

# Business requirement document

## Document

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## Revision History

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Role	Name	Signature	Date

## Table of Content

<b>Sr No</b>	<b>Content</b>	<b>Page No</b>
1.	Introduction	1
	1.1 Project Details	1
	1.2 Description	1
2.	Defining the problem	2
	2.1 Executive Summary	2
	2.2 Project Objective	2
	2.3 Project Scope	3
	2.4 Business requirement	3
	2.5 Key Stakeholders	3
	2.6 Project constraints	3

# Introduction

## Project Details

Project Name	Big Data Derby 2022
Company	Kaggle
Project Manager	XYZ
Start Date	11 <sup>th</sup> August 2022
End Date	10 <sup>th</sup> November 2022

## Project Description

### Goal of the Competition

The goal of this competition is to analyze horse racing tactics, drafting strategies, and path efficiency. You will develop a model using never-before-released coordinate data along with basic race information.

Your work will help racing horse owners, trainers, and veterinarians better understand how equine performance and welfare fit together. With better data analysis, equine welfare could significantly improve.

### Overview

Your challenge is to generate actionable, practical, and novel insights from horse tracking data that devises innovative and data-driven approaches to analyzing racing tactics, drafting strategies and path efficiency. There are several potential topics for participants to analyze.

These include, but are not limited to:

- Create a horse rating measuring expected finish position versus actual finish position. How does a horse's expected finish position change through the running of a race? Does this metric rely solely on a horse's own position or is it influenced by the position of competitors?
- What are optimal racing strategies? Considering different venues, surfaces and race distances. Create a jockey rating based upon path efficiency?
- Create a surface measure model which would rate the fairness of different paths on a racecourse that may be beneficial or harmful to finish position based. This may be a result of unknown barometric, weather or maintenance factors.
- Create a model measuring the existence (or not) and relevance of a drafting benefit.
- Create a model reveal optimal gait patterns. Does the model differ for such factors as age, distance, race section or surface?

Contestants should not feel limited to these suggestions.

The above list is not comprehensive, nor is it meant to be a guide for participants to cover.

*Submissions that examine one idea more thoroughly are preferred versus those that examine several ideas somewhat thoroughly.*

## Defining the problem

### Execute summary

Dashboard which helps stakeholders to understand and analyze the performance and decision-making of jockey by visualizing the overall stats, pace, drafting and relative position of jockey during the race.

### Project objective

- Create an Elo rating system which helps understand the performance of the jockey
- Develop a dashboard which helps to understand the following:
  - o Stats of the dataset.
  - o Jockey drafting, relative position, speed and acceleration of the horse during the race.

*Note: I am using the SMART goals template to define the objective of the project*

### Methodology

- *Understand the business requirement*
  - o *Analyze the horse racing tactics, drafting strategies and path efficiency.*
  - o *Analysis should help equine welfare, performance and jockey decision making.*
- *Understanding the scope*
  - o *Drafting strategies and jockey decision making.*
  - o *Host of the project does not require complete solution rather require the approach to solve the problem.*
- *Initial Goal*
  - o *Help stakeholders analyze and understand the performance and decision making of the jockey.*
- *Make it specific*
  - o *Create a rating system for the jockey performance which is also consider the performance of other jockeys.*
  - o *Derive the drafting, relative position, pace of the horse from the given dataset.*
- *Make it Measurable*
  - o *Develop a dashboard which helps the stakeholders to analyze and visualize the stats and jockey performance during the race.*
- *Make it Achievable*
  - o *Develop and Deploy dashboard on Microsoft Power BI service.*
- *Make it Realistic*
  - o *Resources – Hosted Notebook, Microsoft Power BI*
  - o *Teams – Data analysis, Data scientist*
- *Make it Time – Bound*
  - o *The project must be completed before 1 week of the deadline of the competition which is 10<sup>th</sup> November 2022*
  - o *3<sup>rd</sup> November 2022 will be deadline to complete the project*

## Project scope

Submission Date	10 <sup>th</sup> November 2022
Budget	Not defined
Deliverables	Data preparation and EDA hosted notebooks Microsoft Power BI dashboard
Resources required	Hosted Notebooks Microsoft Power BI service
Project Team	Data analyst and Data scientist

## Business requirement

Priority level	Requirement description
1	Data gathering from Kaggle website
2	Data cleaning the dataset
3	Derive the required features from the dataset
4	Data modeling for the dashboard
5	Preparing the dataset for analysis and dashboard
6	Creating the Multi Elo rating
7	Developing the dashboard
8	Deploying it to Microsoft Power BI service

## Key stakeholders

- Horse owners
- Horse trainers
- Jockey's
- Horse racing professionals

## Project constraints

- Timeline
- Budget
- Team availability
- Project risks
  - Audience is non-technical – if dashboard is not user-friendly stakeholders might find it difficult to use it.