Domain Model Justification

The Player entity exists because each player controls one of 4 unique tokens (Blue Dragon Token, Green Dragon Token, Red Dragon Token, and White Dragon Token). Therefore, the Player entity relates to the 4 unique tokens with the 'controls' relationship.

Initially, we had 4 Player entities in the domain model, however after discussing we came to the conclusion that doing that would be redundant, and decided to just have 1 Player entity only. The reason why we only have one Player entity instead of 4, is because the distinction between players is already represented by the 4 unique tokens. Therefore, having 4 Player entities would be redundant, as the players are already distinct through the Token the Player controls.

Furthermore, each player can flip up to 16 Dragon Cards (chit cards) per turn. Therefore, the Player entity relates to the Dragon Card entity with the 'flips' relationship.

Initially, we had the idea of further listing out the types of Dragon Cards (Baby Dragon Card, Salamander Card, Bat Card, and Spider Card). However, after discussion, we decided against that. The reason why we decided not to break down the 16 Dragon Cards further into the different dragon types is because regardless of the type of the Dragon Card, the action that the player can do to it does not change, that being 'flip'. Therefore, the Player Entity will always relate to the Dragon Card Entity with the 'flips' relationship regardless of the type of the Dragon Card, further breaking down the 16 Dragon Cards into their different types would be redundant.

Since the Cut Volcano Card entity can have any one of the Cave entities (Baby Dragon Cave, Salamander Cave, Bat Cave, and Spider Cave). Therefore, we generalised the 4 distinct cave entities to a generalised Cave Entity to show that each Cut Volcano Card entity can have any one of the Cave related to it, this reduces redundant relationships.

As per the game manual, the Volcano is made of 4 Cut Volcano Cards and 4 Uncut Volcano Cards. This indicates an aggregation relationship, where the Volcano is the whole and the Cut and Uncut Volcano Cards are its parts. Therefore, the Volcano entity aggregates these cards to form a complete game element, reflecting the physical assembly of the volcano in the game. As such, the Volcano entity 'consists of' Cut Volcano Cards and Uncut Volcano Cards.

Both the Cut Volcano Cards and Uncut Volcano Cards are made up of individual Volcano Tile entities, 3 Volcano Tiles make up 1 Cut/Uncut Volcano Card. Therefore, each Cut Volcano Card and Uncut Volcano Card 'consists of' Volcano Tiles.

Initially, we did not have the Volcano Tile entity, but after further discussion, we decided that this entity was needed. The reason why we have the Volcano Tile entity is because the Token actually interacts with and 'moves on' the individual volcano tiles rather than the whole Cut/Uncut Volcano Card. As such the Volcano Tile entity is needed to represent this relationship between the Token and the individual tiles.

We generalised the 4 unique tokens (Blue Dragon Token, Green Dragon Token, Red Dragon Token, and White Dragon Token) to a Token Entity that has a "moves on" relationship with the volcano tiles. The reason is because the type of the Token does not change or affect the relationship between the Token and the Tile entity. The Token entity relates to the Tile entity with the "moves on" relationship regardless of the type of the token. This generalisation cuts down on redundant relationships.

The Dragon Cards (chit cards) that the Player flip are also housed inside the Volcano to reflect how they are placed in the real world physical game. Therefore, the Volcano entity relates to the Dragon Card entity with the "houses" relationship. Again, the type of Dragon Card does not affect how it is "housed" by the volcano, as such it would be redundant to break down the Dragon Card into its different types.

Lastly, the player arranges the Volcano, which includes the parts that make up the Volcano (Cut and Uncut Volcano Cards), the Player also arranges the Dragon Cards (chit cards) before the start of the game. As such, Player relates to Volcano Entity with the 'arranges' relationship, this relationship covers everything mentioned above.