harsukh deol

PORTFOLIO

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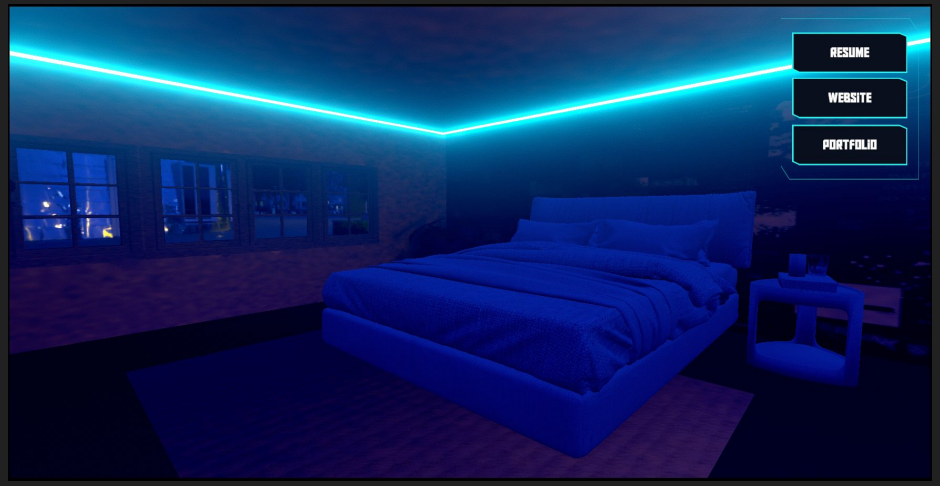
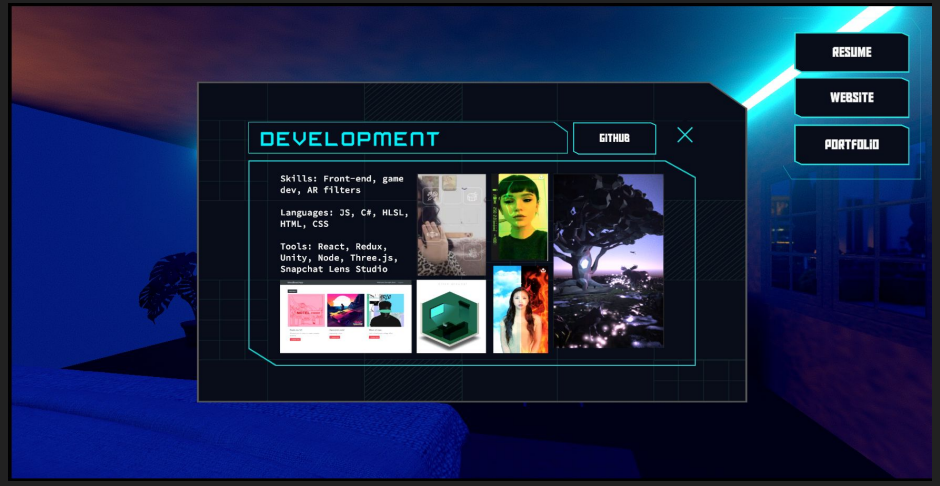
PART 0:

Resume Game

- Created aesthetically pleasing indoor scene of bedroom with objects that opened different parts of my resume
- Implemented lighting system with baked global illumination
- Created custom assets and used external fonts to create interesting UI elements
- Added custom HDRi environment map
- Lowered frame rate from almost 15 fps to under 60fps





Reduced build size by 60% by:

- Removing extra lights and using emissive materials with bloom instead
- Using planes with textures instead of 3D models for the door and window
- Reduced the Level of Detail of the bed, desk and plant models
- Reused the same UI materials for different buttons
- Reducing the resolution of shadows

Build Repo:
https://github.com/harsukhdeol/resume-game-build

Source Repo:
https://github.com/harsukhdeol/portfolio-game

PART 1:

Work Experience

SEPT 2020 - DEC 2020

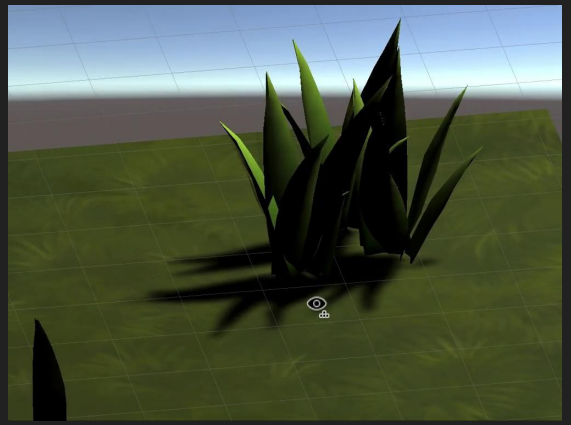
Creative Developer

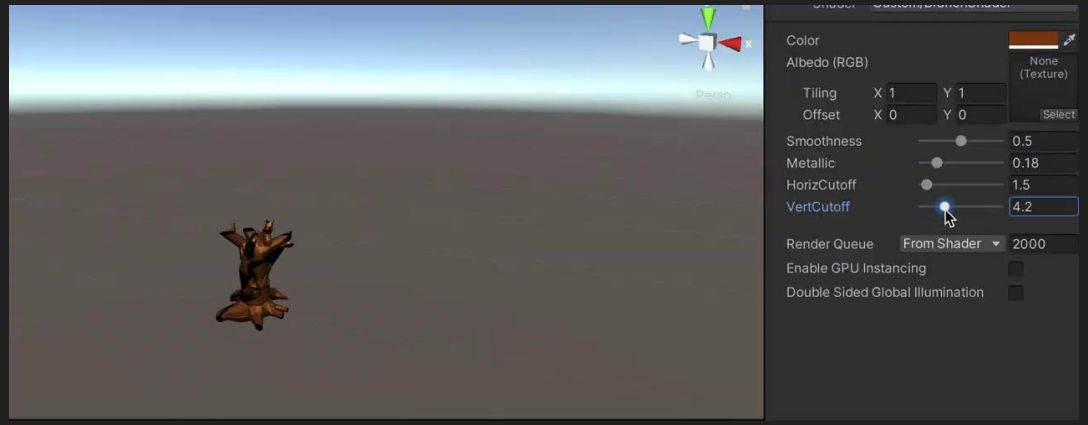
JAM3

Unity Development

- Used Unity's Particle System to create particles that followed different paths
- Coded trefoil (left), knot (middle) and helix (right) functions with parametric equations (in C#) that updated the position of the Particle System on every frame

Shader Development

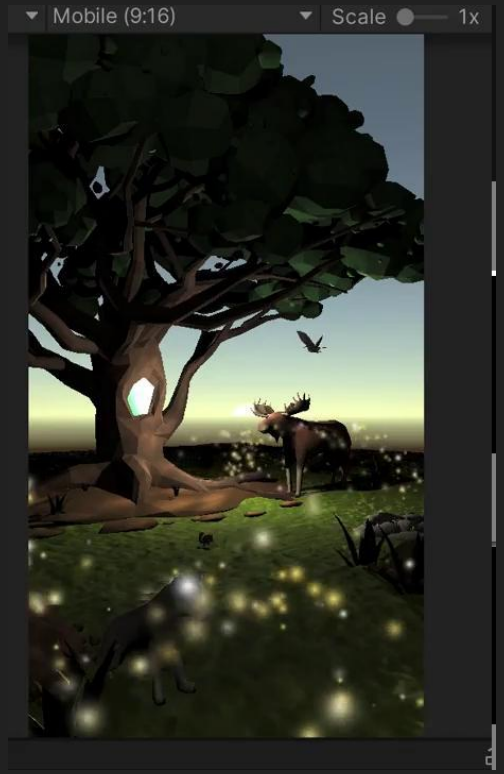




- Developed fragment and vertex shaders with HLSL to color grass and animate it to moving with the wind (left)
- Used step and clip functions to create growing tree animation (right)

Lighting System

- Implemented lighting system for AR mobile game
- Used light probes and reflection probes to bake global illumination
- Used mixed lighting with shadowmap lighting mode to bake lighting for static and distant
- Added post processing to create different ambiences (next slide)
- Optimized performance by reducing the number of lights and reflection probes used



Full Lighting Report:
https://drive.google.com/file/d/18e9hn4SC71r_B7DV628SZPKUUo1TWtFx/view?usp=sharing

Lighting System

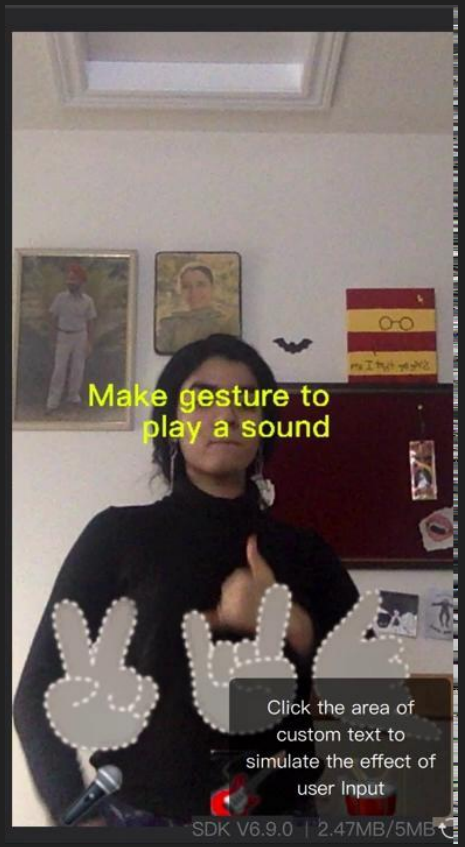
- Used Post Processing to create magical sunset scene (left) and polluted scene (right)
- Used Git LFS and GitHub for source control

TikTok AR Filter

- Worked with artists to design the UI and UX of this Tiktok Effect
- Created behavior scripts to trigger animation and sound when hand is over a section of the screen
- Determined the sounds, animations and screen effects to be used
- Used TikTok's Effector App to test on multiple devices

TikTok AR Filter

- Tested various designs and hints (text and animation) to determine the most intuitive design (left)
- Tested different hand triggers to find the most reliable one (right)



Front End Development

- Created components for mobile web app with React and Next.js from scratch
- Used Redux to handle state
- Used GSAP for animation
- Tested each component with Storybook
- Worked in a agile team with Jira
- Used GitHub for version control

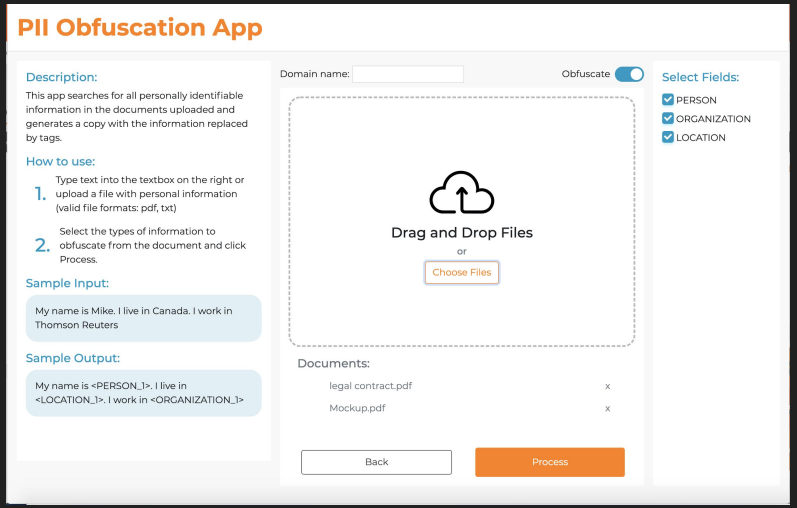
JAN 2020 - APRIL 2020

Front-End Developer & UX/UI Designer

Thomson Reuters

Front End Development

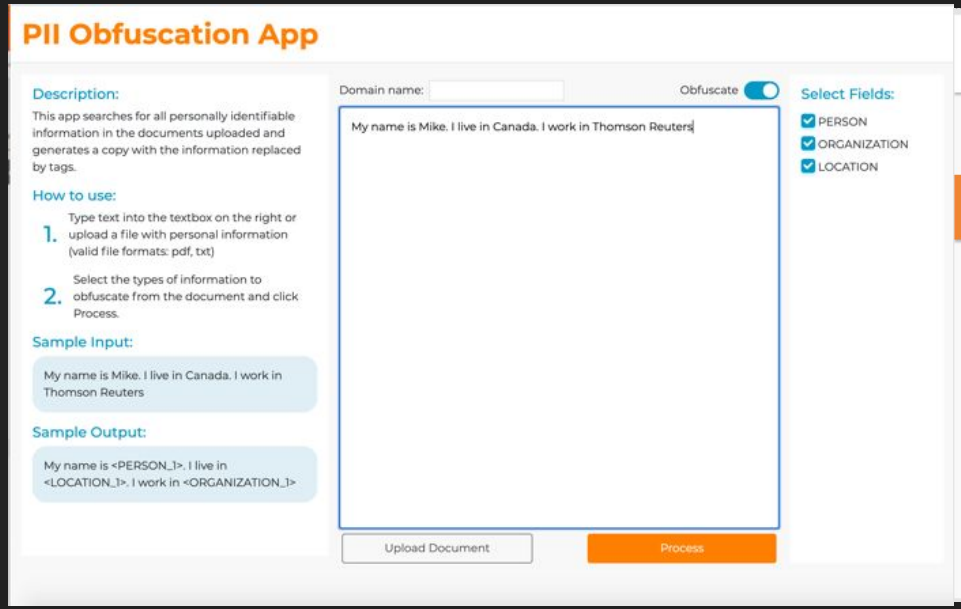
- Created mockups and conducted user interview to design UI for PII (personally identifiable information) obfuscation app
- Developed complete front-end with React and Bootstrap and shipped app
- Styled desktop app with Python Tkinter
- Implemented asynchronous REST API calls to sent and display obfuscated data
- Created download feature that saved the result on the screen into a doc or pdf
- Debugged with Chrome and React Dev tools

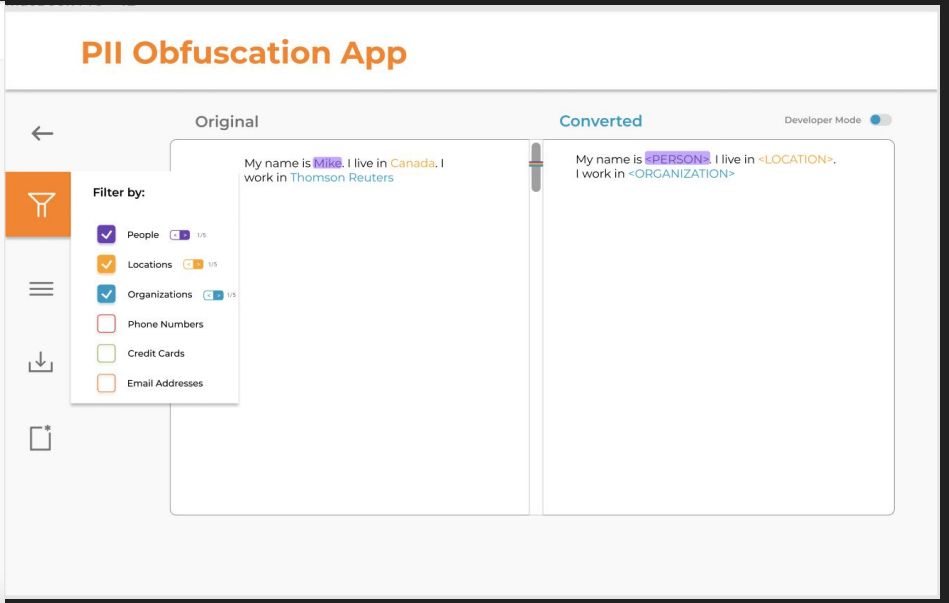


Front End Development

Unobfuscated data

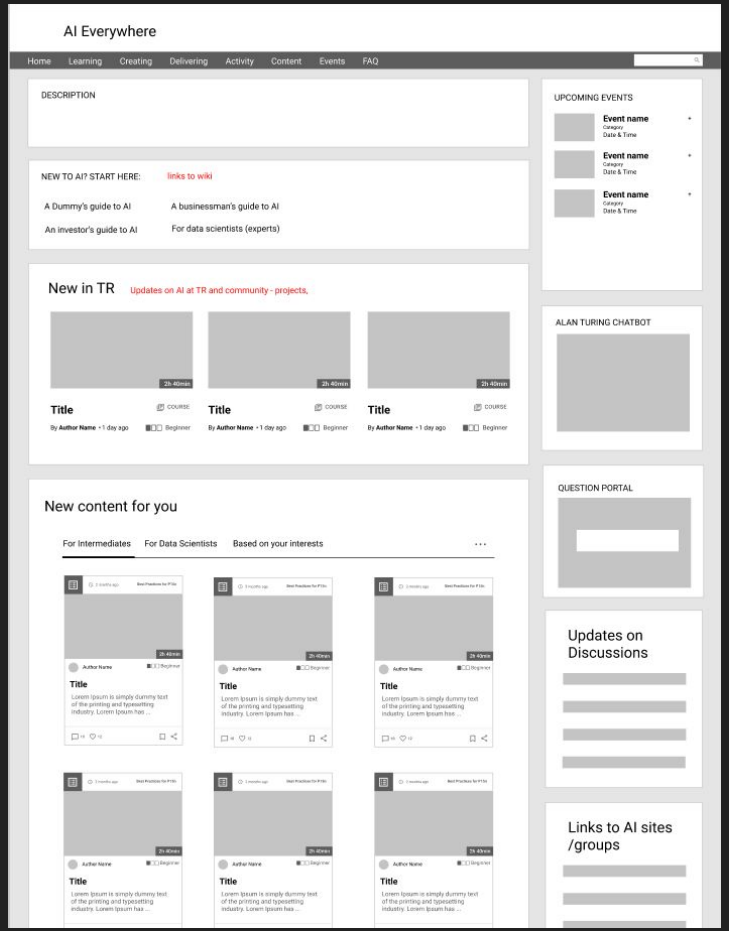
Obfuscated result





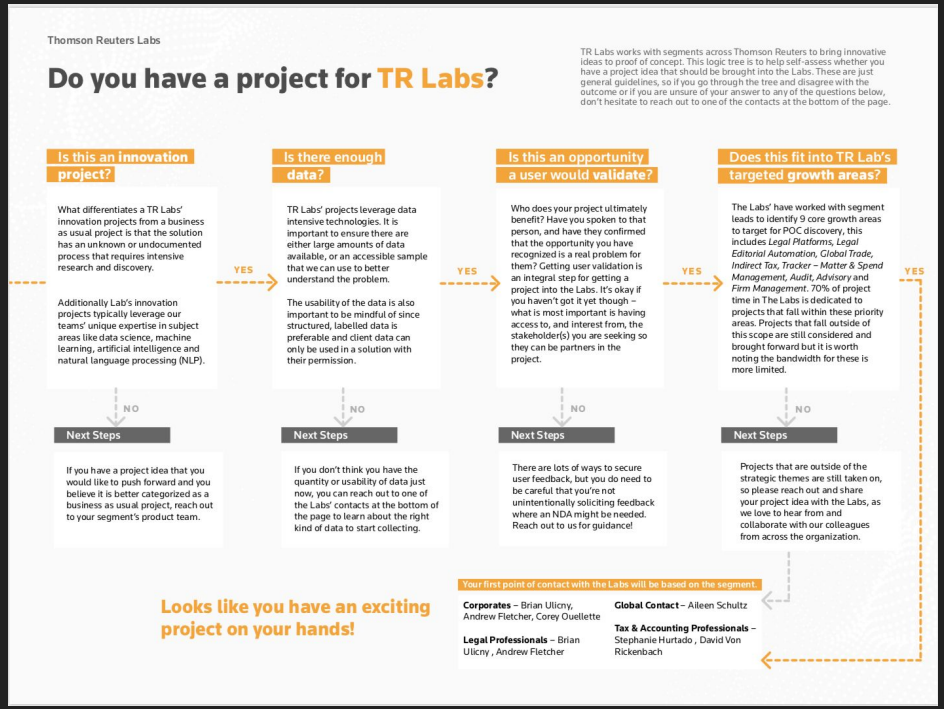
UI design

- Ideated on several designs for new section in TR's company website
- Used user research and survey data to create solutions for the UX issues in the current website
- Came up with new features, like recommended content, to increase user engagement
- Worked with limited website template components to organize all the features into an experience that is easier to navigate
- Created designs in Figma



Graphic design

- Redesigned project workflow diagram to be more organized and understandable
- Reorganized layout of information so text could be large enough to be read clearly and have more white space
- Created flowchart and added color to make information easier to understand
- Chart used by TR Labs to determine feasibility of new project



Graphic design

- Designed logo for new AI initiative using TR brand colors and signature dot pattern, used by TR Labs now [1500+ employees] (left)
- Designed in Illustrator
- Redesigned TR newsletter with brand colors and iconography, read by all TR employees
- Created template in Word so non-technical users could easily edit the content

Thomson
Reuters Labs

Your quarterly roundup of what's happening across the labs Q1 2020

This first quarter of 2020 has proven to be an incredible time of realignment, growth, and dynamic shifts in the ways we all work. We've experienced tremendous support in our focus on targeting segment growth areas for POC opportunities, and it's paying off big time with a great project pipeline for all segments.

With the formation of the AI Everywhere (AIEV) program and our response to working in the new COVID-19 landscape, we're finding ourselves in a new and rapidly changing environment. Through this, we have discovered additional layers to the opportunity we have in supporting our colleagues across the organization in adapting to change with innovative thinking and solutions. We are here to help and this Q1 recap newsletter captures just some of the ways we are contributing to the greater good and the bottom line.

What's our response to COVID-19?

It won't stop us! We will continue to create new ways of:
Connecting Globally – Check out Mans' Virtual Tour of the Boston Lab
Engaging with our Customers – Check out these New Ways of Working
Driving Social Impact – Check out the Mapathon, Mapping at Risk Regions Around the World

ENGAGE WITH THE LABS HERE

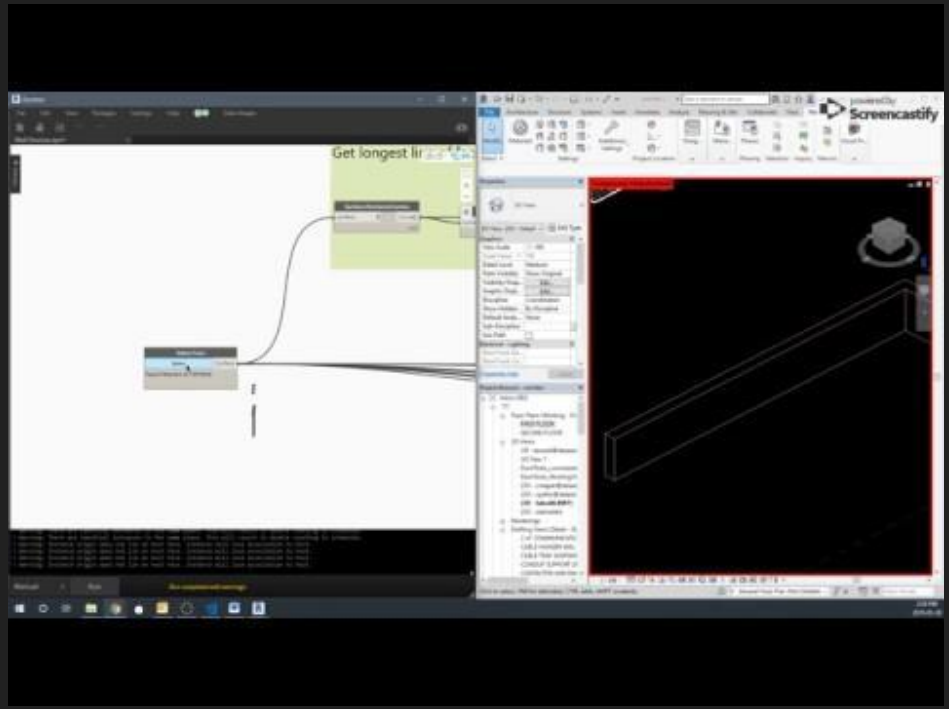
MAY 2019 - AUG 2019

3D Software Developer

DEI & Associates

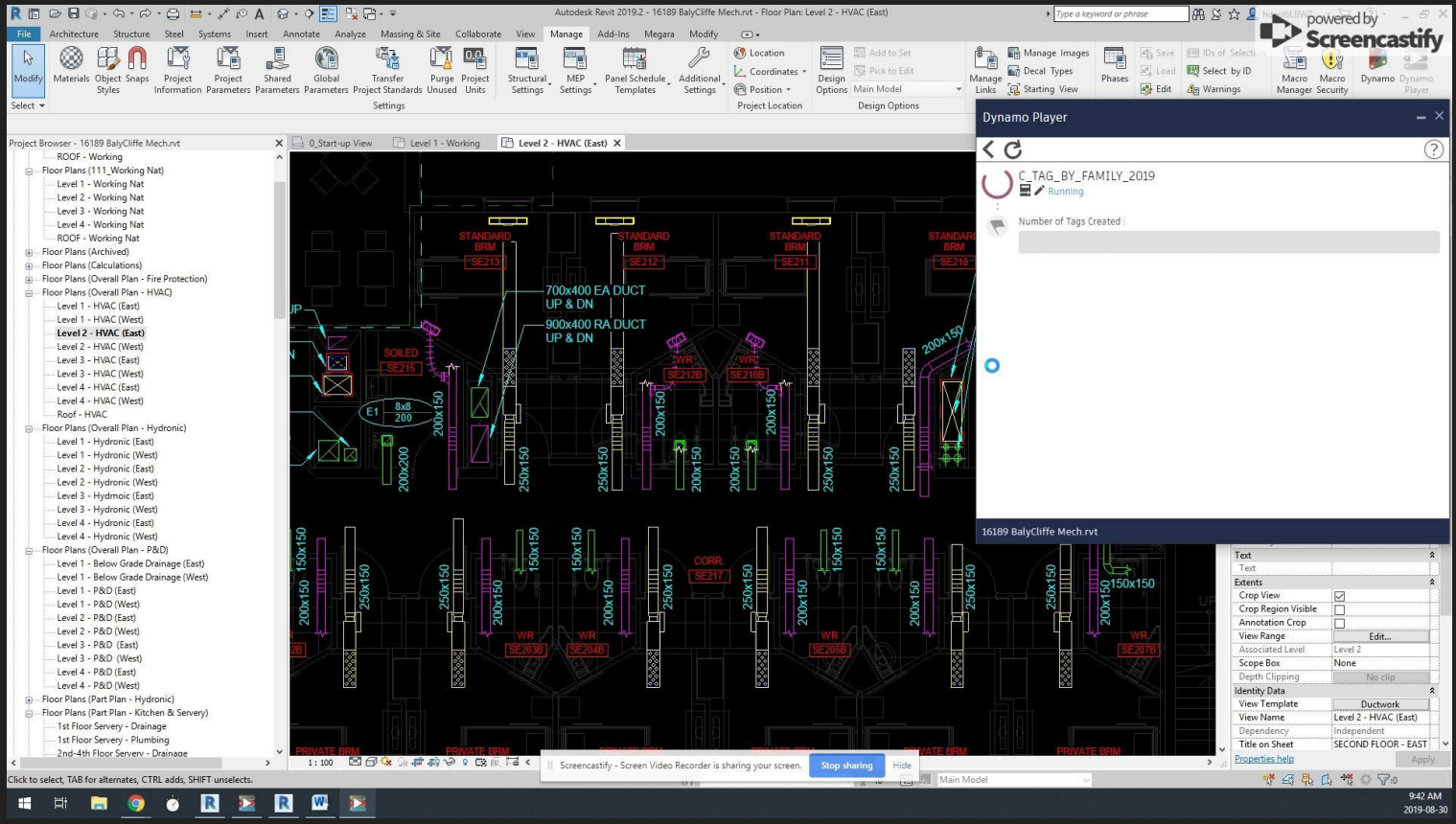
Revit Python Scripts

- Used node-based scripting software in Revit (3D CAD software for buildings) to automate technical drawings
- Created custom Python scripts using Dynamo API to perform more complex algorithms
- Created UI, documentation and tutorial videos to help engineers unfamiliar with programming run the scripts
- Created about 20 different programs that automated mechanical and electrical drawings

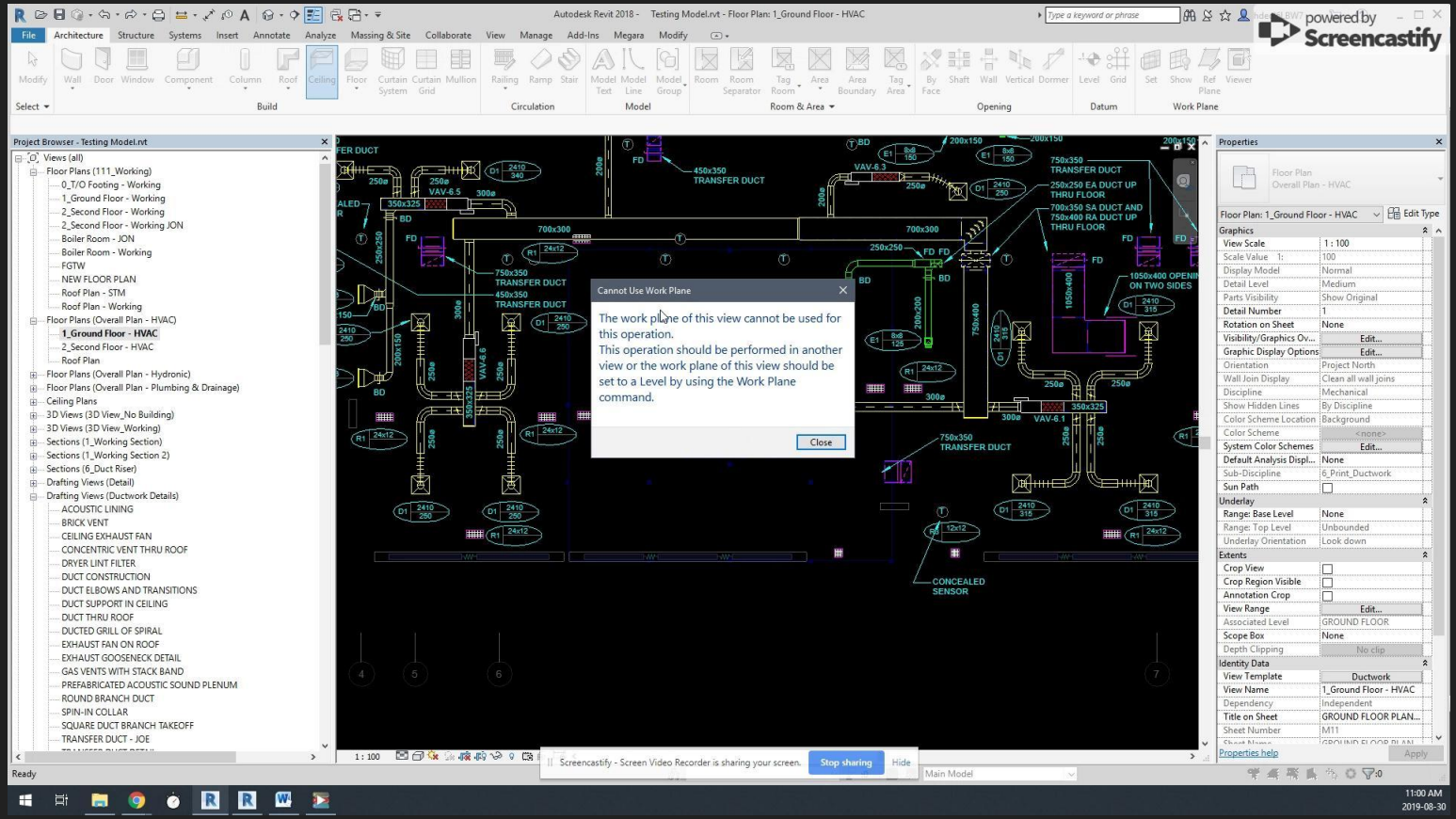


Automate receptacle fixtures on walls

Automatically label and number objects based on category



Add duct and pipe fittings at specified position on ceiling (start at 0:40)



projects on github: harsukhdeol

designs on insta: @harsukh.deol

PART 2:

Personal Projects

projects demo: harsukhdeol.github.io/web-graphics-portfolio/

AR Filters with Snapchat

- Created 2D and 3D assets
- Implemented face and hand triggers
- Scripted 2D and 3D animations
- Implemented UI elements for the user to customize the filter
- Scripted custom behaviours
- Filters have over 2.3 million views and 40 thousand shares

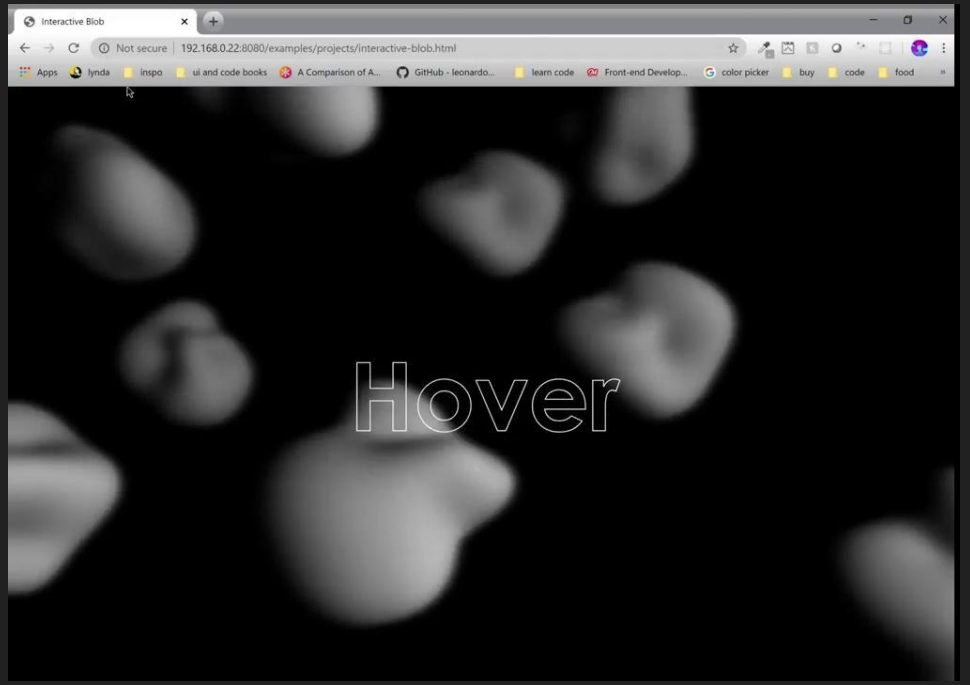
To try my filters, search “Harsukh” in the Snapchat app or copy the snap link to SnapLens Desktop

View all filters on desktop: https://lensstudio.snapchat.com/creator/Y9vZ5BLdpADhDDu9NFqWcA

WebGl with Three.js

- Used perlin noise to create abstract blobs
- Determined the blob the mouse was pointing at with Raycaster
- Created JS function that changed the color of the blob on hover
- Added post processing with Three.js

Code:
https://github.com/harsukhdeol/web-graphics-portfolio/blob/master/examples/projects/interactive-blob.html

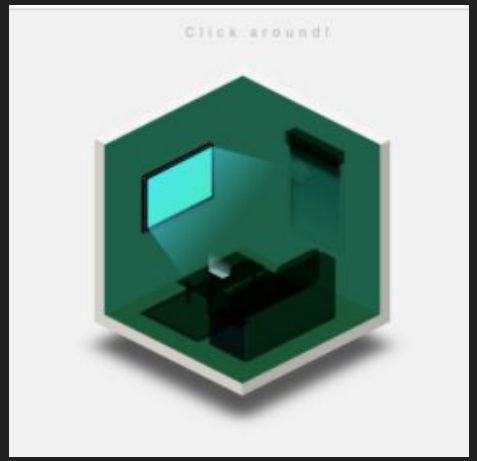


CSS and SVG Art

Created isometric room with HTML div tags and CSS 3D transformation

Added interactivity with on-hover animations

https://harsukhdeol.github.io/web-graphics-portfolio/css/css-room/index.html



Used SVG noise and drop shadow filters on HTML rectangles to create clouds

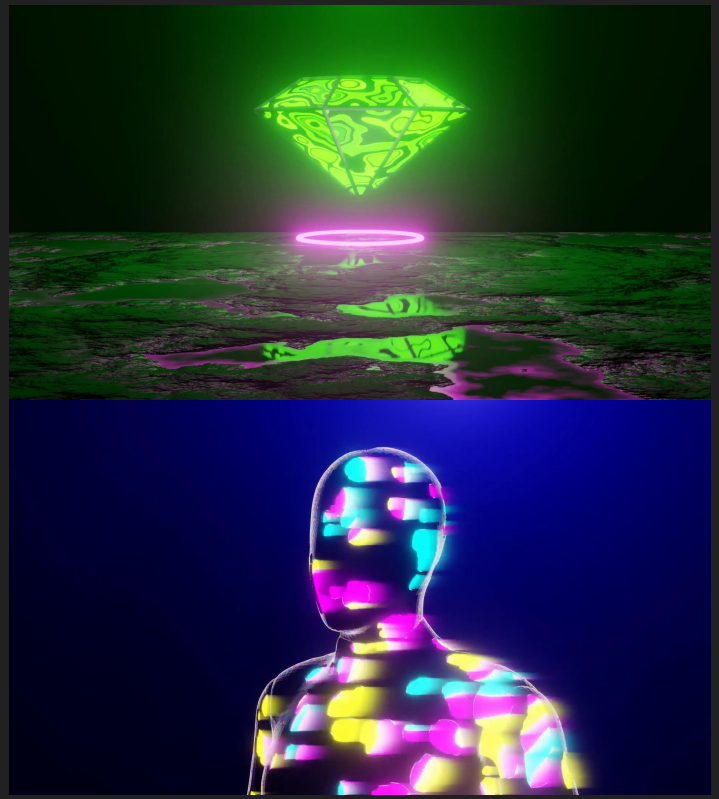
Used CSS to create animation loop

https://harsukhdeol.github.io/web-graphics-portfolio/css/eclipse.html

3D Animations with Blender

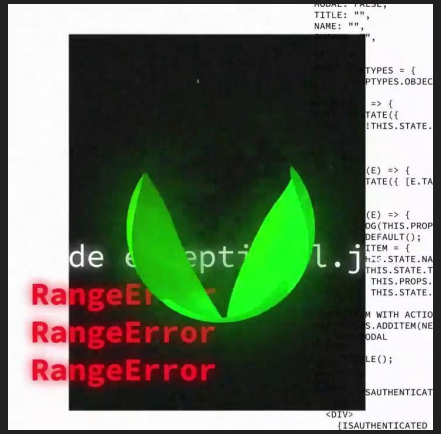
- Created custom materials with the node based material editor (all)
- Modelled 3D objects (all except bottom right)
- Created scene and setup lighting for abstract animations (all)

View more on:
https://harsukhdeol.github.io/web-graphics-portfolio/#blender



After Effects Animations

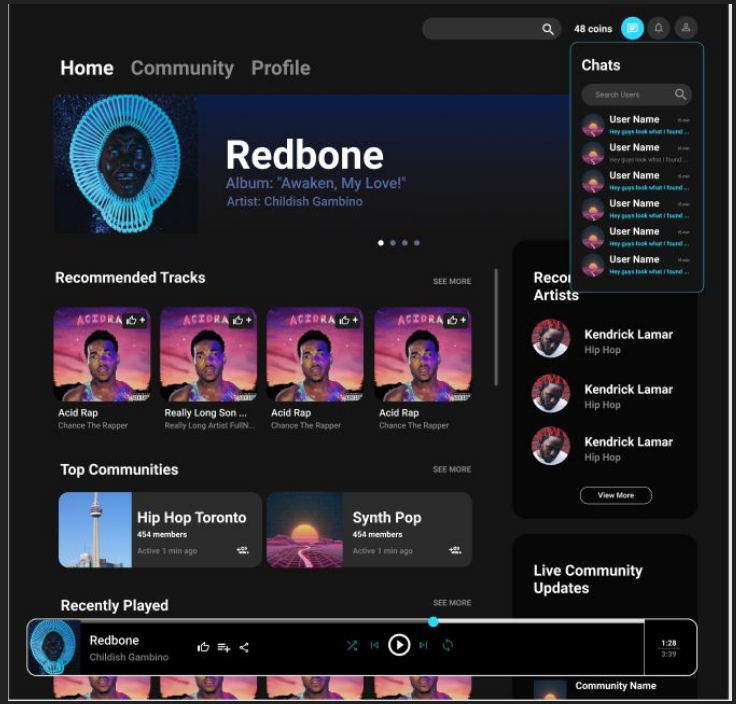
- Experimented with a variety of effects to create 2D and 3D animations
- Used no external assets



UI Designs

Test Designs for JAM3's web app

Homepage UI for Music Sharing Web App



Art

Artwork created in Photoshop and Illustrator

View more: https://www.instagram.com/harsukh.deol/

Painting with Photoshop

Simpsons

Referenced original Simpsons characters to create Indian characters

PART 3:

Contact Info

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Instagram: https://www.instagram.com/harsukh.deol/

Github: https://github.com/harsukhdeol

Website: https://harsukhdeol.com/

Project Demos: https://harsukhdeol.github.io/web-graphics-portfolio/