# Better Tower Defense – Test

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## Entity System

* Creating a new entity
* Removing an entity
* Adding data to a preexisting entity
* Adding data and then destroying the entity before an update loop runs
* Destroying an entity and removing data from it
* Modifying data twice

## Networking

* Connect to an invalid ip, ie, “hi there”
* Connect to a valid ip, ie, “localhost”
* Require a password
* Enter an invalid password

## Unit Spawning

* Spawn multiple enemies at the same time
* Spawn an enemy and then destroy it

## Locomotion

* Move to a location where there is a densely populated region in front of us
* Follow a path that crosses over itself (eg, in terms of graph navigation, it is not optimal)
* Follow a sparse region (navigate between two nodes; base case)

## Effects

* Same effect applied twice
* N effects applied, where N is a very large number
* Adding an effect to a dead unit
* Effects removed after K seconds
* Effects added to a region; successfully applied to units within that region and units entering/leaving the region
* Results correctly determined based on the combination of effects
* Effects canceling each-other out

## Building Placement

* Can place buildings
* Cannot place buildings in invalid locations
* Cannot block monster path to the end via building placement

## Resources

* Cannot build, research, or use a power without minimum resources required
* Resources gained over time

## Power System

* Successfully able to apply to a region
* Successfully able to apply to a specific target
* Successfully reduces available resources
* Unavailable until certain events have happened or when required resources are not available

## Level Types

* Loaded correctly
* End-game mechanics work as expected
* Gameplay works as expected
* Enemies / allies remain consistent

## Dynamic Difficulty

* Difficulty successfully increased based on a number of statistics
* Statistics collected correctly
* Difficulty able to scale down or up
  + But not scale down below a minimum base difficulty