Diagram Assembly Document

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- Board: The game board, this holds nearly all visual information about the game and state. The class holds random event flags, which will become more specific, that indicate global events.

- Province: A province is a group of hexes that are related by controlling faction. Essentially like the United States of Hexes.

- Hex: A discrete location on the board. Hexes are represented by a unique ID, terrain, and a stack of units that can be empty.

- Stack: A collection of units and characters, bound by the rules of the game. Ie, 0 or more characters, and 0-2 units. Also, special considerations for movement phase, flying units, and monsters.

- Special Hex: The special hex can be any of the residential hexes (city/capital/town/castle), or it can be one of the several unique hex types, such as a teleport hex or vortex hex, or the terrifying Bottomless Plungehole.

- Vortex: A vortex is a moveable unit, from the system's point of view. A character can control vortices under certain conditions. Otherwise movement, creation, and destruction of vortices is automated.

```
@startuml
title Keith Drew & Tyler Jaszkowiak Class Diagrams\nMap Related
hide circle

class Board #529292 {
      List Provinces
      RandomEventFlags (misc)
      int gameTurn
      int gameTurnLimit
}

class Province #529292 {
      String provinceName
      String GetName()
      List Allies
      HexContainer Hexes
}
note right of Province #red
      Provinces may only have one Capitol
      type hex in it's composition.
end note

class Hex #529292 {
      int hexID
      double moveCost
      double terrainID
      UnitStack units
      double GetTerrainID()
      int GetHexID()
      void ChangeTerrainType()
}
class Stack #529292 {
      List Units
      List Characters
      Stack SelectSubStack()
      void RemoveExcessUnits()
```

```
}
class SpecialHex #529292 {
      String name
      String hexType
      String GetHexType()
      String GetName()
}
class ResidentialHex #529292 {
      int leadershipRating
      double initialDefenseRating
      double defenseRating
      double GetDefenseRating()
}
class BottomlessPlungeHole #529292 {
      void DestroyStack()
}
note left of BottomlessPlungeHole #red
      If any units move here,
      they are destroyed.
end note

class VortexHex #529292 {
      void SpawnVortex()
}
class TeleportHex #529292 {
      void TeleportUnits()
      int teleportID
}
class Vortex #529292 {
      double moveableUnitID
      void RandomMovement()
      void DamageUnits()
      void Move()
}

Board *-right- "22" Province : Provinces build\nboard
Province *-down- "1..*" Hex : Hexes build\nProvinces
Hex <|-down- SpecialHex : Extends
Vortex .up. VortexHex : Spawns
note right on link #red
      This is where vortices come
      from, other than spells.
end note

TeleportHex --up|> SpecialHex : Extends
VortexHex --left|> SpecialHex : Extends
BottomlessPlungeHole --right|> SpecialHex : Extends
ResidentialHex --up|> SpecialHex : Extends
Stack -lefto Hex : Aggregation
@enduml
```

Board

List Provinces
int gameTurn
int gameTurnLimit

RandomEventFlags (misc)

Province

String provinceName
List Allies
HexContainer Hexes

String GetName()

Provinces may only have one Capitol type hex in it's composition.

Provinces build board

22

Hexes build Provinces

1..*

Hex

int hexID
double moveCost
double terrainID
UnitStack units

double GetTerrainID()
int GetHexID()
void ChangeTerrainType()

Stack

List Units
List Characters

Stack SelectSubStack()
void RemoveExcessUnits()

Aggregation

Extends

SpecialHex

String name
String hexType

String GetHexType()
String GetName()

BottomlessPlungeHole

void DestroyStack()

If any units move here, they are destroyed.

Extends

Extends

VortexHex

void SpawnVortex()

This is where vortices come from, other than spells.

Extends

Extends

Spawns

ResidentialHex

int leadershipRating
double initialDefenseRating
double defenseRating

double GetDefenseRating()

TeleportHex

int teleportID

void TeleportUnits()

Vortex

double moveableUnitID

void RandomMovement()
void DamageUnits()
void Move()