

On Screen Direction and Position Indicator/Pointer for Unity

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Purpose is to simplify on screen direction indicator common in 3D games where an arrow head is pointing toward a game object, or a waypoint or an enemy or an objective.

Setup

Setting up this system is pretty straight forward.

- There are a total of two script `OnScreenPointerController` and `OnScreenPointerObject`.
- `OnScreenPointerController` is a singleton. This script mainly contains environment info needed for this plugin.
- `OnScreenPointerController` needs two references. Camera related to player and ui `RectTransform`.
- `RectTransform` will contain all the pointers. Purpose is to have one place for managing all pointers.
- `OnScreenPointerController` has Camera reference. If it is null, plugin will try to find Main Camera and use it.
- `OnScreenPointerObject` is attached to target game object whose position we intend to track in realtime during our gameplay session.
 - `offset_local` is normalized screen size in x and y direction. During final result calculation, `offset_local.x` is multiplied with `screenWidth` and result is the padding from screen edges. (same process repeats for y and `screenHeight`).
 - `MoveInCircle` is used to place pointer at a fix distance from screen center. Smaller dimension is chosen from screen size and pointer is placed along that angle. Distance from center is controlled by `circleSizeNormalized`. Example: pointer is placed at a mid-way from screen center to screen edge when `circleSizeNormalized` is 0.5
 - `inScreenSprite`: Pointer Image when object is within screen area whether visible or not.

- `outScreenSprite`: Pointer Image when object is not in screen. Object may be in front of player but not in periphery of camera view. Object may be in back of player/camera.
- `uiImagePrefab`: Prefab configured for `inScreenSprite/outScreenSprite`. Can be a complex assembly of views chained together. However, current implementation has the assumption that parent Prefab will have a `Image` component.