

# Learning Journal

## General research

Before starting the project as I never used unity packages before, I investigated what package types there are and their differences. I never heard of or used the navmesh before either as I have been using older versions of unity until now. Also never having done enemy ai (patrols) before in 3d that was new for me.

## Terms

Local package: A local package already exists on the file system, usually outside the Project folder. To install the package, notify the Package Manager of its location through the Packages window.

Embedded package: An embedded package is a package that you store under the Packages directory at the root of a Unity Project. This differs from most packages which you download from the package server

Git package: The Package Manager retrieves Git packages the Package Manager retrieves Git packages from a Git repository directly rather than from a package registry

Navigation system: The navigation system can be used to implement this behaviour, but it is slightly more involved than standard pathfinding - merely using the shortest path between two points makes for a limited and predictable patrol route.

NavMesh Surface: The NavMesh Surface component represents the walkable area for a specific NavMesh Agent type and defines a part of the Scene.

## Package 1 – Point and click

I wanted to make a social distancing shopping sim for my game demo and decided on a 3d point and click controller as I have never made/used one before in unity only 3<sup>rd</sup> and 1<sup>st</sup> person controllers but this brought me on to using the Nav mesh which I had no experience in.

## References used

Point and click - <https://docs.unity3d.com/Manual/nav-MoveToClickPoint.html>

Navmesh - <https://docs.unity3d.com/Manual/Navigation.html>

navmesh tutorial - <https://www.youtube.com/watch?v=blPgIabGueM>

For increaseing infection bar - <https://answers.unity.com/questions/812418/c-reduce-health-over-time-when-colliding-with-obje.html>

## **Package 2 – Collectibles**

Kept it simple by finishing the level when player has collected all items (shopping list)

### References used

Collectibles/finish level - <https://answers.unity.com/questions/372142/collectibles-objects-and-resetting-game-after-all.html>

Collectibles - <https://www.youtube.com/watch?v=1zF2W8JxFK4>

## **Package 3 Face Mask**

I wanted the face mask to act as a sort of invincibility star and stop the player from increasing the infection meter.

### References used

FaceMask invincibility / pausing the infection bar(health bar) - <https://answers.unity.com/questions/1629556/invincibility-on-characterinvincibility-timer-on-a.html>

The infection bar (health bar) - <https://www.youtube.com/watch?v=Gtw7VyuMdDc>

FaceMask invincibility - <https://answers.unity.com/questions/1426843/need-help-making-player-invincible-momentarily.html>

FaceMask invincibility - <https://www.youtube.com/watch?v=S61J3kDQ5Mk>

## **Package 4 – AI patrol**

The enemy ai had a few problems at first as on play - it would only read the closest node to it and stop on it. This was caused by having the player in the scene from the start and as it was reading the path inside the radius it would stop searching for nodes.

### References used

Enemy Ai patrol / navmesh – <https://docs.unity3d.com/Manual/nav-AgentPatrol.html>

Patrol - <https://www.youtube.com/watch?v=8eWbSN2T8TE>

Radius - <https://gamedev.stackexchange.com/questions/126427/draw-circle-around-gameobject-to-indicate-radius>