Physics

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The Physics Engine is made up by two aspects: Physics part and Collision Part. Physics engine is allowed to developers to change some features:

- `myBackgroundFactor` All the movement will multiply this factor. Its default value is 1.0. For example, if we develop this game in the water, maybe we need to set it to 0.8.

- `myOutBoundDistance` When sprites hit the up bound, left bound or right bound, we make them a rebound with this certain distance.

- `mySpeedFactor` it can control speed from MotionAction independently.

The Collision needs three things to pass in.

- The SpriteTemplateGroup: contains some teams and each team has some sprites in it. We only check the collision between sprites from different teams.
- A list of CollisionKinds or a CollisionKind: the kind here means the requirement of these two sprites. CollisionKindFriends works for two FighterBodies with the same GroupID; CollisionKindEnemy works for two FighterBodies with different GroupIDs; CollisionKindNeutral works for one sprite and one platformBlock. Also, CollisionKindCustom can help developers to create other CollisionKind easily. Every CollisionKind has some CollisionReactions in it.
- The specific PhysicsEngine

Six common reactions.

- Reaction Force: This reaction works in the case that sprites have a power to others.
- Reaction Momentum Conservation: This reaction is for the case that the collision under the law of momentum conservation and the law of energy conservation at the same time.
- Reaction Punch: This works for the case that one sprite punches another to a certain position.
- Reaction Push: This class works for the case that one pushes the other and these two go together.
- Reaction Rebound: This class works for the collision between sprite and a block.
- Reaction Stop: This class works for the case that two sprites collide and then we want them both stop with a certain distance between them.