FR7	Model Access (Frontend)	The model will be accessed through a web portal, which will serve as the frontend of the hosting system. This component will accept user inputs, convert the to the appropriate format, interface the model, and represent the results as required.
FR8	Single/Multiple User Input	The user will be able to either enter a single text review and obtain a predicted sentiment, or upload a CSV file containing many reviews, and download a corresponding file with associated predicted sentiments.
FR9	File Output Type	When the user uploads a CSV file as per FR8, the corresponding output file will also be a CSV file of ones and zeroes, representing positive and negative reviews.
FR10	User Authentication	Each user accessing the portal should be authenticated against the company's Active Directory. This will be done using Windows Integrated Authentication.
FR11	Model Hosting (Backend)	The model will be hosted on a backend server. The only task of this component is to respond to queries, replying with one or more predicted sentiments. As per FR7, appropriate presentation of these outputs will be handled by the frontend.
FR12	Model Interface	The model will be interfaced via a custom developed RESTful API. This will allow the client to easily access the model programmatically if required.

FR13	System Reproducibility	The system should be easily reproducible so that it can be locally staged at the various branches the client's company has. This will ensure that all associated traffic is kept local.
FR14	System Support	The system will be updated on a monthly basis as required, and will be managed according to the support plan presented in this document.
FR15	Project Website	A website needs to be created that will host the project and act as a gateway to all deliverables. This is separate from the frontend web portal used to interface with the model.
FR16	Project Website Content	Project details, including the project's purpose, requirements, goals, and architecture, should be included on the website. In addition, all project documentation and the Azure ML Studio model need to be linked.
FR17	Project Documentation	Each sprint is to be capped by a report which will include all deliverables associated with that sprint. The deliverables are listed in the "Team Project Instructions" document. These documents will be made available on the project website.
PR1	Prediction Latency	A single prediction should take no more than 0.1 seconds.
PR2	Model Accuracy	The model should achieve test error of less than 10%.
PR3	Number of Users	Although the anticipated number of users is small as this is a specialized application, each deployment should be able to comfortably handle up to 10 simultaneous users.
PR4	Availability	The system should be highly - available, and should be down for no more than one day every month to allow for regular maintenance (as per FR14).
ImpR1	GitHub	The project website must be hosted on GitHub.
ImpR2	Trello	The project must be managed through Trello.
ImpR3	Azure ML Studio	The model must be initially implemented in Azure ML Studio for demonstration purposes, before being integrated into the wider system.
ImpR4	Project Lifecycle	The project is to follow the OpenUP process and be broken down into four sprints: Initiation, Elaboration, Construction, and Transition.