

Data Dictionary

| Term | Definition |
|--------------------|---|
| API | An application programming interface (API) is a way for two or more computer programs or components to communicate with each other. In this project, we will be using google maps, weather, ultraviolet(UV), air temperature and pollutant standard index (PSI) APIs, which is a set of protocols and tools that allow for the retrieval of the required data from various sources. It acts as an intermediary, enabling software applications to access real-time, forecasted, and historical weather information. |
| Sport | An athletic activity requiring skill or physical prowess and often of a competitive nature. In this project, when we refer to sports, we will be referring to Basketball, Football, Swimming, Running, Tennis and Badminton. |
| Sports facilities | Sports Facilities means enclosed areas of sports pavilions, stadiums, gymnasiums, health spas, boxing arenas, swimming pools, roller and ice rinks, billiard halls, bowling alleys, and other similar places where members of the general public assemble to engage in physical exercise, participate in athletic competition, or witness sporting events. In this project, we will refer to sport facilities which are mainly used to engage in physical exercise. |
| Sports court | An outdoor or indoor asphalt court (not including parking lots) designed for athletic purposes (i.e. basketball court, tennis court, etc.) surrounded by fencing or on a standalone pad. |
| Sportify system | System that ranks all the sports that the user can do within the specified search radius, ranked in a descending order based on the data derived from the weather, rainfall, UVI, Google maps and PSI APIs |
| Default location | The current location of the user when they use the sports recommendation system. They can use the GPS on their device. This is the default option. |
| Departure Location | The location the user wishes to set as their location when they use the sports recommendation system. They can type down their location instead of using their GPS. |

| | |
|------------------|---|
| Weather | The state of the atmosphere with respect to wind, temperature, cloudiness, moisture, pressure, etc. In this project, it will be classified into clear, partly cloudy, Raining and thunderstorm. |
| Weather forecast | Predicted weather conditions for the user's location in the future. In this project, the weather-forecast will reflect the intensity of rain. |
| Rainfall | Intensity of rain in the user's area.in mm. and in terms of frequency, intensity, precipitation rate. The intensity of rain is classified into four levels. Light rain is when the rate of rainfall is less than 2.5 mm/h. Moderate rain is when the rate of rainfall is 2.6 to 7.5 mm/h. Heavy rain is when the rate of rainfall is 7.6 to 50 mm/h. Violent rain is when the rate of rainfall is greater than 50 mm/hr. |
| UVI | Ultraviolet Index (UVI) is a measure of the level of UV radiation. The values of the index range from zero upward - the higher the UVI, the greater the potential for damage to the skin and eye, and the less time it takes for harm to occur. If the UVI ranges from 0 to 2, it is safe to be outside. If the UVI ranges from 3 to 7, it is better to seek shade during midday hours, but the person can be outside if they take extra protection against the UV radiation such as wearing clothing which covers most of their body and using sunscreen. If the UVI is 8 and above, going outside is not advised. In this project, the current UVI at the user's location will be used to determine what type of sport and location is the most suitable. |
| PSI | The Pollutant Standards Index (PSI) is a type of air quality index used in Singapore, which is a number used to indicate the level of pollutants in air. There are five categories for PSI. If it ranges from 0 to 50, it is good. If it ranges from 51 to 100, it is moderate. If it ranges from 101 to 200, it is unhealthy. If it ranges from 201 to 300, it is very unhealthy. If it is greater than 300, it is hazardous. In this project, the current PSI at the user's location will be used to determine what type of sport and location is the most suitable. |
| Thunderstorm | A transient storm of lightning and thunder, usually with rain and gusty winds, sometimes with hail or snow, produced by |

| | |
|-------------------|---|
| | cumulonimbus clouds. In this project, we will be using boolean to indicate if there is a thunderstorm, with 0 being that there is a thunderstorm and 1 being that there is no thunderstorm. |
| Vacancies | Number of slots available for the sport in the sports facility that is recommended to the user. |
| Busy levels | Busy levels is used to describe the number of people who will be using the same facility for the sport that we are looking at. Busy levels will be based on the vacancies in the sports facility. There are three levels of Busy-levels: spacious, partially filled and full. |
| Search radius | A straight line extending from the centre of a circle or sphere to the circumference or surface. In this project, we will be using this radius, with the user's departure radius as the centre, within which we will identify all the sports facilities we wish to consider. |
| Recommended sport | The recommended sport based on weather conditions and user preferences. The sport location with the highest score will be recommended. |
| Final Score | Score derived from evaluating the uv index, psi index, distance to the location of the sports facility based on the chosen mode of transport and air temperature from a scale of 1 to 100 |