Priority

1. Match (the target is in here) **linked with match\_id**
   1. Tower and barrack status can encoder from dec to bin see <https://wiki.teamfortress.com/wiki/WebAPI/GetMatchDetails#Tower_Status%22tower_status_dire%22:%202047> for more information
2. Player\_time (provide gold, lh, xp at with timestamp) **linked with match\_id and player slot**
   1. Each attribute depends on times and links to player slot we must find some method to manage this problem
3. Players (gpm, xpm, kills, deaths) **linked with match\_id and referrer to account\_id**
   1. Show combination of heroes of each team
4. Teamfights (can estimate benefit of team fight)
   1. Duration may show some significant sign perhaps
5. Teamfights\_players (additional data of teamfights)
   1. Have to group each team fight related to timestamp of team fight then analysis the result of team fights

Unused file

1. Cluster\_regions
2. Hero\_names (represent hero)
3. Ability\_id (represent ability name)
4. Item\_id (represent item name)
5. Match\_outcomes (not understand this file)
6. Objectives (not understand this file and have a lot of missing value)
7. Player\_ratings (what is the value of account\_id)
8. Purchase\_log (hard to identify each timestamp)

Not sure

1. Ability\_upgrades
2. Chat
3. Patch\_dates

problems are interesting to work

1. Predict match win and lose
2. Predict hero combo performance
3. Predict benefit in team fight

Guiding question

1. Tower and barrack status affect the target
2. First blood team can affect the target
3. What is the combination of heroes that most win?
4. Rate of gold, xp change can refer to big team fight
5. Sum of team gold spent will show some insight
6. KDA score will affect to the target
7. Stuns time may have some sign

Match data

1. duration of the game play has mean 2476 second and S.D. = 634.631261
2. 36.7% of first blood time is in range 0 - 41.55
3. tower and barracks status obviously show the impact on wins and losses because it is measured at the last tower, which to get it must eliminate the previous tower first.
4. The winning team obviously shows more gold spent, GPM, XPM, kills, deaths, assists, level and damage to tower and heroes
5. surprising stuns duration and leaver status do not impact wins and losses. Leaver status doesn’t affect to win or loss although it abandons because the data of abandoned matches is too less
6. Most games end at 2476 seconds, the average level of the whole team is 18, and the killing score of winner team is 44.7 and 29.37 for the loser team
7. The cluster of stuns duration doesn't indicate any significant terms. But the clusters with high stuns duration will slightly increase gameplay time and it also affects the killing score
8. amazing that the gold and XP each team before the team fight doesn't affect to the benefit of that team fight

team fight data

1. We don't consider delta gold and XP because the benefit of a team fight calculate from delta gold and XP after the team fight occurs. Amazing that the gold and XP each team before the team fight doesn't affect to the benefit of that team fight
2. the result of scatter plot is also the same as the histogram plot it doesn't have any feature that seems to impact on team fight benefit

Region performance

Feature

What meta hero in patch from win loss

Feature: match player\_id item hero stat & score

Items hero