



ClueLess Closet

Project 1

ATLS 4519: How to Hack (Almost) Anything
Fall 2025

Group Project with
Brett Rabbiner and
Elizabeth
Saunders

DIRECTIONS PER PROF RYO SUZUKI

You can hack whatever you want. There are no specific requirements regarding the topic, technology, or tools—you can literally hack and present anything you like. The topic and theme are entirely open-ended. Of course, you can leverage tools or expertise not covered in class. For example, if you have experience in mechanical design, robotics, or digital fabrication, feel free to use those skills. If you're familiar with other tools, technologies, or programming languages, go ahead and incorporate them. If you're passionate about your own research topic, try to integrate it into your project. We will focus on what you make rather than how you make it. Preferably, I would like to see you apply at least one tool, technique, or skill learned in class, but you are not restricted to the only techniques we have covered. Any crazy, mind-blowing, out-of-the-box hacks are highly encouraged.

Team: You can form a team of up to 4 people. If you prefer, you can also work on the project individually.

Demo Day: Please try to prepare for 15 minutes demo presentation for each group.

Submission Deadline: 10/7 (Tue) by 11:59 PM (Midnight of Demo Day) Please submit the project on Canvas. Each group member can submit the same deliverables.

Deliverables:

1. Writing (PDF)

You can use any format (Google Docs, Notion, LaTeX, Word, etc.), but the final submission must be a PDF. The writing should include

- Title and Authors
- Introduction (Motivation, Describe what you build, Use figures or visuals effectively)
- Related Work (Provide some related products, examples, etc that you refer to or get inspiration from - If applicable, include research papers as references)
- Implementation (Describe how you build, Design process and ideation, Please use figures like sketches, system diagrams, or screenshots effectively, The writing should be detailed enough for someone to replicate your system, GitHub link is welcome, but the writing itself should be self-explanatory)
- Future Work [Describe how you would expand the project (if you had more time)]

2. Video (MP4 or MOV) Please submit a demo video. Video editing is not required, but highly encouraged. This is not because of the class, but creating a polished video could benefit you in the future (e.g., for your portfolio or job applications). There is no specific requirement for the video length, but I expect more than 1 minute.

3. Presentation Slides (PDF) As this is a Demo Day, please prepare slides for your presentation. You can use any presentation format and reuse content from your written report. Submit the slides you used during Demo Day.

RUBRIC

Grading and Evaluation (35 points = 35%) The evaluation will generally follow these criteria:

Quality of the Demo and Idea (15/35 points)

- Is the demo exciting, impressive, engaging?
- Is the idea novel and original?
- Is the idea unique, or has it been done before?
- How impressed is the audience (other students)?
- If the demo is mind-blowing, that's a huge plus. For example, if the reaction is like "Oh my god! Wow, I've never seen this before! That's so cool!", then it easily gets the perfect score.

Technical Implementation (10/35 points)

- How technically complex or challenging is the project?
- How difficult was it to build the app/game?
- While we mainly evaluate "what you made," we will also consider the technical aspects.

Presentation Clarity and Quality (10/35 points)

- How clearly you communicate the motivation, problems, solutions, system description, and application scenarios
- The visual quality of figures and videos
- Does the video, figures, and text convey the idea effectively?
- Does the audience's reaction reflect the novelty and clarity of the presentation?

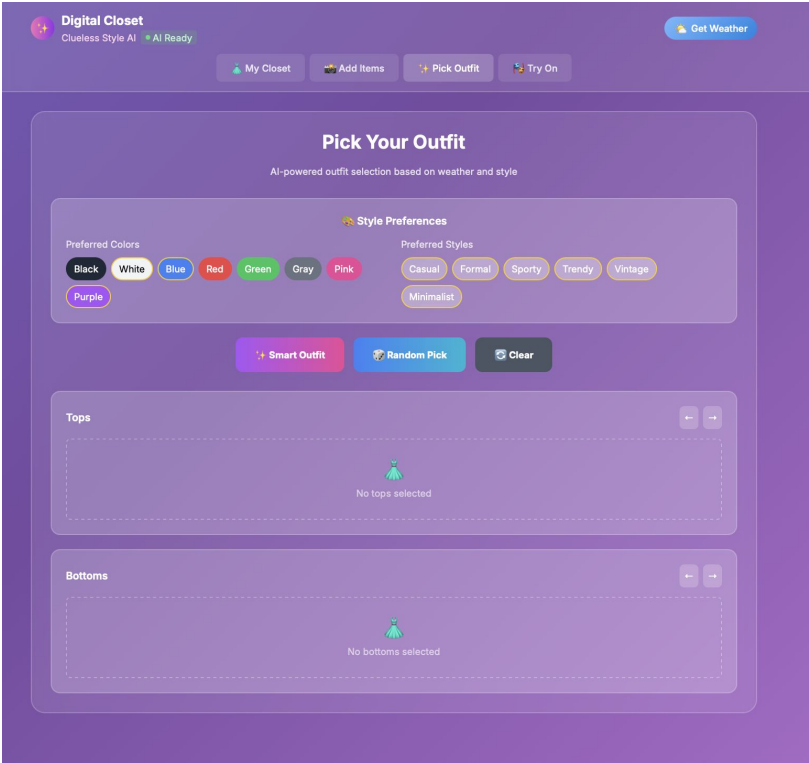
Motivation



Cher's closet from *Clueless* (1995)

Description of What We Built

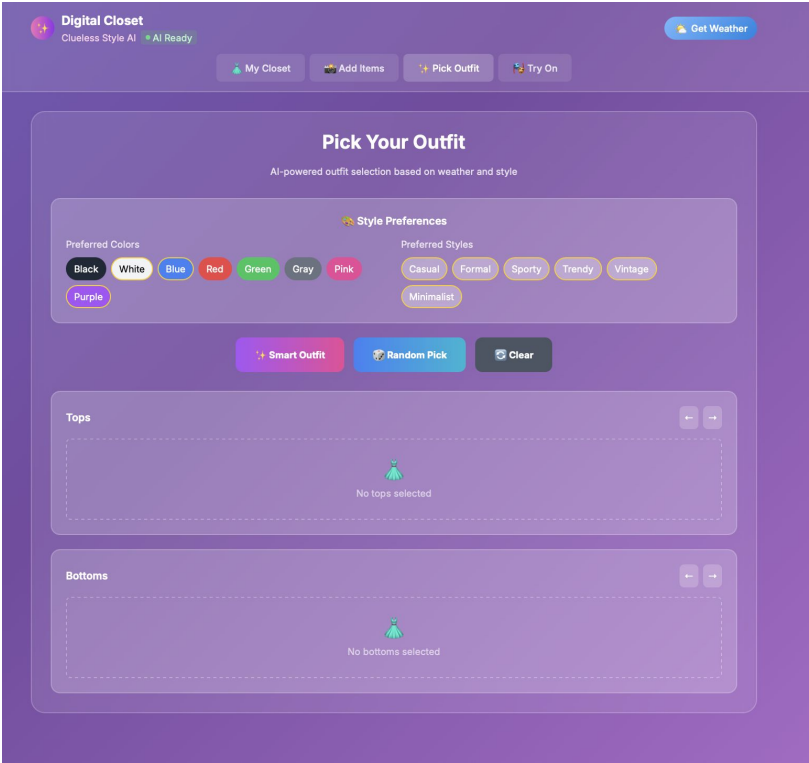
This is a web application that recreates the iconic computerized closet from the movie "Clueless," where you can digitally organize your wardrobe and get AI-powered outfit suggestions.



Digital Closet HTML site

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Digital Closet HTML site

Core Functionality

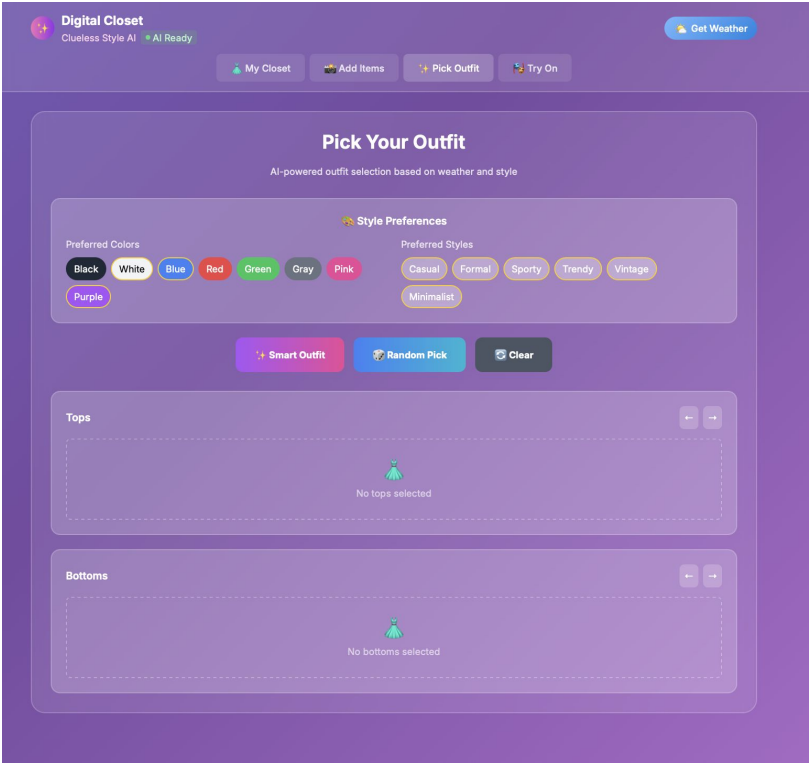
- 1. AI Clothing Classification
- 2. Smart Outfit Generation
- 3. Weather Integration
- 4. Closet Management

Technical Architecture

Privacy-Focused

Description of What We Built

This is a web application that recreates the iconic computerized closet from the movie "Clueless," where you can digitally organize your wardrobe and get AI-powered outfit suggestions.



Digital Closet HTML site

Core Functionality

1. AI Clothing Classification

- Uses TensorFlow.js and Teachable Machine models to automatically identify clothing items from photos
- Two AI models work together:
 - **Item Model:** Recognizes clothing types (shirts, pants, dresses, jackets, etc.)
 - **Style Model:** Determines fashion categories (casual, formal, athletic, etc.)

2. Smart Outfit Generation

3. Weather Integration

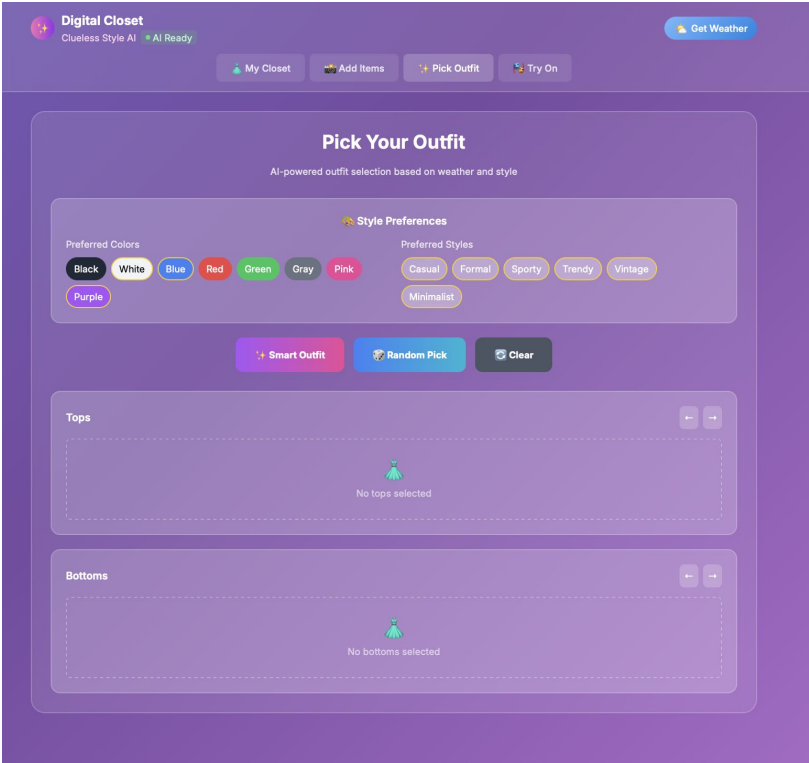
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Technical Architecture

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Digital Closet HTML site

Core Functionality

1. AI Clothing Classification

2. Smart Outfit Generation

- Creates outfit combinations from your closet items
- Factors in real-time weather data to suggest appropriate clothing
- Offers both AI-powered "smart" outfits and random combinations
- Calculates compatibility scores for outfit suggestion.

3. Weather Integration

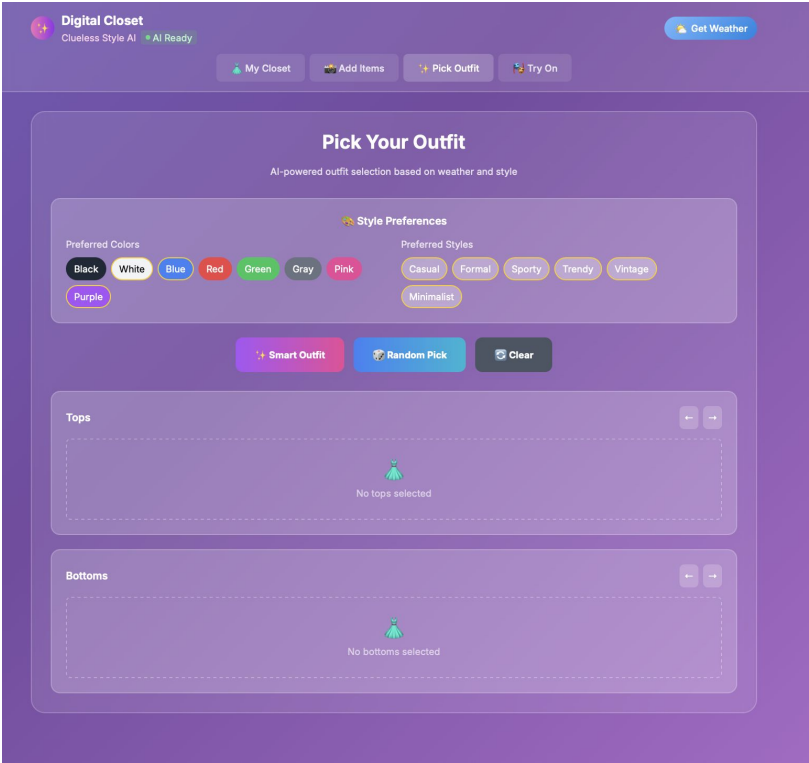
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Description of What We Built

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Digital Closet HTML site

Core Functionality

- 1. AI Clothing Classification
- 2. Smart Outfit Generation
- 3. Weather Integration

- Uses your browser's geolocation to get current weather conditions
- Adjusts recommendations based on temperature (suggests layers when cold, lighter clothes when warm)
- Handles both Fahrenheit (US) and Celsius (international) automatically

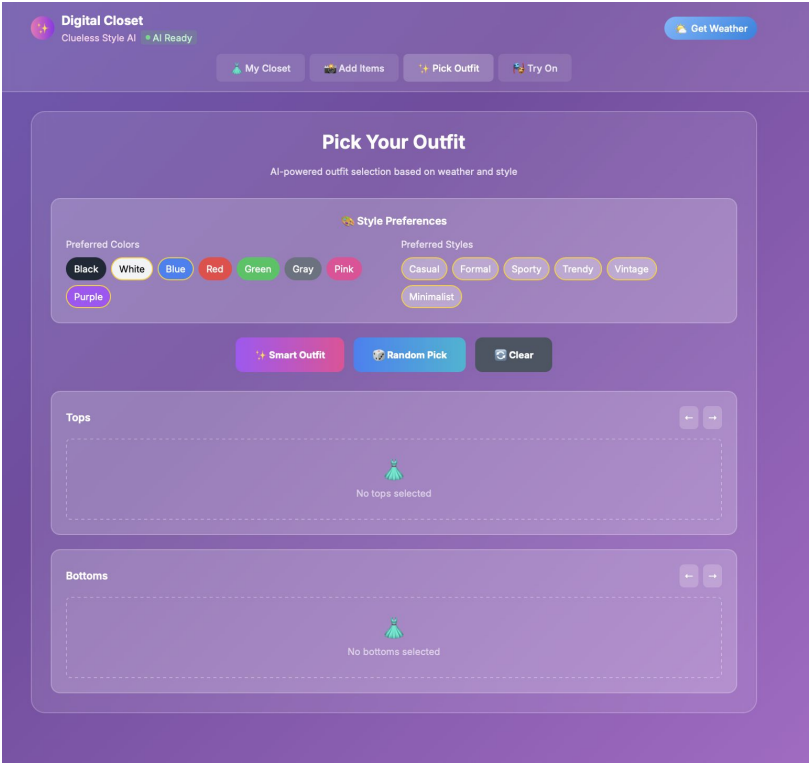
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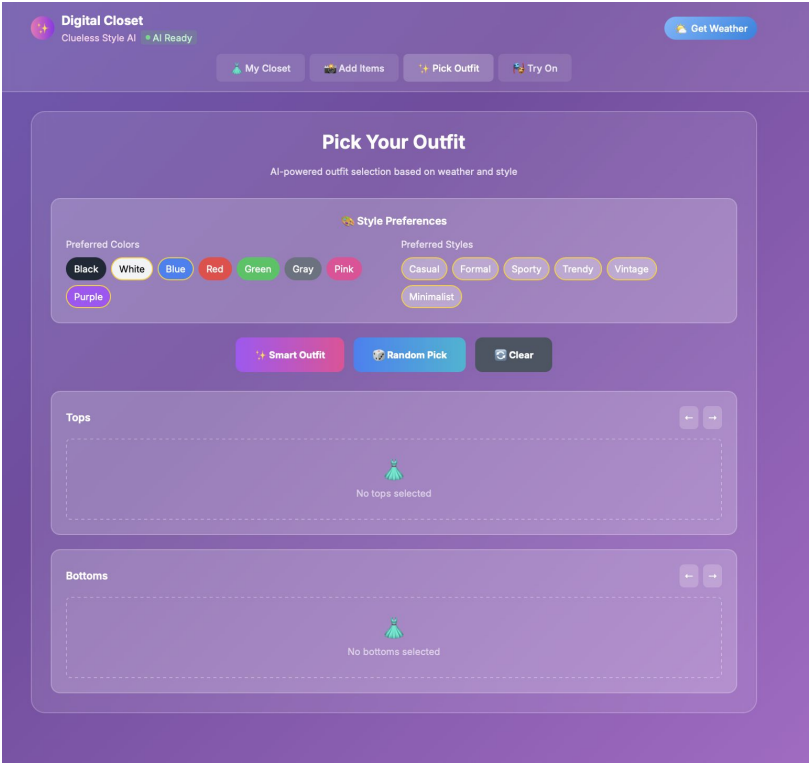
- Upload multiple clothing images at once with batch processing
- View, edit, and organize all your items by category
- Remove items you no longer need
- All data stored locally in your browser (nothing sent to external servers)

Technical Architecture

Privacy-Focused

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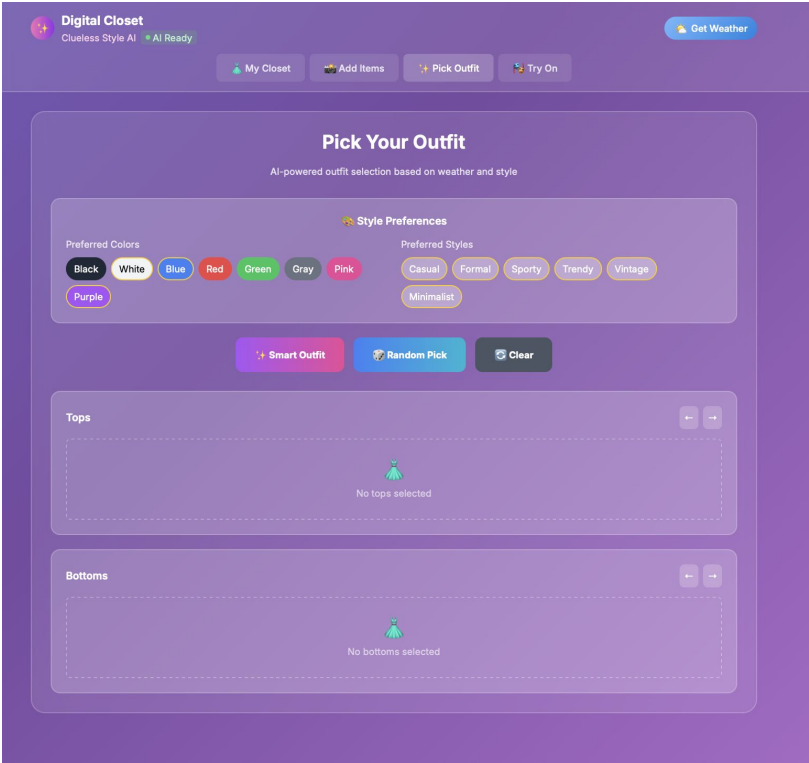
Technical Architecture

- Built with vanilla JavaScript (no frameworks) and organized into modular files:
- **Image processing** with automatic compression to fit browser storage limits
- **Canvas API** for efficient image manipulation
- **localStorage** for data persistence (stores 50-100+ items)
- **Beautiful glassmorphism UI** with TailwindCSS and custom animations
- **Experimental AR try-on feature** using MediaPipe for pose detection

Privacy-Focused

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Digital Closet HTML site

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Technical Architecture

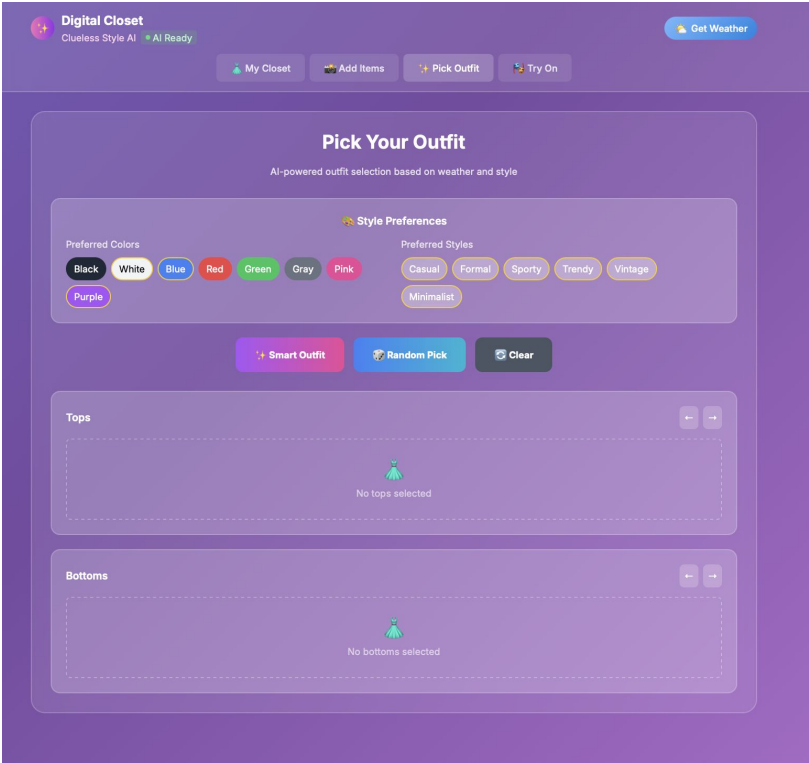
Privacy-Focused

Everything runs in your browser - your clothing photos and data never leave your device except for anonymous weather API requests using just your coordinates.

It's essentially a fun, nostalgic project that combines AI, fashion, and 90s movie culture into a practical wardrobe organization tool!

Description of What We Built

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Digital Closet HTML site

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Technical Architecture

Privacy-Focused

It's essentially a fun, nostalgic project that combines AI, fashion, and 90s movie culture into a practical wardrobe organization tool!

Inspiration Elizabeth's Final Project for Creative Technology with Zack Weaver-Jacobson (Spring '25)

Project Overview:

- A closet-installed RFID tracking system that monitors your clothing inventory in real-time
- Uses sensors to detect which items are present or worn
- Generates outfit recommendations based on weather api and clothing database recommendation



Purpose:

Helps optimize your wardrobe by identifying which pieces you actually wear versus those taking up space, enabling more informed decisions about what to keep or donate. It's essentially a data-driven approach to the "if you haven't worn it in a year, get rid of it" rule, but with personalized outfit suggestions built in!

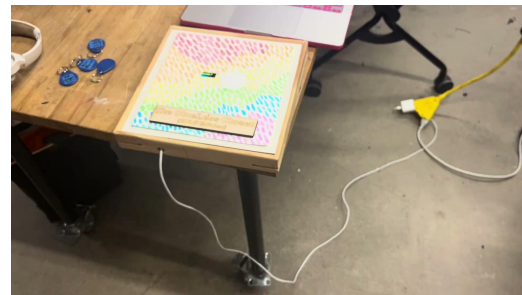
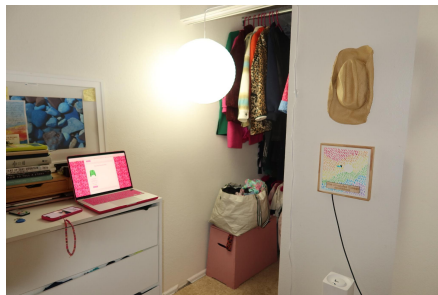
Key Features:

- Tracks wear frequency for each garment
- Considers outfit compatibility and styling combinations
- Integrates weather data to suggest appropriate clothing
- Displays recommendations on a dedicated HTML website
- Collects long-term data to identify underutilized items

Inspiration Elizabeth's Final Project for Creative Technology with Zack Weaver-Jacobson (Spring '25)

Project Overview:

- A closet-installed RFID tracking system that monitors your clothing inventory in real-time
- Uses sensors to detect which items are present or worn
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The project works **great as a means to collect physical data** to track what I am wearing vs. not while also **suggesting which outfits to wear** based on weather and stylistic combination.

However, the project is **bulky to update the database of clothing items**. The next phase of this project is to make creating the digital closet more streamlined and easier.

Categories

Tops

- Long Sleeve Shirt
- Short Sleeve Shirt
- Tank Top

Bottoms

- Pants
- Mid-Length Shorts
- Shorts

Dress

- Long Dress
- Mid-Length Dress
- Short Dress

Outer Wear

~~Excluded~~

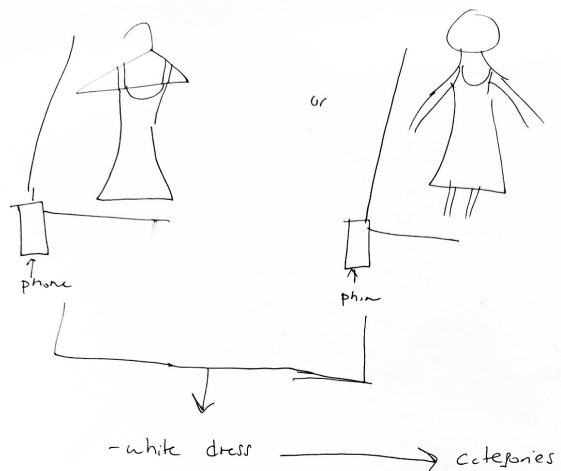
- Sweater
- Coat

Shoes

Accessories

- Bags
- Shoes
- Sunglasses

Process



Name: _____
color: white
c. type: dress
fabric: cotton
brand: _____
size: _____

★ use manual field entry
if Goo not classified

HTML SITE

Recommended Fit
(waist)

top ☐ ☐ ☐ ☐ >

bottom ☐ ☐ ☐ ☐ >

How:

- ★ Media Pipe = Image Segmentation for HTML site
- ★ Google Teachable Machine = Classification of Categories

Reach Goal

Reach Goal:

- Size

- Brand

Text Recognition

#1: Use MediaPipe + OCR

#2: Use GPT Vision API for Label Reading
(might be more accurate for this than OCR)Logo Recognition

#1: Train TeacheSA machine for Logo recognition

#2: Use YOLO for image recognition

Division of Work

Brett Rabbiner

Responsible for software development, UX/UI, and project's AR capabilities

Motivation: Use and test the AR that we learned in class for this project

Elizabeth Saunders

Responsible for creating the machine learning models and documentation

Motivation: easier categorization of clothing items in OG ClueLess Closet

Design Process

DOCUMENTATION: Process

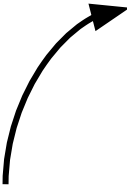
Design Process

Elizabeth trains the
machine learning model

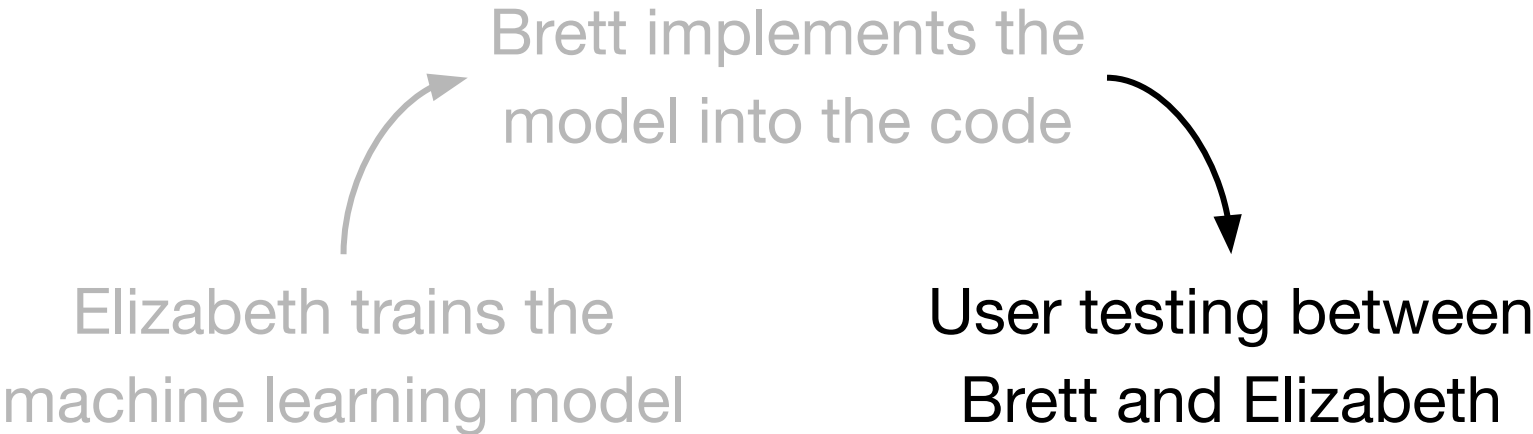
Design Process

Brett implements the
model into the code

Elizabeth trains the
machine learning model

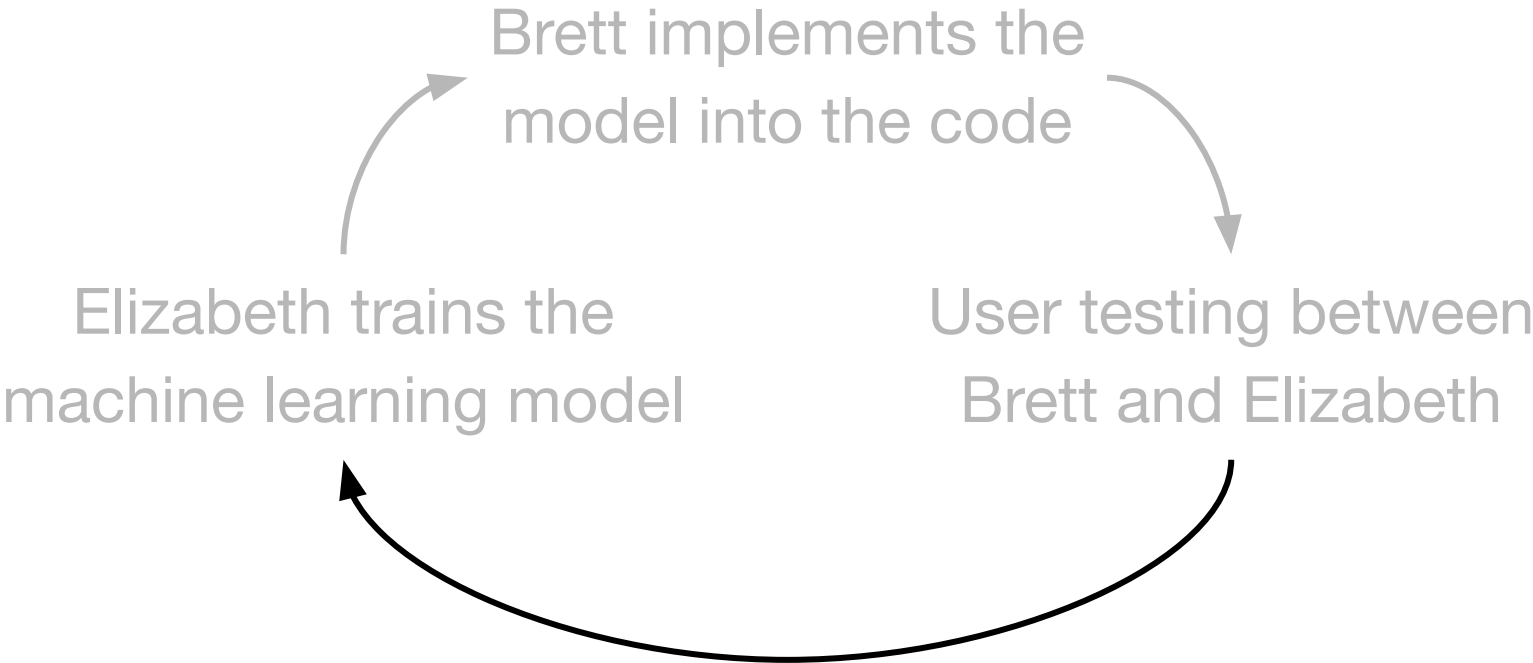


Design Process



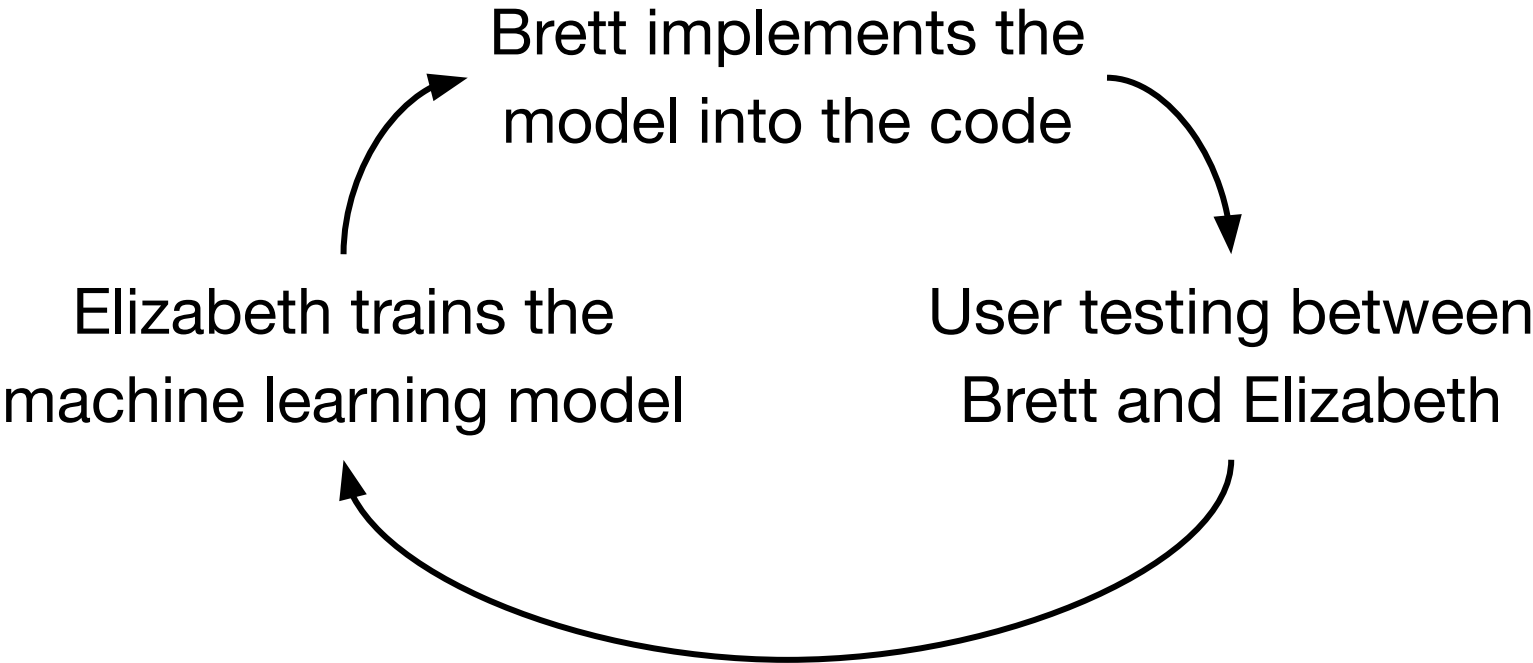
DOCUMENTATION: Process

Design Process



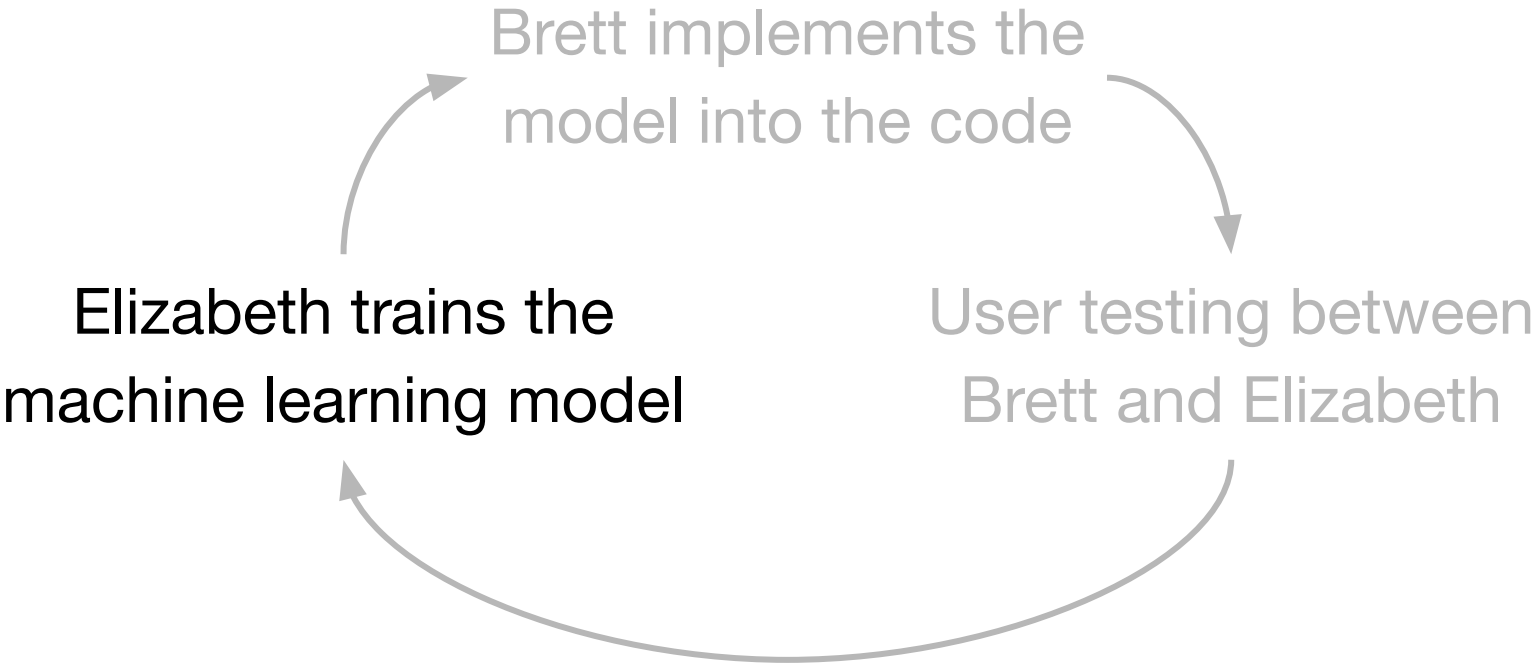
Design Process

DOCUMENTATION: Process



Design Process

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Creating the Google Teachable Machine to Identify Clothing

In teachable machine only one thing can be true at once, therefore we need two teachable machine models for this project

DOCUMENTATION: Process



Creating the Google Teachable Machine to Identify Clothing

In teachable machine only one thing can be true at once, therefore we need two teachable machine models for this project

#1

Determining Article of Clothing

Long Sleeve Shirt, Short Sleeve Shirt, Tank, Shorts, Pants, Long Skirt, Short Skirt, Short Dress, Long Dress, Sweater, or Coat

Creating the Google Teachable Machine to Identify Clothing

In teachable machine only one thing can be true at once, therefore we need two teachable machine models for this project

#1

Determining Article of Clothing

Long Sleeve Shirt, Short Sleeve Shirt, Tank, Shorts, Pants, Long Skirt, Short Skirt, Short Dress, Long Dress, Sweater, or Coat

#2

Determining Category Of Clothing

Athletic, Casual, Formal, Minimalist, or Vintage

Creating the Google Teachable Machine to Identify Clothing

Pulling photos from:



Elizabeth's Closet



Poshmark Screenshots



Online Photos
(stock images and online stores)

Both teachable machine models pulled together over 2,000 unique photos.

Separating clothing picture data into **article of clothing** groups (with size of group)



Glasses (29)



Creating the Google Teachable Machine to Identify Clothing (2 of 2)

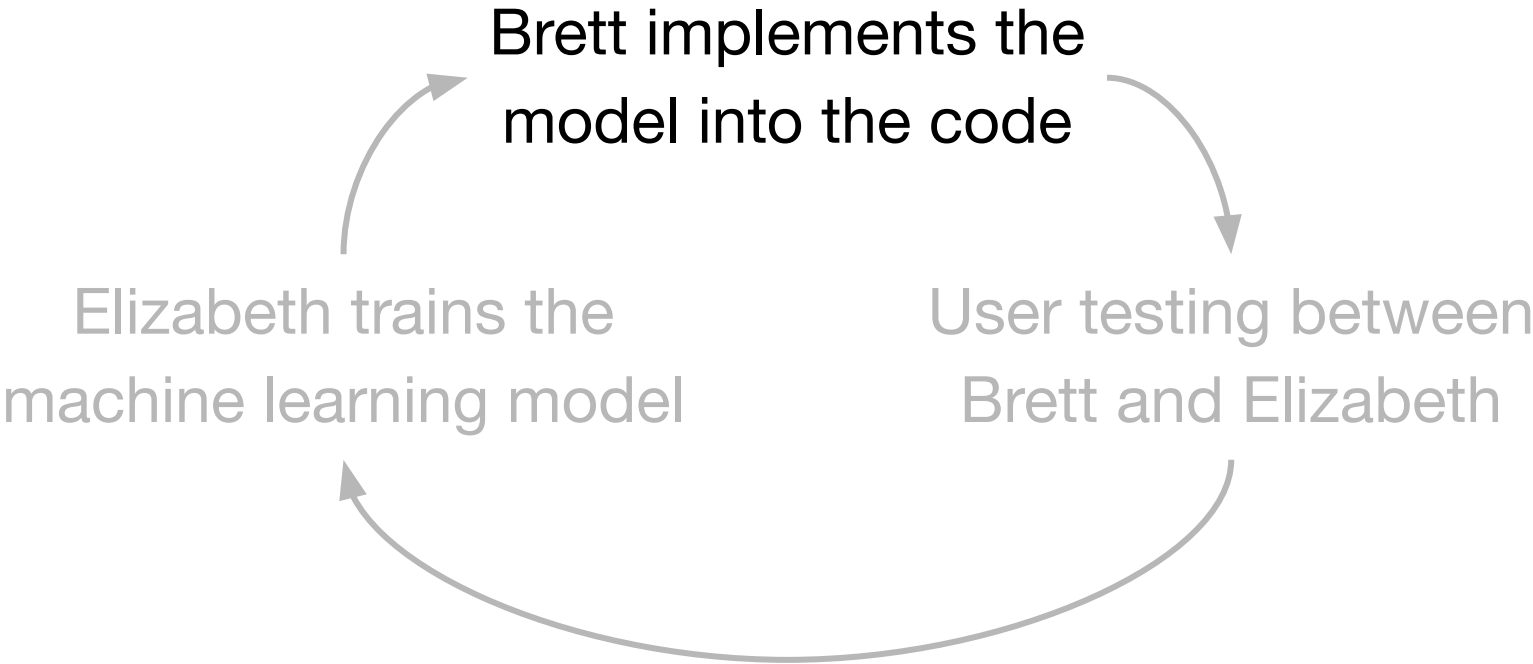
Separating clothing picture data into **category** groups (with size of group)



- Athletic (3)
- Casual (438)
- Formal (239)
- Minimalist (231)
- Trendy (263)
- Vintage (10)

Design Process

DOCUMENTATION: Process



Creating the HTML site to host the Teachable Machine Model and Virtual Try-On (Simplified)

Feature:

Method:

Weather Recommendationx	➡	Weather API integration
AI Clothing Classification	➡	Teachable Machine Model Integration
Image Upload	➡	FileReader API + Canvas Compression
Closet Storage	➡	LocalStorage Persistence
Outfit Generation	➡	Smart Matching Algorithm
User Interface	➡	TailwindCSS + Custom Glassmorphism CSS
Virtual Try-On (Experimental)	➡	MediaPipe Pose Detection
Data Management/Category Filtering	➡	JavaScript Array Filter Method
Item Management (Edit/Delete)	➡	CRUD Operations with LocalStoragex
Responsive Design	➡	Mobile-First CSS Media Queries

- 1. AI Classification Function
- 2. Weather Recommendation Function
- 3. Image Upload Function
- 4. Closet Management Function
- 5. Outfit Generation Function
- 6. User Interface Function
- 7. Virtual Try-On Function (*Experimental*)
- 8. Data Management Function
- 9. Image Optimization Function
- 10. Responsive Design Function

1. AI Classification Function

Purpose: Automatically identify and categorize clothing items from photos

Methods:

- **TensorFlow.js Integration Method:** Load TensorFlow.js library via CDN
- **Teachable Machine Model Loading Method:** Import two pre-trained models using Teachable Machine URLs
 - Item classifier model (tops, bottoms, dresses, etc.)
 - Style classifier model (casual, formal, athletic, etc.)
- **Image Preprocessing Method:** Resize and format images to match model input requirements
- **Prediction Method:** Run images through both models to get classification results with confidence scores

2. Weather Recommendation Function

3. Image Upload Function

4. Closet Management Function

5. Outfit Generation Function

6. User Interface Function

7. Virtual Try-On Function (*Experimental*)

8. Data Management Function

9. Image Optimization Function

10. Responsive Design Function

1. AI Classification Function

2. Weather Recommendation Function

Purpose: Provide context-aware outfit suggestions based on current conditions

- **Methods:**
- **Geolocation API Method:** Request browser location access to get user coordinates
- **Open-Meteo API Method:** Fetch real-time weather data (temperature, conditions) using coordinates
- **BigDataCloud API Method:** Reverse geocode coordinates to get readable location name
- **Temperature-Based Logic Method:** Apply rules for outfit suggestions
 - Cold (< 60°F): Suggest layers, coats, long sleeves
 - Warm (> 75°F): Suggest lighter clothing, shorts
 - Moderate: Mix of options
- **Unit Conversion Method:** Detect US location and convert to Fahrenheit, otherwise use Celsius

3. Image Upload Function

4. Closet Management Function

5. Outfit Generation Function

6. User Interface Function

7. Virtual Try-On Function (*Experimental*)

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- 1. AI Classification Function
- 2. Weather Recommendation Function

3. Image Upload Function

Purpose: Allow users to add multiple clothing photos to their closet

Methods:

- **FileReader API Method:** Read image files from user's device as data URLs
- **Batch Processing Method:** Handle multiple file uploads simultaneously with concurrency limits
- **Canvas API Method:** Compress images to reduce storage footprint
 - Resize to max 800px width
 - Apply 70% JPEG quality compression
- **Progress Tracking Method:** Display upload progress bar with percentage
- **Validation Method:** Check file types (JPG, PNG, WEBP) and handle errors

- 4. Closet Management Function
- 5. Outfit Generation Function
- 6. User Interface Function
- 7. Virtual Try-On Function (*Experimental*)
- 8. Data Management Function
- 9. Image Optimization Function
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- 1. AI Classification Function
- 2. Weather Recommendation Function
- 3. Image Upload Function

4. Closet Management Function

Purpose: Organize, display, and edit clothing items in the digital wardrobe

Methods:

- **LocalStorage Persistence Method:** Save closet data to browser's localStorage
- **JSON Serialization Method:** Convert JavaScript objects to JSON strings for storage
- **Data Retrieval Method:** Load existing closet items on page load
- **Category Filter Method:** Sort items by type (Tops, Bottoms, Dresses, Outerwear, etc.)
- **CRUD Operations Method:** Create, Read, Update, Delete items
 - Edit item properties (color, style, description)
 - Remove unwanted items
- **Storage Quota Management Method:** Monitor localStorage capacity and warn when approaching limits

- 5. Outfit Generation Function
- 6. User Interface Function
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- 1. AI Classification Function
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5. Outfit Generation Function

Purpose: Create coordinated outfit combinations from closet items

Methods:

- **Random Selection Method:** Pick random items from different categories
- **Smart Matching Algorithm Method:** Apply compatibility rules
 - Color coordination logic
 - Style consistency checks (don't mix formal with athletic)
 - Weather appropriateness scoring
- **Preference Integration Method:** Filter based on user's favorite colors and styles
- **Compatibility Scoring Method:** Calculate numerical scores for outfit quality
- **Visual Display Method:** Render outfit suggestions with item images in a card layout

- 6. User Interface Function
- 7. Virtual Try-On Function (*Experimental*)
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- 5. Outfit Generation Function

6. User Interface Function

Purpose: Create an engaging, responsive experience inspired by "Clueless"

Methods:

- **TailwindCSS Utility Method:** Apply pre-built responsive classes for layout
- **Custom CSS Glassmorphism Method:** Create frosted glass effect with backdrop-filter
- **Animation Method:** Add smooth transitions and hover effects using CSS keyframes
- **Tab Navigation Method:** Implement JavaScript click handlers to switch between views
 - Add Items tab
 - My Closet tab
 - Pick Outfit tab
 - Try On tab (experimental)
- **Modal/Overlay Method:** Display full-screen views for outfit details

- 7. Virtual Try-On Function (*Experimental*)
- 8. Data Management Function
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- 6. User Interface Function
- 7. Virtual Try-On Function (*Experimental*)

Purpose: Enable AR-style visualization of clothing on user

Methods:

- **MediaPipe Integration Method:** Load pose detection library via CDN
- **Webcam Access Method:** Request camera permissions using getUserMedia API
- **Real-time Video Processing Method:** Capture video frames from webcam
- **Pose Detection Method:** Identify body keypoints (shoulders, hips, etc.)
- **Overlay Rendering Method:** Position clothing images on detected body parts using Canvas API
- **Performance Optimization Method:** Throttle frame processing to maintain smooth performance

- 8. Data Management Function
- 9. Image Optimization Function
- 10. Responsive Design Function

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- 6. User Interface Function
- 7. Virtual Try-On Function (*Experimental*)
- 8. Data Management Function

Purpose: Handle application state and data flow

Methods:

- **Global State Object Method:** Create config.js with centralized application state
- **Module Pattern Method:** Organize code into separate JavaScript files
 - config.js → Global variables
 - utils.js → Helper functions
 - models.js → AI integration
 - weather.js → Weather API
 - upload.js → File handling
 - closet.js → Item management
 - outfit.js → Outfit logic
- **Async/Await Method:** Handle asynchronous operations (API calls, model loading)
- **Error Handling Method:** Try-catch blocks with user-friendly error messages

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- 8. Data Management Function
- 9. Image Optimization Function

Purpose: Efficiently handle and store clothing photos

Methods:

- **Canvas Pooling Method:** Reuse canvas elements to reduce memory overhead
- **Aspect Ratio Preservation Method:** Scale images proportionally during compression
- **Base64 Encoding Method:** Convert images to strings for localStorage compatibility
- **Lazy Loading Method:** Load images only when needed to improve performance

- 10. Responsive Design Function

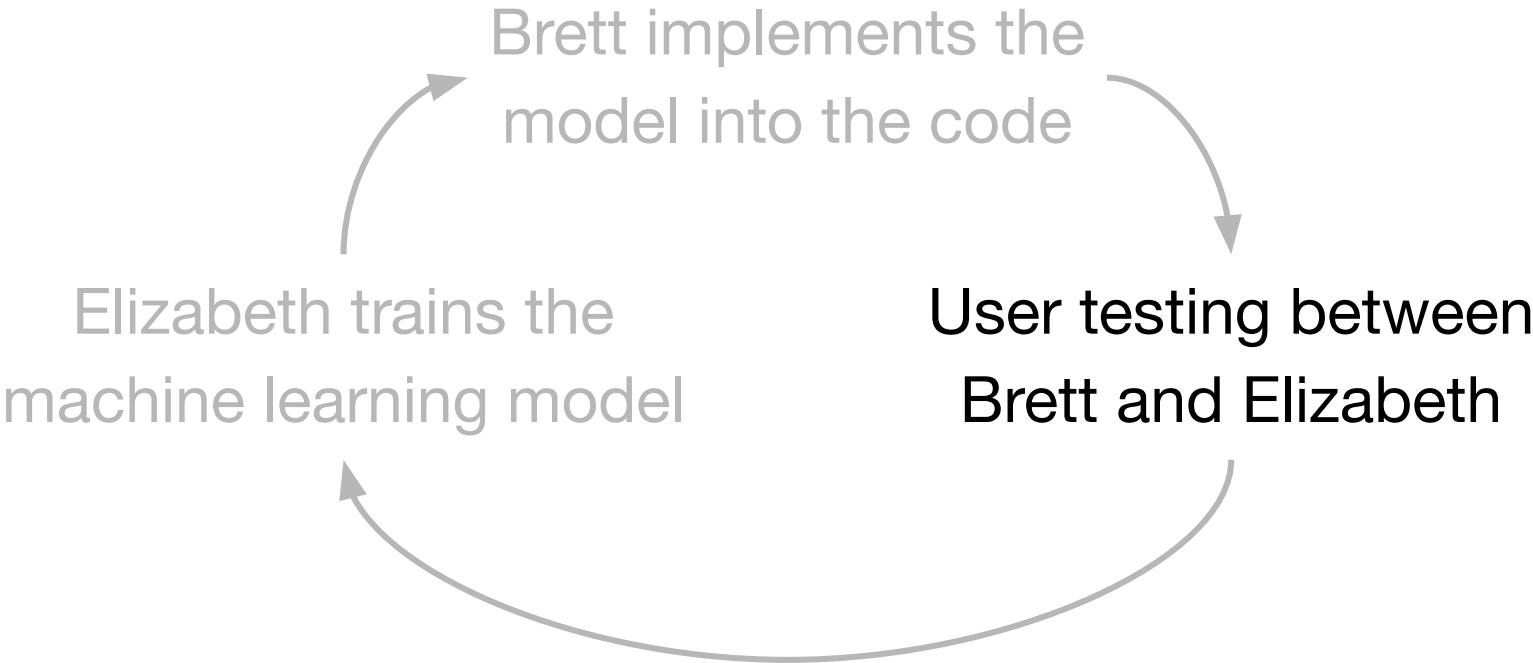
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Purpose: Ensure app works on desktop, tablet, and mobile devices

Methods:

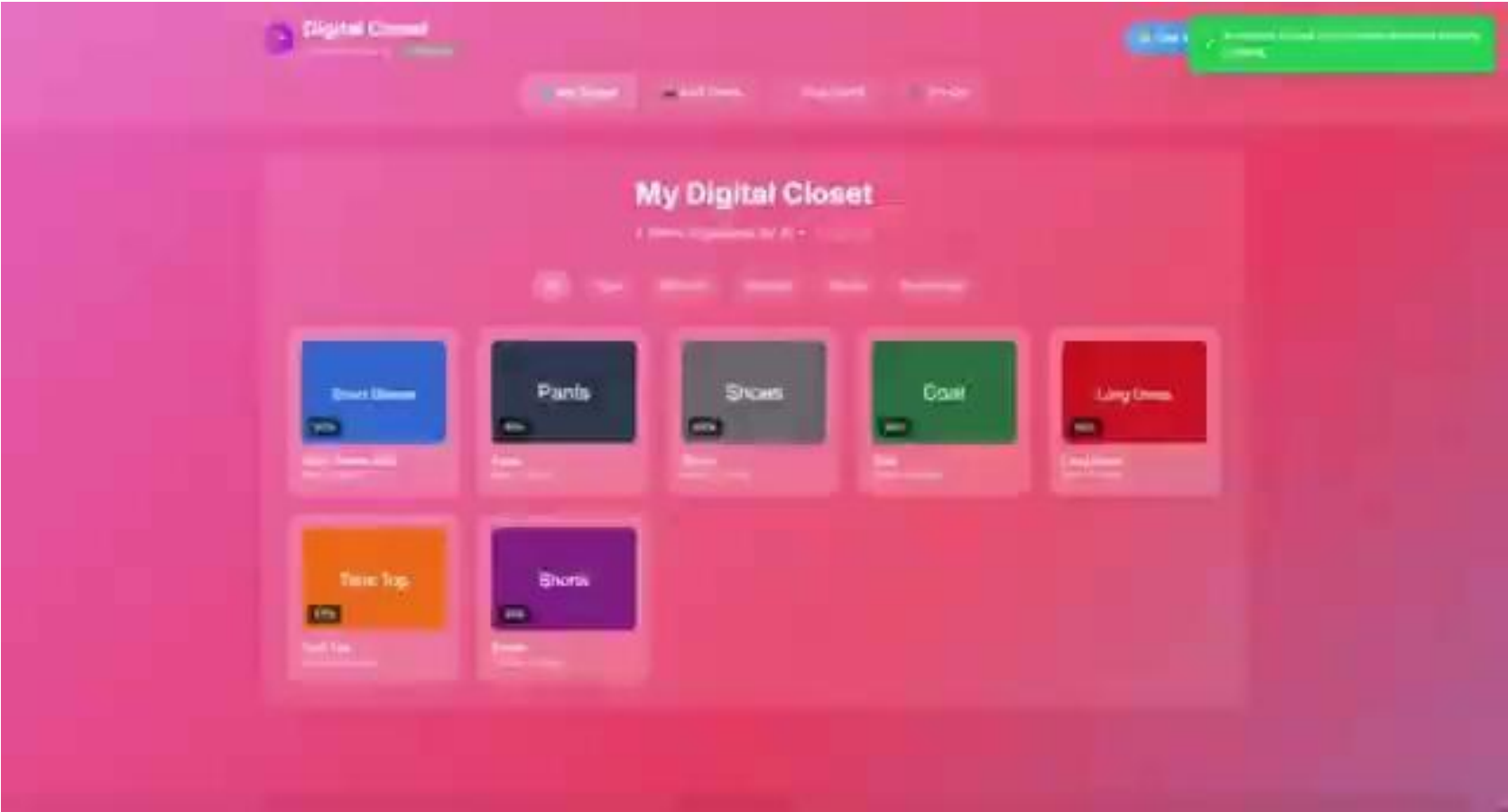
- **Mobile-First CSS Method:** Use min-width media queries in TailwindCSS
- **Flexible Grid Method:** Implement responsive layouts with CSS Grid and Flexbox
- **Touch Event Handling Method:** Support both click and touch interactions
- **Viewport Meta Tag Method:** Set proper scaling for mobile browsers

Design Process



DOCUMENTATION: Process





Case 1: Daily Outfit Planning

Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits before a trip by mixing and matching items to ensure you pack efficiently and have coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations you wouldn't normally think of through random generation, helping you rediscover forgotten pieces and develop your personal style.

Case 5: Thrift Store Inventory Management

Rapidly categorize and catalog incoming clothing donations using AI classification, reducing manual sorting time and enabling searchable digital inventory for online sales.

Case 6: Retail Closet Consultation Services

Personal stylists and boutiques can digitize client wardrobes during consultations to provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.

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Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits for different climates and occasions to pack efficiently and have coordinated looks ready to go.

Case 4: Style Experimentation

Try new outfit combinations using virtual avatars to see what works, helping you rediscover forgotten pieces and explore new styles.

Case 5: Thrift Store Inspiration

Rapidly categorize and tag items by style, color, and material, reducing manual sorting time and enabling search by specific attributes.

Case 6: Retail Closet Consultation

Personal stylists and boutiques can digitize client wardrobes during consultations to provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



Case 1: Daily Outfit Planning

Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits before a trip by mixing and matching items to ensure you pack efficiently and have coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations, helping you rediscover forgotten pieces and styles.

Case 5: Thrift Store Inventory

Rapidly categorize and tag items, reducing manual sorting time.

Case 6: Retail Closet Companion

Personal stylists and virtual assistants provide ongoing virtual styling recommendations.

Case 7: Sustainable Fashion

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



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Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits before a trip by mixing and matching items to ensure you pack efficiently and have coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations using virtual styling tools, helping you rediscover forgotten pieces and develop new style preferences.

Case 5: Thrift Store Inventory

Rapidly categorize and catalog items from thrift stores, reducing manual sorting time and enabling searchable digital inventories.

Case 6: Retail Closet Consultation

Personal stylists and boutique curators use AI to provide ongoing virtual styling advice and personalized recommendations and suggestions.

Case 7: Sustainable Fashion Analysis

Fashion brands can analyze consumer behavior to see what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



Case 1: Daily Outfit Planning

Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits before a trip by mixing and matching items to ensure you pack efficiently and have coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations you wouldn't normally think of through random generation, helping you rediscover forgotten pieces and develop your personal style.

Case 5: Thrift Store Inventory Management

Rapidly categorize and catalog items from photos for better classification, reducing manual sorting time and enabling searchable digital inventories.

Case 6: Retail Closet Consultation

Personal stylists and boutiques use AI to analyze customer preferences and provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



Case 1: Daily Outfit Planning

Get dressed faster in the m

Case 2: Wardrobe Organization

Keep track of all your clothes
your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits for
coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations
forgotten pieces and develop your personal style.



outfits from your existing wardrobe.

ing duplicates, and identify gaps in

you pack efficiently and have

neration, helping you rediscover

Case 5: Thrift Store Inventory Management

Rapidly categorize and catalog incoming clothing donations using AI classification, reducing manual sorting time and enabling searchable digital inventory for online sales.

Case 6: Retail Closet Consultation Services

Personal stylists and boutiques can digitize client wardrobes during consultations to provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.

Case 1: Daily Outfit Planning

Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organizer

Keep track of all your clothing items, categorize them by type, color, and season, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize your travel wardrobe, ensuring you have all the essentials and coordinated looks for your trip.

Case 4: Style Experimentation

Try new outfit combinations and styles without committing to a purchase, helping you rediscover forgotten pieces and explore new fashion trends.

Case 5: Thrift Store Inventory

Rapidly categorize and catalog incoming clothing donations using AI classification, reducing manual sorting time and enabling searchable digital inventory for online sales.

Case 6: Retail Closet Consultation Services

Personal stylists and boutiques can digitize client wardrobes during consultations to provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



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Get dressed faster in the morning by having AI suggest weather-appropriate outfits from your existing wardrobe.

Case 2: Wardrobe Organization & Inventory

Keep track of all your clothing items digitally to see what you own, avoid buying duplicates, and identify gaps in your wardrobe.

Case 3: Packing for Travel

Plan and visualize outfits before a trip to ensure you pack efficiently and have coordinated looks.

Case 4: Style Experimentation

Try new outfit combinations you wouldn't normally think of using AI style random generation, helping you rediscover forgotten pieces and develop your style.

Case 5: Thrift Store Inventory Management

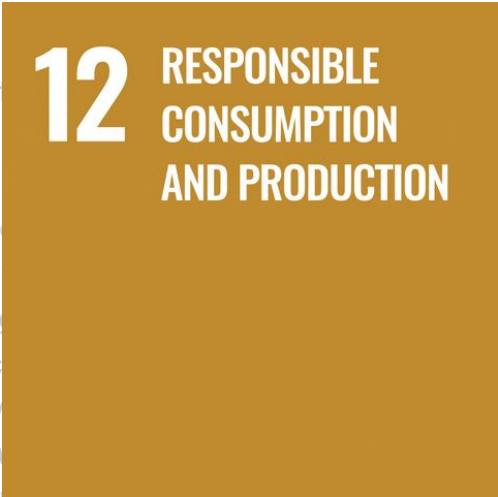
Rapidly categorize and catalog incoming items using AI image classification, reducing manual sorting time and enabling searchable digital inventory.

Case 6: Retail Closet Consultation Service

Personal stylists and boutiques can digitize client wardrobes during consultations to provide ongoing virtual styling recommendations and shopping suggestions.

Case 7: Sustainable Fashion Analytics

Fashion brands can analyze wardrobe data (with consent) to understand what consumers actually wear, reduce overproduction, and design items that fill real wardrobe gaps.



This Digital Closet application demonstrates the potential for AI-powered wardrobe management at the consumer level, but significant opportunities exist for expansion into commercial and sustainability-focused applications. Future development could include:

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DOCUMENTATION: Future Work

- Enhanced AI Capabilities**
- Enterprise Solutions**
- Social & Marketplace Features**
- Advanced AR Integration**
- Cross-Platform Expansion**

This Digital Closet application demonstrates the potential for AI-powered wardrobe management at the consumer level, but significant opportunities exist for expansion into commercial and sustainability-focused applications. Future development could include:

DOCUMENTATION: Future Work

Enhanced AI Capabilities	Enterprise Solutions	Social & Marketplace Features	Advanced AR Integration	Cross-Platform Expansion
Training more sophisticated models to recognize fabric types, brand identification, wear patterns, and damage assessment for quality control in resale markets.	Adapting the platform for thrift stores, consignment shops, and rental services with multi-user inventory management, pricing recommendations based on item classification, and integration with e-commerce platforms.	Building community elements where users can share outfits, swap items, or sell directly from their digital closets, creating a circular fashion economy powered by accurate AI categorization.	Developing production-ready virtual try-on technology with realistic fabric physics, lighting simulation, and body measurement integration for accurate fit prediction.	Creating mobile applications with offline capability, cloud synchronization, and integration with smart home devices (e.g., displaying outfit suggestions on smart mirrors).

To recreate this project, implement functions in this order:

- ✓ Setup HTML Structure → Semantic HTML5 method
- ✓ Style with CSS → TailwindCSS + custom glassmorphism method
- ✓ Initialize Config → Global state management method
- ✓ Add Utilities → Helper function library method
- ✓ Integrate AI Models → TensorFlow.js + Teachable Machine method
- ✓ Build Upload System → FileReader + Canvas compression method
- ✓ Create Closet Manager → localStorage CRUD method
- ✓ Implement Weather → Geolocation + API fetch method
- ✓ Generate Outfits → Algorithm + scoring method
- ✓ Add Try-On (Optional) → MediaPipe + webcam method



Ryo Suzuki 5:49 PM

@channel Hi All. I have aggregated peer-review results. Here is the **people-choice best project awards**, given both average score as well as aggregated weighted points (the aggregated weighted points are calculated as Top 1 = 5 points, Top 2 = 4 points, Top 3 = 3 points, Top 4 = 2 points, Top 5 = 1 point)

Congrats and great work for those who won. 🎉

A grader will get back to you the final score on Canvas. Also, if you haven't presented last week, please give your presentation tomorrow.

- 🏆 Top 1. All Nighter Unity Game by @Aiden Zavala
 - Average Score: 9.60 / 10
 - Weighted Points: 37 pts (1st of 15)
 - Comments Summary: A polished, fun, and engaging solo Unity game widely praised for its creativity and playability.
- 🏆 Top 1. Digital Closet by @Brett Rabbiner and @Elizabeth Saunders
 - Average Score: 9.69 / 10
 - Weighted Points: 31 pts (2nd of 15)
 - Comments Summary: A highly polished, feature-rich organizational app with strong market potential and excellent UI design.
- 🏆 Top 3. AR Menu by @Kaitlyn Samuelian and @Elías Montiel
 - Average Score: 9.50 / 10
 - Weighted Points: 30 pts (3rd of 15)
 - Comments Summary: A practical AR tool for translating foreign menus with impressive OCR integration and clear real-world value.



Thank you!
Any questions?