**Model Development Phase Template**

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| Date | 7 July 2024 |
| Team ID | 739916 |
| Project Title | Predicting the Compressive Strength of Concrete |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| Cement  (kg/m³) | Amount of cement in the mix | Yes | Major contributor to the compressive strength. |
| Water Content | Amount of water in the mix (kg/m^3) | Yes | Influences the hydration process and strength. |
| Coarse Aggregate | Amount of coarse aggregate (kg/m^3) | Yes | Provides bulk and affects the concrete's strength. Provides bulk and structural integrity to the mix |
| Age | Age of concrete in days | Yes | Compressive strength increases over time. Strength increases with age; typically measured at 7, 28, and 90 days. |
| Fine Aggregate | Amount of fine aggregate (kg/m^3) | Yes | Affects the workability and strength of concrete. Impacts workability and the overall mix composition. |
| Superplasticizer | Amount of superplasticizer in the mix (kg/m^3) | Yes | Improves workability and can enhance strength. |
| Fly Ash | Amount of fly ash in the mix (kg/m^3) | Yes | Used as a supplementary cementitious material. |
| Blast Furnace Slag | Amount of blast furnace slag (kg/m^3) | Yes | Improves durability and strength |
| Water/Cement Ratio | Ratio of water to cement content | Yes | Crucial for determining workability and strength. |
| Temperature | Temperature during curing (°C) | Yes | Affects the rate of strength gain. |
| Mixing Time | Duration of mixing process (minutes) | Yes | Proper mixing ensures homogeneity. |
| Curing Method | Method used for curing (e.g., water curing) | Yes | Impacts the strength development. |
| Chemical Admixtures | Type and amount of chemical admixtures used | Yes | Can significantly alter the properties of concrete. |