

Shade

Blobby Studios

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Revision History

Revision 1.0 -

Added headings, revision history, and starting point.

Revision 1.1 (Justin) -

Added info on tools and gameplay.

Revision 1.2 (Erin) -

Added art template and miscellaneous character information.

Revision 1.3 (Jack) -

Added an Asset Documentation section along with documentation for the Camera and Player Controllers.

Revision 1.4 (Tiancheng) -

Added Enemy AI and Enemy Sight documentation

Revision 1.5 (Raul) -

Added player model and glass shader documentation

Revision 1.6 (Erin) -

Added Joe's UI mockups and final cleanup for Week 4 submission

Revision 2.1 (Justin) -

Added information on puddles, pause screen, scripts, cleaned formatting

Revision 2.2 (Raul) -

Added enemy model documentation

Revision 2.3 (Tiancheng) -

Added information about Patrol Enemy AI and Enemy rotating while chasing

Revision 2.4 (Justin) -

Added information on naming conventions

Revision 2.5 (Jack) -

Added Prefab Information

Revision 2.6 (Erin) -

Changed Headings & ToC

Revision 2.7 (Justin) -

Changed formatting, added info on prefabs

Revision 2.8 (Erin) -

Added content based upon professor critiques, formatting fixes

Revision 2.9 (Raul) -

Added notes to character models

Revision 3.0 (Tiancheng) -

Added enemy pause at waypoint in EnemyPatrolAI script.

Revision 3.1 (Raul) -

Added animation notes under character models

Revision 3.2 (Tiancheng) -

Added Camera Shake script

Revision 3.3 (Joseph) -

Removed reference to Doxygen, added puddle timer to UI section.

Premise

Eugene McBlobface is on a mission to recover the Golden Slime (which almost definitely has magical properties) from GLOB, the Gold Lump Observation Bureau. GLOB is set on studying the Golden Slime and using its powers for evil. GLOB agents roam the Bureau's headquarters, going about their evil work and keeping an eye out for anyone trying to infiltrate their space. They will chase down and remove anyone who isn't the same color as them, so Eugene must roll in puddles, move behind glass walls, and put himself under colored spotlights so he can hide in plain sight and reach the Golden Slime for the good of the world.

Characters

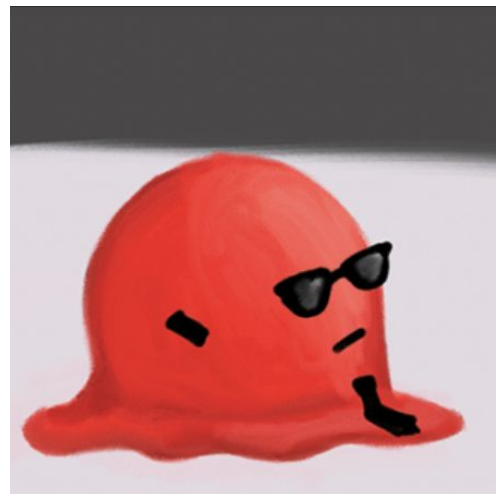
Eugene

Spy. Explorer. International blob of mystery. Eugene is on a mission through GLOB headquarters to recover the Golden Slime.



GLOB Grunts

GLOB agents working in headquarters. These spherical, sunglass-wearing workers patrol their office and lab areas, and will chase down and remove anyone who isn't the same color as them.



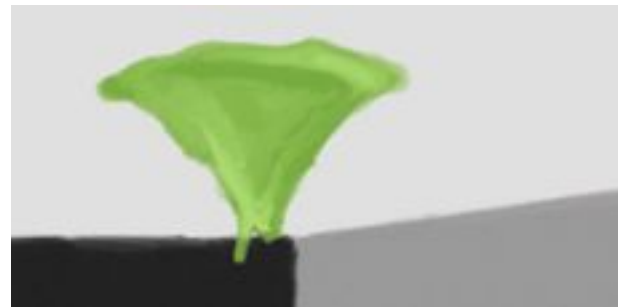
GLOB Puddle - Floor

GLOB agents lurking on office and lab floors. These agents lay motionless and do their best to imitate puddles of spilled paint. Be careful - if the puddle has eyes, it will grab you!



GLOB Puddle - Ceiling

GLOB agents hiding on the ceiling. Slime under them, and they'll grab you from above and send you back to the start of the level!



Art Style











Stylistic Reference

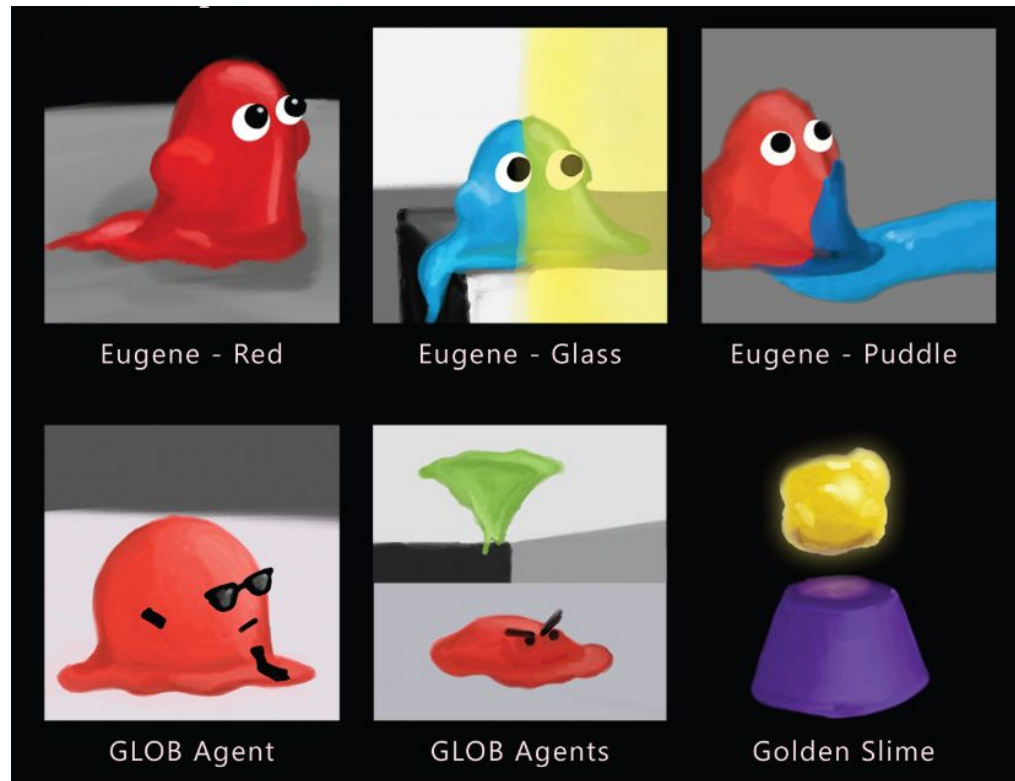
- The labs from Portal 2 show a clean, mostly greyscale environment with laboratory equipment and pops of super-saturated color. This image should be used to guide the design of level spaces.
- This still from Altered Carbon is intended primarily as color reference. While we are aiming for a laboratory, mostly-desaturated vibe like the Portal 2 still, this very dark environment with small, highly saturated lights is exactly what we are looking for in terms of color and lighting work.
- B.O.B. from Monsters vs. Aliens is a clear inspiration for Eugene. He has a similar shape and friendly design, and also provides excellent reference for what Eugene's jello-y material should look like.

Color Palette

- Specified RGB values ensure that all team members working on parts of the game use consistent colors.

	RED: (255, 0, 0)
	ORANGE: (255, 125, 0)
	YELLOW: (255, 234, 4)
	GREEN: (0, 255, 0)
	CYAN: (0, 255, 255)
	BLUE: (0, 0, 255)
	VIOLET: (125, 0, 125)
	PINK: (255, 101, 221)

Concept Art



- Original designs for Eugene, GLOB agents, and the Golden Slime.

Fonts

Juice ITC

Used for titles.

Lora Italic

For subtitles and subheaders.

Source Sans Pro

For larger text - single sentences, bullet points, etc.

Source Sans Light

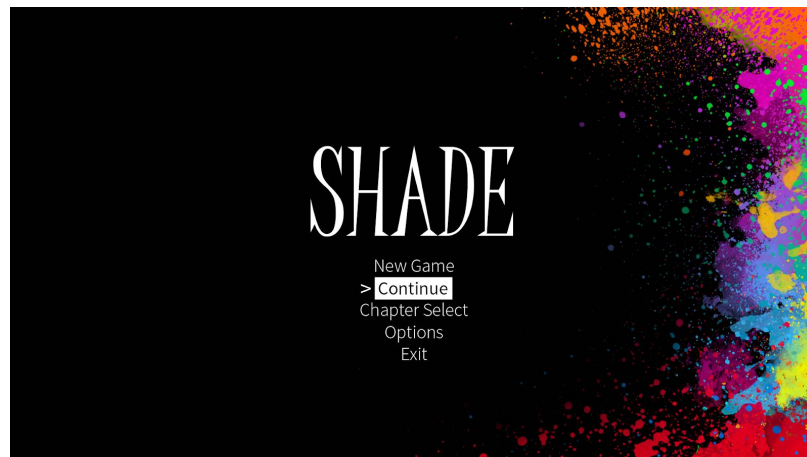
For larger blocks of text & paragraphs.

UI

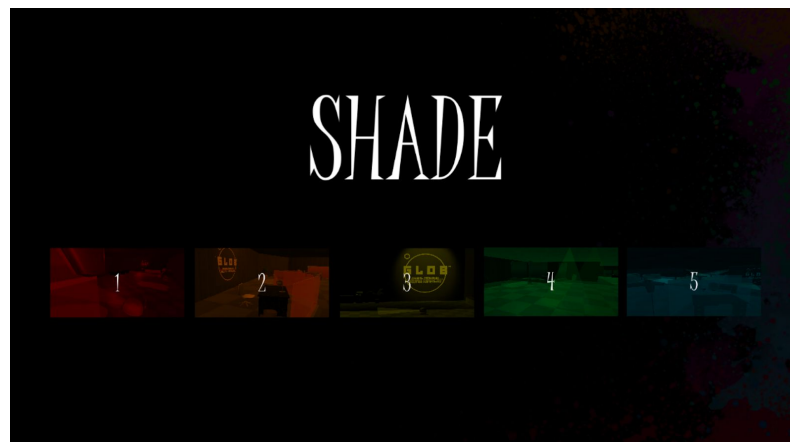
Title Screen



Menu Screen



Chapter Select



Pause Overlay



Victory Screen



Color Timer

Gameplay

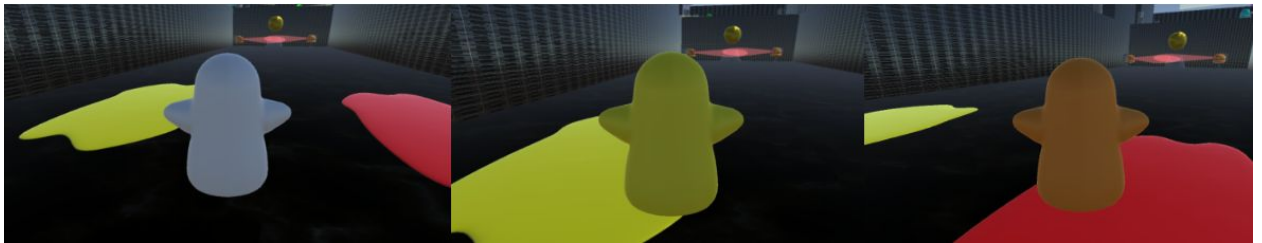




Glass Walls

Enemies will be able to see the player through glass walls, where the player will be tinted by the color of the glass.

If the enemy identifies the player as having a different color through the wall, it will begin to chase [See Enemies].



Puddles

If a player steps in a puddle, they will be coated in the color of that puddle for a short period of time. Puddle colors can be mixed.



Spotlights

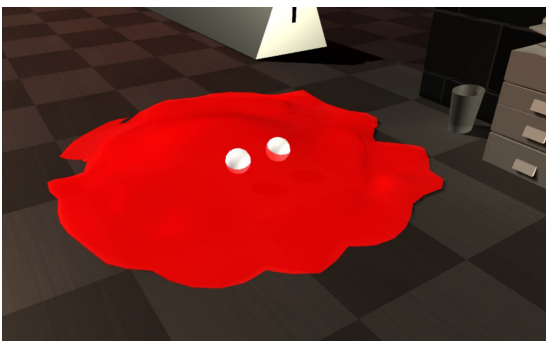
If a player is within the radius of the spotlight, the player will be seen as the color of the spotlight.



Enemies - GLOB Grunts

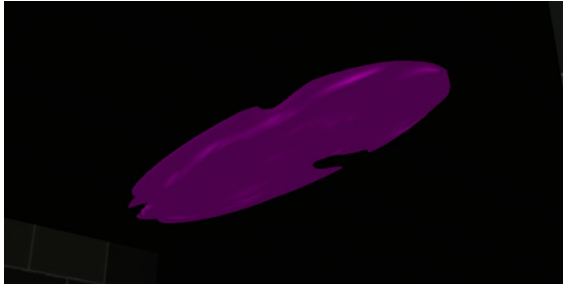
Grunts are constantly checking for a player that is a different color than themselves, and once they find them, they will chase them until either:

- 1) The player becomes the same color as the enemy chasing
- 2) The player leaves line of sight



Enemies - Puddles

These enemies pose as paint puddles, so watch out! Make sure you're not trying to roll in a puddle with eyes - because it will immediately send the player back to the beginning of the room if it is touched!



Enemies - Ceiling

The GLOB ceiling sentries lie in wait above the cubicles and lab equipment at GLOB headquarters, keeping an eye on everything from above. Walk under them and be picked up and spit out back at the beginning of the room!

Tools

Unity

The team is using Unity as its primary development software. We are operating primarily on Unity version 2017.4.0.

HackNPlan

The team is using HackNPlan as its primary planning software. On Thursday the team coordinates the following week's sprint, and each member gets their week's work assigned to them.

Discord

The team is using Discord as its primary communication software. Chat is split up amongst different channels to help cut down on clutter.

Google Drive

The team is using Google Drive to collaborate on creating documentation and design documents.

Github

The team is using Github as its primary source control software. The branching strategy is to create new branches for each new feature, where no

user can push directly to master and all merges must be reviewed by a product expert.

Wordpress

The team is using Wordpress as its front-facing website. PPJ's are stored here, as well as the current up-to-date build.

DOTween

DOTween will be used to handle tweening for fades between scenes, animations, and the like.

Asset Documentation

Scripts

PlayerController.cs

What it Does: Moves the player using WASD for translation and Mouse for rotation. Jump with Space. Freezes X and Z rotation on the Player's Rigidbody so it can't fall over. Turns useGravity on and isKinematic off.

ColoredLights.cs

What It Does: Checks to see if the player enters/exits the trigger of the ColoredLight, changes color accordingly.

Puddles.cs

What It Does: Checks to see if the player enters/exits the trigger of the Puddle, changes color accordingly. When a player exits the puddle, they retain the color for 30 seconds afterwards.

CameraController.cs

What it Does: Keeps the Camera in position behind the player and allows movement using the mouse. Locks the camera to 90 degrees vertical rotation.

Enemy AI.cs

What it Does:

- Identify the player's color
- chase the player if it is in sight of enemy.
- Respawn Player if patrol enemy catches the player

EnemySight.cs

What it Does:

- Creates field of view for enemy using raycast to detect whether is in sight
- the color check engine is implemented in the script
- Stop enemy patrolling when enemy sees player

Spawn.cs

What it Does: Master respawn script. Keeps track of all spawnpoints and checkpoints, automatically respawning the player at the most recent one. Provides TriggerRespawn method.

SpawnPoint.cs

What it Does: Marks a location to trigger a checkpoint / respawn point.

StaticEnemyAI.cs

What it Does: Triggers respawn of player upon collision.

EnemyPatrolAI.cs

What it Does: Enemy patrols through a list of waypoints and pauses at each waypoint for a random amount of time. The random time enemy pause is between 0 to the value of MaxWaitTime variable that we can setup in Unity.

CameraShake.cs

What it Does: CameraShake.cs is a static class. It can be called from anywhere without initializing an instance. Calling CameraShake.Shake(); would cause the camera shake for a certain amount of time with certain amplitude. The shake duration and amount can be changed in CameraShake.cs script

EugeneFill.cs

What it Does: Fills the Eugene Timer HUD with a block of color that decreases after the player leaves a puddle. Is called by the Puddle.cs script.

EugeneTimer.cs

What it Does: Operates all EugeneFill objects in the timer HUD,

Prefabs

Player

NOTE:

- CHANGE TAG TO Player

Contains:

- Transform
- Rigidbody
- PlayerController (Script)
 - MoveSpeed
 - JumpForce
 - GroundDistance

Children:

- Camera
 - CameraController (Script)
 - CamDistance
- Eugene
 - **Children:**
 - Body
 - MeshFilter
 - MeshRenderer
 - MeshCollider
 - ColorArray Script
 - _baseColor
 - MeshCollider
 - Eyes
 - Left Eye
 - MeshFilter
 - MeshRenderer
 - Right Eye
 - MeshFilter
 - MeshRenderer

Enemy_Grunt_Default

Contains:

- NavMesh Agent
 - Speed
 - Angular Speed
 - Acceleration
 - Stopping Distance
 - Radius
 - Height

- EnemyPatrolAI (Script)
 - Waypoints [Array]
- EnemyAI (Script)
 - Catch Distance

Children:

- Enemy_FOV_Cone
 - MeshFilter
 - MeshRenderer
 - Sphere Collider
 - EnemySight (Script)
 - FoV Angle
 - See Through Threshold
- Enemy_Model
 - Animator
 - Rigidbody
 - MeshCollider
 - **Children**
 - blob
 - MeshFilter
 - MeshRenderer
 - MeshCollider
 - glasses
 - MeshFilter
 - MeshRenderer

Waypoint

Contains:

- X amount of transforms which sets the enemy path

Glass_Default

Contains:

- Transform
- Box Collider
- NavMesh Obstacle

Note:

- Glass colors found in Assets/Materials/Objects/Glass
- CHANGE TAG TO COLOR OF GLASS

Children:

- Edge
- Glass
 - THIS IS WHERE YOU CHANGE COLOR OF GLASS
- Stand

Light_Default

Contains:

- MeshRenderer
- MeshFilter

Children:

- ColoredLight (Script)
- Light
 - THIS IS WHERE YOU CHANGE THE COLOR AND SIZE OF THE LIGHT.
- Box Collider
 - MUST BE EDITED TO FIT AROUND THE LIGHT

Puddle_Default

Contains:

- Puddle (Script)

Children:

- Puddle_Body
 - MeshFilter
 - MeshRenderer
 - THIS IS WHERE YOU CHANGE THE COLOR OF THE PUDDLE
 - Box Collider

NOTE:

- CHANGE TAG TO COLOR OF PUDDLE

SpawnManager

Contains:

- SpawnManager (Script)
 - Set the Player's Initial Color here from the list of colors.

SpawnPoint

Contains:

- Transform
- Capsule Collider
- SpawnPoint (Script)
 - Check the Initial Spawn box if the spawnpoint is the initial spawn

NOTE:

- Orient the Capsule Collider as you with the player to be oriented upon respawn.

Pause_Canvas

Contains:

- Panel
- Panel (1)

SoundManager

Contains:

- SoundManager script
- All sounds for the game

Doorway

Contains:

- Doorway plane
- Win script to take player to next scene
- Particle emitter

Naming Convention

Code

Scripts

Title the script with a descriptive word that encompasses the function of the script cleanly. If you can't think of a word that does everything the script is meant to do, it should probably be two separate scripts!

Art

Materials

[Type]_[Details]

E.g. Metal_Basic or Glass_Cyan

Models

Just be descriptive. Please?

[Object]_[Component]

Unity

Prefabs

[Object]_[Type]

E.g. Glass_Default or Puddle_Cyan

Debugging/Build Issues

DOTween

1. Delete the DOTween folder from "Assets" on your computer
2. Create a new folder under "Assets" named "DOTween."
3. Download DOTween, and extract it into this new folder.
4. Open Unity and run DOTween setup.