Web UI Design Research Report & Design Brief

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Table of Contents

Website Topic

We will be researching websites that allow the user to create art and images, through digital drawing, painting, sculpting or image editing (and allowing the user to save the image they create) such as Pixlr, Magma and SculptGL.

Pixlr is a website that allows its users to easily edit their photos, draw on them, remove backgrounds, expand the image upon many other useful features.

Magma allows users to freely draw on a shared canvas, with a bunch of unique brushes, tools, canvas and the ability to collaborate with other artists in real time.

SculptGL allows users to sculpt, render and topologize 3-D objects with various tools, and an intuitive and flexible UI.

We will be comparing each website's usability, responsiveness, accessibility, aesthetics, content quality, interactivity, consistency and typography, to see what works well and what does not.

Website 1: Pixlr

Usability

Menu navigation:

Pixlr's homepage is minimalistic, with 5 options along the top right for pricing, account, premium, latest news and a drop-down burger menu that opens into a list.

Important Actions:

Important Actions have an icon and usually bold text followed by subtext. There are 2 links to AI tools, then 5 inline clickable icons to access its various tools – for future reference, we will be referencing these tools and not the above AI tools when we use the term "tool" – these tools are titled Pixlr Editor, Pixlr Express, Pixlr Designer, Remove BG, and Batch Editor, we'll refer to these tools as the Editor, AI Editor, Designer, BG Remover, and Batch Editor tools, respectively. Below the tools is an expanded list of tools in a grid layout, labelled "Quick Links".

Visual Feedback:

When hovering over a tool with the mouse, it becomes highlighted, and the icon bounces up to indicate that it is selected. Some clickable links gain a coloured outline. Lower down on the homepage, there are images and clusters of images that expand when hovered over as well.

Error messages:

Error messages while using the tools show up along the top as a banner but don't interrupt the user action where possible. Other than that, error messages seem to be non-existent, or at least I couldn't find them.

Search functionality:

The search feature of the website is limited to a "Template Search" feature. This feature seems to be quite useful; it prompts users with auto-complete answers to speed up searches and can interpret misspelled words and approximate acronyms.

Responsiveness

Adjusting to different devices:

The website adapts to a multitude of devices and works on multiple operating systems, all tools are available and completely functional both on mobile and desktop os's.

Touch target size:

The buttons within the web page resize appropriately for mobile devices allowing for ease of use on mobile devices.

Readability on different screen sizes:

Readability remains consistent as the page resizes to accommodate your device's screen.

Image and Video resizing:

Images and video resizing, (At least to the naked eye) doesn't seem to cause any distortion or cropping, however this might depend on the files you use and their quality.

Navigation optimization on smaller screens:

The menus and navigation overall work very well, however on the main page some buttons, pictures and text are cut due to the screen not being large enough on mobile devices.

Accessibility

Accessibility in Pixlr is good overall except for when you use the tool, the laggy tools might make it harder for people with motor or dexterity problems to use the web page, as it is not as easy to control due to the lag issue. Otherwise Pixlr is good at being accessible to all audiences as the minimalistic UI aids its ease of use as well as the menu's being self-explanatory and not too complicated.

Pixlr can be unresponsive when the user uses the tools, as the tools start lagging which reduces accuracy and makes it more complicated to use the features available, the menus respond perfectly.

Alt text for images:

By what I could find, the website does seem to possess alt text for images, this is a great thing to have for people with impairments that might be using the narrator.

Keyboard-only navigation:

Keyboard only navigation does seem to work, however there are no visuals, the buttons that are supposed to get highlighted don't at all unless you use the narrator, this might make it hard to use the keyboard only navigation.

Colour contrast:

I would say that it does meet the standards for colour contrast, helping readability for people with accessibility problems.

Assistive technology accessibility:

Narrator does seem to work fine, but only in the menus, once using a tool it ceases to work.

Interactivity:

Interactivity with the menus is smooth, however the tools aren't as much, this might make the experience for the use sub-optimal.

Aesthetics

Engaging Design:

The website is sleek and clean design wise, everything from the colours, typography, images and general layout of Pixlr results in a professional look.

Colours and Typography:

Pixlr uses an assortment of different colours on a black background, predominantly different shades of purple, as well as blue and yellow. The colours and hues also hugely complement the simplistic look of the website. Upon choosing any of the different creative tools available, the UI on the selected tool will have the same colour as the icon of the tools on the homepage, which keeps the colour consistent from page to page. It uses a sans-serif font, which is unchanging, throughout all its pages and available tools.

When a user is on the page of one of the tools, they can freely change the colour of the icons and background, making it darker of lighter and changing the UI from blue to red.

Website Branding:

The branding of Pixlr is appropriate for a website that supplies photo editing tools, through its use of colours, font and images that demonstrate the power of the tools and general design and layout.

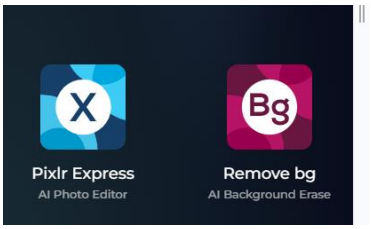
Image Quality:

Images are of high-quality and used effectively to show what the tools at the user's disposal are capable of.

White Space:

Pixlr shows effective use of white space, avoiding unnecessary visual clutter or overwhelming the user, by how images and text are laid out throughout the website.

The mobile version has a lot of white space and needless gaps. Some issues can be seen regarding the tools on the mobile version, with only two being visible and the others completely missing on the homepage.



Content Quality

Structure:

This website is easily readable, displaying clear headings and subheadings throughout the page for every tool and above each paragraph of text. This allowing the user to easily navigate the site and find exactly what they are looking for.

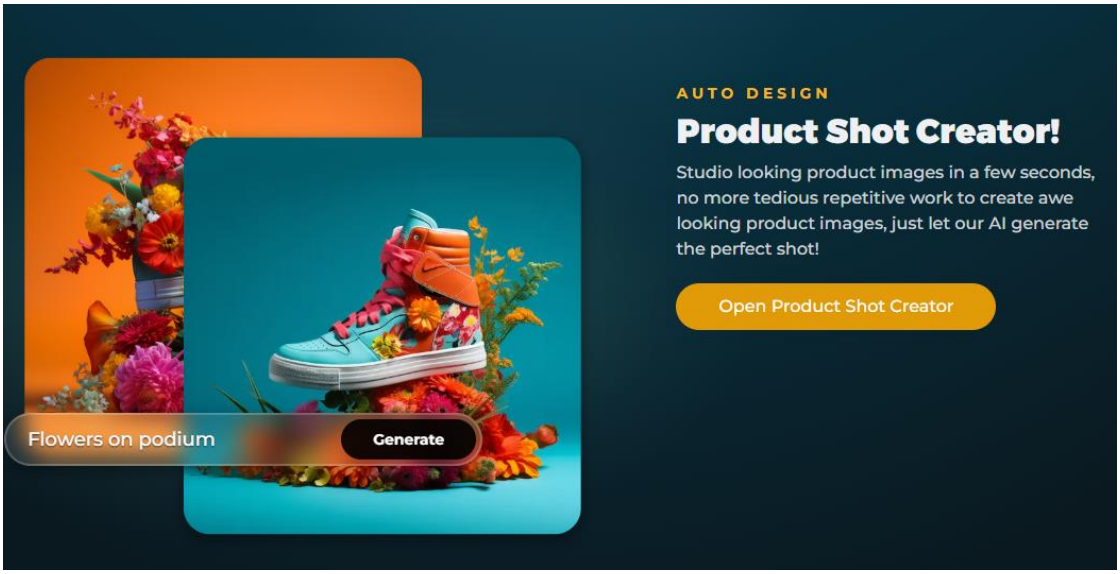
Language:

Pixlr keeps things simple, using no technical jargon at all throughout the website. It conveys every tool available through simple language. For instance, one of the available tools in the photo editor, Mimic HDR is explained without any technical wording. “Bring up the dark areas and keep the lights intact”.

Relevance:

Pixlr has a variety of tools at the user’s disposal for editing photos such as removing backgrounds and editing a lot of images all at once. This is very useful and relevant for people who do photography as a hobby or professionally, someone who posts on social media, like Instagram, or someone who just enjoys editing pictures for their own personal use.

Grammar:



There are minor issues with grammar on this website. There is a case of shorthand seen immediately upon viewing the webpage, one of the tools shortened to “Remove bg” instead of “Remove Background”. In the above screenshot, “awe looking” is odd wording to choose, as the phrase “awe inspiring” sounds far better in comparison. As well as that, “Studio looking product images” also sounds strange as “Studio quality product images” feels better to say in comparison.

Multimedia Elements:

Images highly compliment the website and its various tools, using them to demonstrate tool capabilities

Interactivity

Intuitive and functional interaction:

Img icons or text elements on the website both work as functional links, normally grouped by div, this is convenient for users who are clicking quickly to get to the tools they need without having to slow down to click on specific text links or search for hyperlinked imgs.

Transitions and animations:

Animations are all smooth and don’t interfere with user progress through the website.

Hover effect feedback:

If the mouse hovers over buttons they will darken inward or lighten outwardly depending on the colour of the background to indicate, they are being interacted with. Most of the pictures can also react to the mouse hovering over it, responding by shifting from behind an image to show a full image through use of one of their tools to extend the image.

Feature validation effectivity:

When filling in a text field or form, the website responds almost instantly and doesn’t seem to slow down to verify and validate the user input.

Interactive content (i.e., is it engaging and responsive):

We believe, from our assessment, that the interactive content on the website is engaging and responsive to user input. The visual feedback improves user experience and aids in navigation.

Consistency

Font, colour and design elements:

The website uses mostly a single font and uses a variety of colours to distinguish its tools from each other but has a limited palette for its background elements. As a design tool, this is important to let the images shine and not muddy colour schemes.

Predictable and reliable interactions:

All interactions seem predictable, all links are labelled, and hover effects start within a range of their effect zone, so users aren't frustrated by an element not linking to where they expected or clicking on dead space just outside of an element and missing the link.

Branding elements uniformity:

The branding elements are consistent with themselves and other elements on the website, all icons are in the same style, the logo is in a uniform font, the style of generic elements is sleek and modern, creating uniformity.

Layout consistency:

Most of the tools open to a similar layout, apart from the Designer tool, asking you to open a file or create a new file on the left side of the screen and explaining the tool on the right. The BG Remover and Batch Editor tools don't have the option to create a new file – probably because it doesn't make sense to create a new file or files for these tools – and the Editor tools have a sign in option under their description on the right. The Designer tool instead opens to another page with five options under the heading "I want to create:", each with a different layout, the first two options (Photo Collage Maker and Product Shot) are consistent with the other tools, prompting you to select a file on the left side of the screen, but they are different in almost every other way, as far as I can tell, the middle option (Templates) opens to a template browser, the last two tools don't open other pages, the former (Open File) opens the file explorer and the latter (Start New) opens a new div on the same page prompting the user to input a name and dimensions for a new empty design.

Below these layouts in the Editor, Express, and Designer tools there is a scrollable list of options. The icons for this list are slightly larger in the Designer tool to fit its different format. Under this list in the Designer tool is a list of Templates.

Typography

Pixlr uses a sans-serif font for all its tools, which builds a fun, informal branding. It uses bold white text on a dark grey background for its headings across its UI, adding to its legibility and separating each tool into distinct segments with a heading subheading structure. Its main headings have more letter spacing.

Its logotype is a sleek all caps font with very spaced-out lettering.

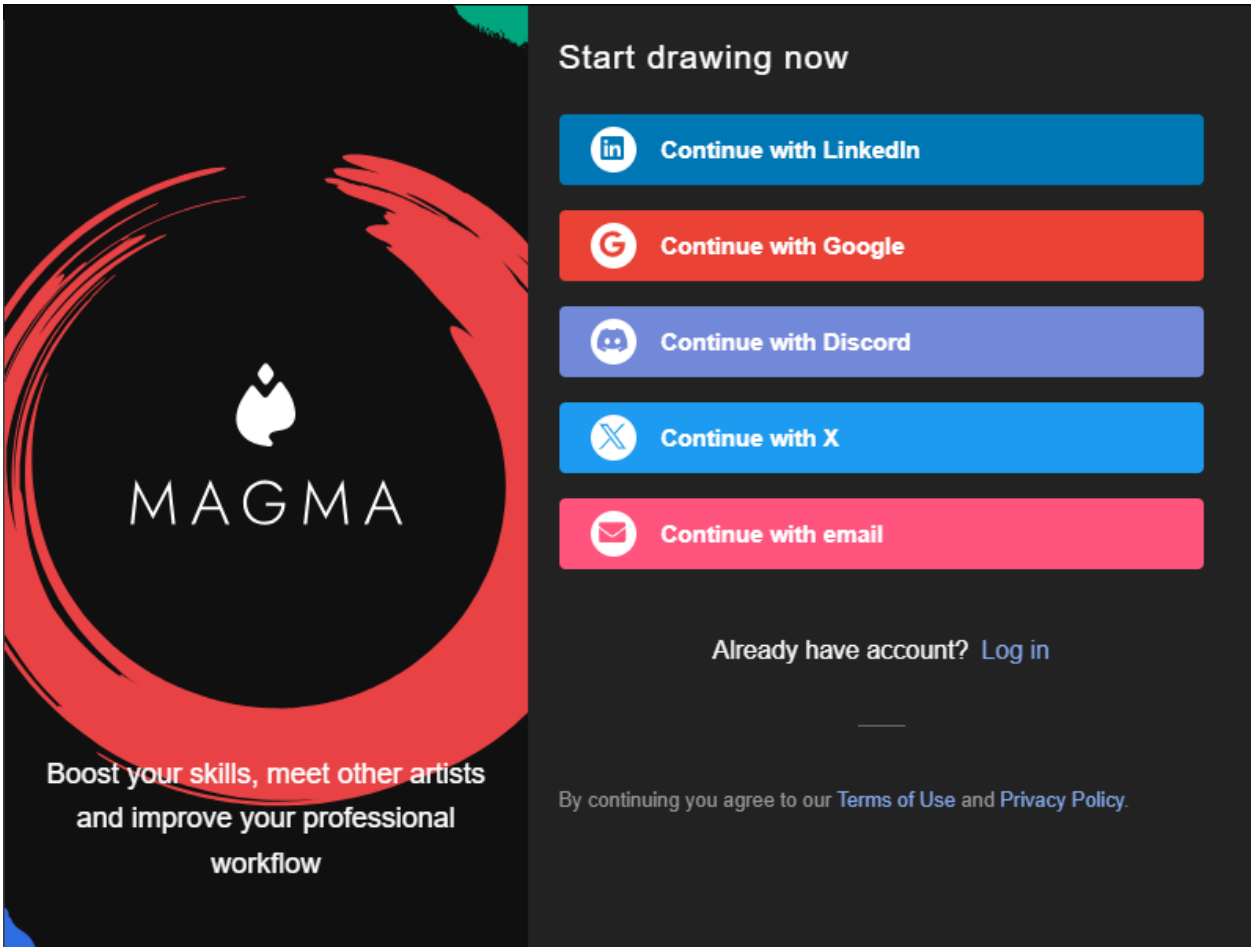
Website 2: Magma

Usability

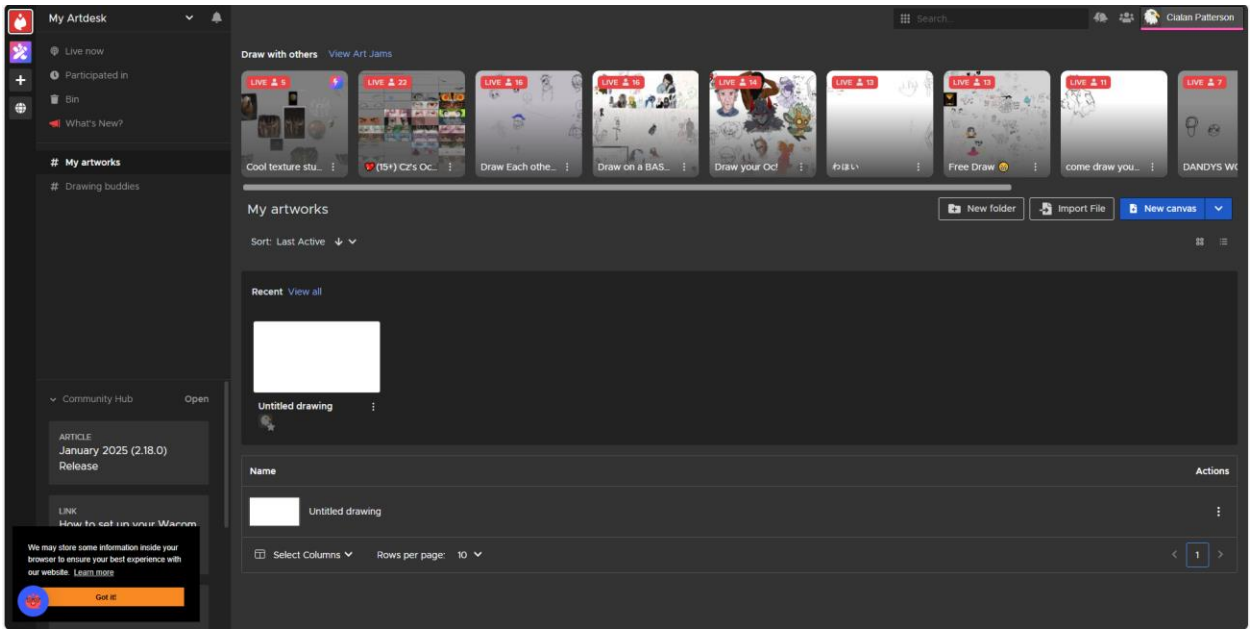
Menu navigation:

The first thing users who aren't logged in will see the first time they enter Magma's homepage is Hero text and a button prompting them to "start drawing" this simplifies the process for new and experienced users and immediately clues in all users as to Magma's purpose without needing an explanation.

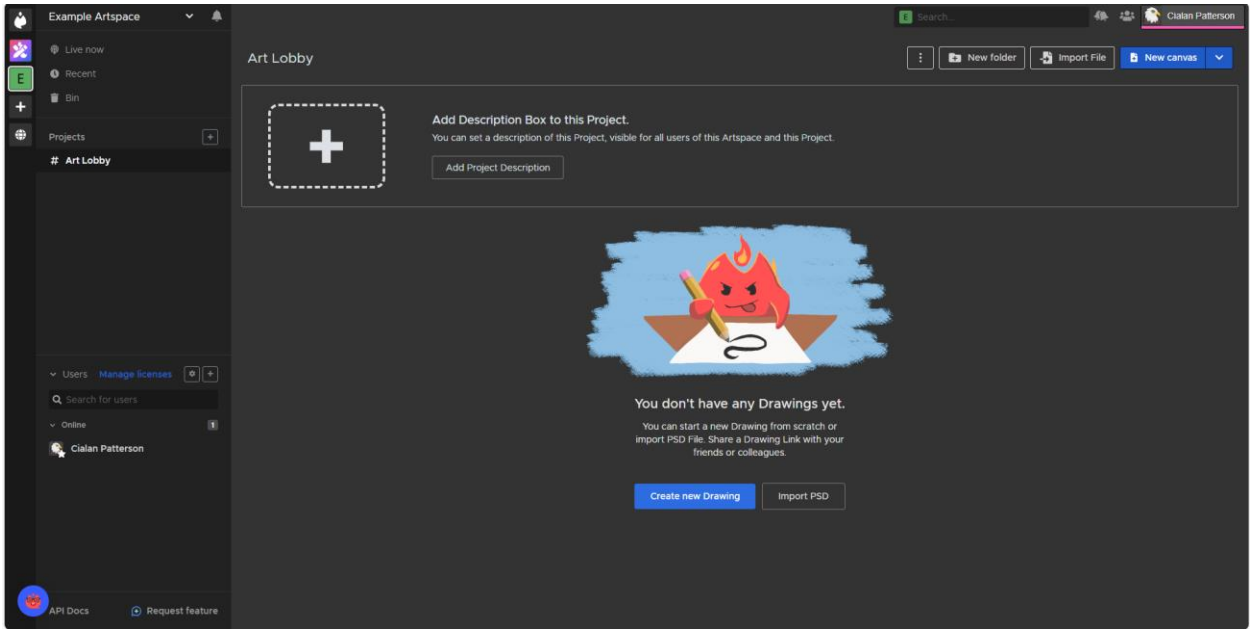
After clicking this button, Magma opens a separate tab and immediately creates the canvas where users will draw and then a pop-up telling you to "Start drawing now" and various sign-in options.



If users sign in, however, then Magma's homepage will automatically redirect them to a much more complicated menu system, meaning the website doesn't open to the simple Hero text and button. This menu is more visually cluttered and engaging but remains easy to navigate. Most of the options are confined to the left edge of the page.



This menu is more visually cluttered and engaging but remains easy to navigate. Most of the options are confined to the left edge of the page. There are four icons on the very edge, hovering shows their names as ‘My Artdesk’, ‘Art Jams!’, ‘Create an Artspace’, and ‘Community Hub’. Choosing ‘Create an Artspace’ will open a new form to create the artspace and add a new icon to the list for the artspace once this form is submitted.



Clicking any of the other list items will open a new page with the same format as the image showing ‘My Artdesk’ above, but the menu to the right of the icons will reflect the purpose of the icon, My Artdesk lets users create and view artworks they have worked on in the past, allows users to connect with other users, and provides alternate ways to navigate to the Art Jams! and

Community Hub pages. The Community Hub page seems to be incomplete at this moment, and the only accessible link leads to a form for users to request features for the Community Hub itself.

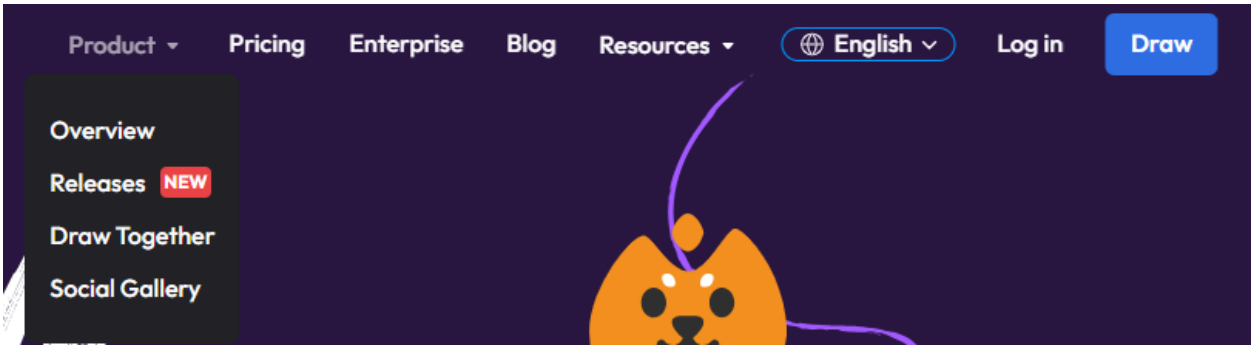
Search Functionality:

Art Jams! will let users participate in public artworks, called art jams, typically with set goals such as “drawing on a base” or topics such as “Undertale”, Magma provides users ways to filter art jams by genre, and lets users see past jams and jams they participated in through separate menu options.

Important Actions:

Important actions are made clear to users through colour and layout. Along the top of the homepage is a banner with headings in English, Product, Pricing, Enterprise, Blog, Resources, English (a dropdown menu for language selection), Log In, and Draw.

Product, Resources, and Language are dropdown menus, as indicated by the caret next to them, which open when hovering the mouse. The rest of the headings are clickable links which lead to other pages on the website. The most important banner headings are indicated by different CSS styling. The language selection has a blue border and a symbol to make it easier to find, as well as a different caret than Product and Resources. The Draw button, like the “start drawing” button below, is in a blue box, which makes it stand out as the most important option in the banner.



Responsiveness

Adjusting to different devices:

The website adjusts to multiple devises seamlessly and seems to maintain full functionality both on mobile and desktop.

Touch target size:

The buttons on mobile are a bit small, however considering that it is an app for drawing you need the space for that, all features are perfectly usable with the smaller buttons, it's just a bit harder to hit if you have larger hands, so it's definitely something to have in mind.

Readability on different screen sizes:

Readability stays consistent across devices, be mobile or desktop.

Image and Video resizing:

There is no video resizing, hover resizing things on your canvas works well without any discrepancies.

Navigation optimisation on smaller screens:

Navigation stays the same overall, but as mentioned above, the buttons might not be as easy to use if you have larger fingers.

Accessibility

Alt text for images:

There aren't many images, due to this the page lacks alt text for them, as they are mainly ads.

Keyboard-only navigation:

Keyboard only navigation isn't available due to the nature of the website, as you need key shortcuts to use the page at full capacity.

Colour contrast:

There is enough colour contrast however not many colours, as the website is mainly grey, black and white.

Assistive technology accessibility:

Windows narrator doesn't work on this website.

Interactivity:

Overall, the website lacks accessibility, however the functions of the website work very well and flawlessly.

Aesthetics

Engaging Design:

The design of Magma's homepage is no doubt visually engaging with small images littered throughout, as well as other images being present demonstrating different art styles capable of

being created. The website is very clean with how it is designed, every picture placed strategically to avoid any visual cluttering.

Upon signing in, the layout of the page changes, taking a more functional turn instead of being as aesthetically pleasing as the homepage.

Colours and Typography:

Magma is filled with a huge variety of colours and hues such as purple, pink, red, blue, yellow and black among many others from the images throughout the site. There are different fonts used, one being a sans-serif font used everywhere on the page and the other being far more artistic and only used once with it being the word “Draw”.

When clicking on the “Start Drawing” button, the page will change to show a white canvas and black background with the UI being a light grey and the same sans-serif font as the homepage. When signed in, less colours are present, the background being completely black with little images in the centre being the only colour.

Website Branding:

Magma shows colourful imagery and art all over its homepage, showing creativity and perfectly demonstrating what its drawing tool is capable of. The website brands itself as an art tool through the design of its homepage faultlessly.

Image Quality:

Most of the pictures on the site are high-quality, yet others are slightly pixilated, blurry or keeping some white around them from how they were cropped. This could be more of a result due to what brushes were used to draw them rather than the images themselves being bad quality.

White Space:

Despite the number of images present all over the homepage, they don't clutter the page, leaving some white space here and there, instead they add to the artistic branding Magma is going for.

Content Quality

Structure:

Users can navigate Magma without difficulty, the homepage having headings at the top left as well as other headings when scrolling down the page to separate sections of the homepage.

The drawing part of the website is also easy to navigate, everything being clearly labelled with headings and subheadings.

Language:

The language is easily understood, using no technical words at all throughout the homepage nor the drawing tool itself.

Relevance:

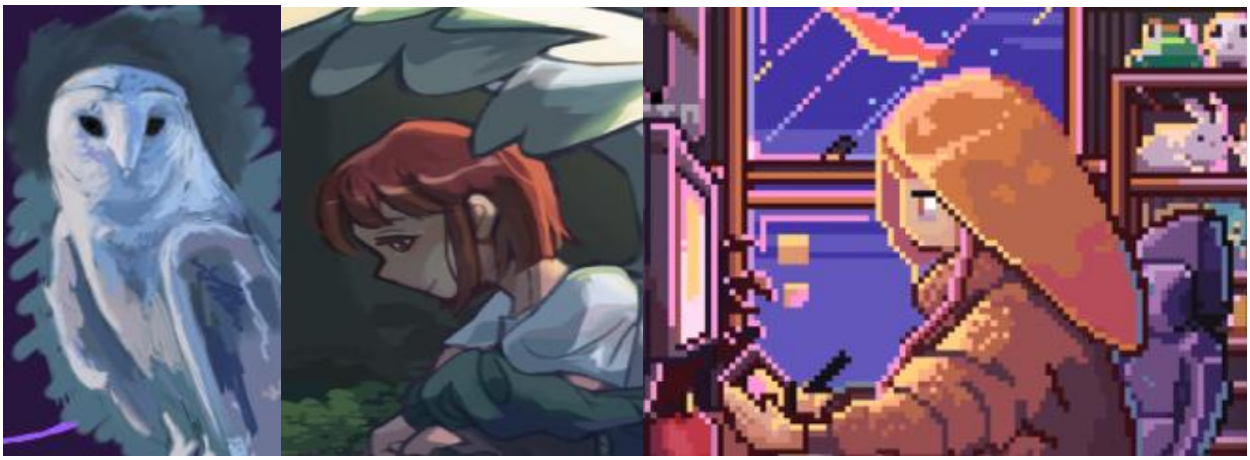
Magma is indeed relevant for users who enjoy art and creating it. It allows collaboration between friends in real time online for free, only needing to log into an account to access it and draw whatever they desire. It has multiple canvases and brushes and other tools at the user's disposal to create stunning works of art. It also allows users to watch as other people draw in real time, to get inspiration.

Grammar:

The website has no grammar issues, each sentence begins with a capital letter and ends with a full stop as it should.

Multimedia Elements:

Magma uses a lot of images all over its homepage in different styles, some being in pixel art, some being drawn with more realism and others that are completely an original style. These drawings throughout show what Magma is capable of through its drawing tool.



Interactivity

Intuitive and functional interaction:

If logged in users try to open the homepage without having a board, Magma's homepage will automatically redirect to a new board with dimensions equal to their screen size. This also occurs when users click on "Start Drawing" or "Draw" on the homepage, before users sign in. If logged in users try to load the homepage after creating a board, however, Magma redirects them to their Artdesk. This helps to acquaint users with the UI and layout of the canvas and menu navigation, and does not disrupt normal use of the website, as these automated actions do not happen when users open a link to another board, regardless of their login status.

If users try to open a board or create a new board while not logged in, they will be prompted with a menu to login or create an account before being able to access the board, this simplifies user interaction with the website and removes a step from the login process.

Transitions and animations:

Transitioning between pages feels snappy and fluid, until noticing the URL changing, I thought that Magma was staying on the same page and caching elements or storing them locally to load them faster. Looking through the source code with dev tools, the entire page is initialised using JS, and uses multiple load functions to, for example, initialise UI elements, load user content from local storage, load user content from cloud or remote storage, and load generic content from Magma's servers, which makes the transitions happen very quickly and makes UI elements feel present at all times, this also speeds up navigation for experienced users. The load times are noticeably slower in the Community Hub when loading into certain pages, probably due to needing to load larger files from server storage.

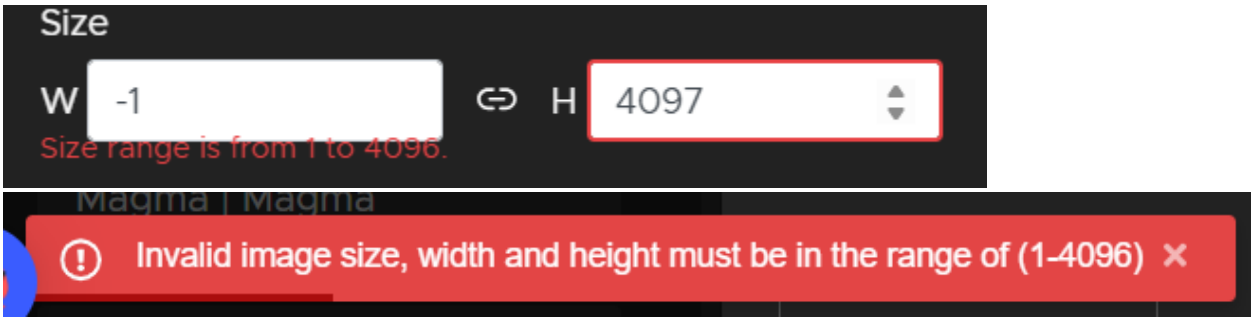
Clicking on the Magma logo on the canvas slides a side menu onto the screen from the left, clicking off this menu will slide it back offscreen, this is one of the only UI animations I could find that will actually impact how users interact with the site, as the other animations are simple fading in and out and loading animations, or purely aesthetic, such as changing colour, while this menu animation makes users wait being able to interact with the UI or canvas again. I think this is a useful feature however, since otherwise double clicking on the logo would take users off the canvas screen and back to their Artdesk, meaning both pages will have to be reinitialised if the user wants to return to the canvas page, the sliding animation prevents unnecessary user errors.

Hover effect feedback:

Dropdown menus will automatically pop open when being hovered over with the mouse and mousing over list elements will highlight them regardless of their type or function. Hovering over the logo on the drawing canvas has a unique animation of it fading to a red colour from its default colour (normally white).

Feature validation effectivity:

When creating a new canvas, there are two options, Quick New, which creates a canvas the same size as the current if the user is on a canvas or creates a default “landscape canvas” when clicking on New Canvas from the Artdesk, and New, which opens a popup menu to select the size of the canvas from a list of presets or Custom Size, letting the user enter height and width manually, the form won’t submit if either value is 0 and an error message will pop up if the value is negative and a different error will be displayed if the value is above 4096.



Consistency

Font, colour and design elements:

Magma is extremely colourful at least on its homepage and a few other pages available through the headings at the top. The other pages such as the “Releases”, “Pricing", "Blog” and some other pages, lack most of the colours on the homepage, having white predominantly used for the background instead. The same Roboto sans-serif font however is consistent across most pages other than the homepage.

The same can be said once the user is signed in. A lot of the colour is gone, the background being black, lacking the previous colourful look of the homepage. The only colours in the UI come from the icons on the left edge, very few UI elements, and the placeholder images that show up when a page has no content.

Every UI element on the menu and homepage to create a new canvas uses the same style, a blue background with white text, so it's easy to locate and recognise on all menus. This seems to be the only instance where this specific style is used.

Predictable and reliable interactions:

Magma interactions are very reliable, and all links are easily recognised as links. Whenever the website switches pages, the transition is smooth and doesn't interrupt user progress through the site. The homepage redirecting and performing automated actions for logged in users can be jarring but the consistent UI elements and canvas thumbnails make it very easy to navigate to the canvas so that experienced users can quickly continue with or begin new artworks.

Branding elements uniformity:

Magma's branding remains uniform from page to page, the logo resting on the top left and bottom left corner of the site, as well as being placed in the centre with lower opacity on the bottom of the page.

Typography

Magma greets new users with an informal calligraphy display font of the word "draw" in all caps, and a lowercase "together" in a casual sans-serif font, this conveys its energy and its artistic nature, and the different fonts build on its purpose and marketing as a "for fun" tool that allows users to create art together on multiple devices at the same time. The following paragraph uses sentence case, followed by a button in title case, this inconsistency again adds to Magma's feeling as a casual tool rather than feeling jarring or out of place. Magma then uses a mix of light all caps, bold title case and different weights in sentence case for the rest of its homepage, all sans-serif.

Magma's logotype is a very light all caps font, with consistent letter spacing

Website 3: SculptGL

Usability

Menu navigation:

SculptGL makes it very easy to navigate its menus, all options are accessible through the dropdown menus in the top banner.

Important Actions:

Any text that marking an area that users can click on has a high contrast ratio with the background, and any text outside of that is in a comparatively lower contrast ratio, while still being accessible

Visual Feedback:

Any user input with the website has immediate visual feedback, and it feels especially responsive when moulding the sculpture, which is exactly what the user will want from a product like this.

Responsiveness

The Website responds flawlessly without any lag or stutters, this allows for ease of use and for usage of the page for extended periods of time without issues.

Accessibility

Alt text for images:

Due to the nature of the app there is no alt text for images.

Keyboard-only navigation:

Yet again, due to the nature of the website there is no keyboard only navigation

Colour contrast:

The app uses shades of navy and white so there definitely is high contrast, however it does lack colour.

Assistive technology accessibility:

Windows narrator does not work on this website.

Aesthetics

Engaging Design:

The design of SculptGL is not that visually engaging, lacking any stimulating colours or images. It does however provide a clean look due to simplicity of the site.

Colours and Typography:

The main colours used are black and grey, not counting the different materials that can be applied to the sculpts themselves. The font used is a sans-serif font which stands out by being a far lighter grey.

Website Branding:

SculptGL does align with its purpose of being able to sculpt 3-D models, the colours and layout being like other 3-D modelling software.

Image Quality:

The quality of images you can import is not the best, the image itself being blurry regardless of it being a Png or jpeg. The size of the imported image fills the entire background of the sculpt, without the ability to change its scale.

White Space:

There is a lot of white space present as is to be expected with any 3-D modelling software, allowing to easily see what is being modelled from all angles. All the UI is present entirely on the right of the screen as well as some on the top left.

Content Quality

Structure:

SculptGL has good functional use of headings and subheadings, allowing the user to comfortably navigate the page and everything available.

Language:

There is technical jargon present throughout the site, especially in the Topology heading, words that users with no previous experience with other 3-D modelling software, would struggle to comprehend what they are and what they do.

Relevance:

SculptGL is relevant for users wanting to do some 3-D modelling without needing to install any software, being a standalone website letting users easily begin sculpting.

Grammar:

There is a little inconsistency with the grammar on the webpage. While every phrase begins with a capital letter, any word following it would be in lower case. But that isn't the case with every word. "Dynamic Topology" has both words start with a capital letter instead of the second word being all in lower case.

Multimedia Elements:

There is no multimedia aspects present on SculptGL. The user is immediately thrown into being able to sculpt.

Interactivity

Intuitive and functional interaction:

As soon as you load into the website, it takes you immediately to the clay sculpting screen, this makes it very intuitive for new users and lets users figure out what options they have by trial and error. For example, if a new user enters the site, they will see a blank scene with minimal UI and a clay ball. If they then click on this clay ball and drag the mouse, it will create a symmetrical "bump" on it, the user now knows how they can interact with and shape the sculpture and can immediately start using the tool without needing a complex explanation like other tools might require.

Hover effect feedback:

There are a few different hover effects on the website when interacting with the UI.

1. When hovering over a "checkbox" list item, the background will become darker, indicating that clicking on it will have an immediate effect.
2. When hovering over a "slider" list item, the mouse will become two conjoined arrows, like when hovering on the edge of a tab on Windows that you can expand, this indicates that the user must click and drag for the option to take effect.
3. When hovering over a button or dropdown menu list item, the text will turn from grey to white, indicating that clicking will either have an effect immediately or will open another menu.
4. When hovering over the options at the top of the window, they will open their dropdown menu, the options within these menus use the other 3 effects.

Feature validation effectivity:

SculptGL has slider options which allow the user to quickly change settings, such as the size of their tool or the FOV, users can also input a number through text by clicking beside the slider. If slider is bounded, it will automatically set itself to either the highest or lowest bound whenever the user attempts to input a number outside of those bounds, this prevents users from overwhelming the website with numbers that are larger than expected and prevents users from inputting negative numbers and/or numbers that are lower than the website expects. This also automatically rounds numbers to the nearest whole number, which I could see being argued as a positive or negative aspect.

Interactive content (i.e., is it engaging and responsive):

SculptGL is the most responsive and arguably the most engaging of the three websites we have looked at, which is only more impressive considering the relative size of 3-D models compared to 2-D canvases. The tool feels the most "complete" as a tool and has several customisation options including an "Extra UI" tab, which allows users to fully engage with the tool in the case that they aren't satisfied with its base features.

Consistency

Font, colour and design elements:

The greyscale colours, sans-serif light grey font and design is consistent throughout the website considering it is single paged.

Predictable and reliable interactions:

SculptGL sometimes has options that are in unexpected places. For our testing, we convinced ourselves that moving an object that was in the scene would be impossible, even when SculptGL allows users to create multiple objects. We eventually had to give in and looked up a tutorial, moving an object was not an option in "Scene" and was not bound to any key or shortcut on the keyboard, but was a tool that could be accessed through the "Sculpting and Painting" heading on the sidebar. This was not the only issue we encountered, but it was the only one we thought was important enough to mention. Other than that, SculptGL's tools and options are clearly labelled and easily understood after playing around with them for a little bit, which I'm sure will help experienced users navigate the menus with ease.

Layout consistency:

Given that SculptGL is only one page, the layout remains consistent throughout. All options are in place and sorted into reasonable groups under headings and subheadings, even the Transform tool mentioned above is understandable as to why the designer would think that the tool menu was the most suited place for it to be. There doesn't seem to be any serious UI oversights, and all options under each heading follow the three basic types with consistent UI for each: checkbox, slider, button/dropdown menu.

Typography

SculptGL has dropdown headings along the top of its page in sentence case, as opposed to the title case that they would traditionally be in, this is not a problem as most users wouldn't notice the "error", but it does give an unprofessional vibe to the website. Other than that, its typography is quite good, on its sidebar it has three responsive font headings in all caps – Rendering, topology, and sculpting & painting – at the top of its sidebar with carefully considered kerning. The sidebar and dropdown menu's group titles are light grey on dark grey backgrounds, with a Contrast Ratio of 4.99:1, these are underlined to align with gestalt principles of grouping. The font for UI labels within these groups has a lighter grey for higher contrast (8.86:1), as it's more important for users to be able to read these than the group titles. The group titles are also in a larger font than the labels creating a typographic hierarchy with the dropdown menu labels or sidebar headings.

Comparison Table

	PixIr	*Magma*	*SculptGL*
Usability	**- Important actions are clearly marked** **- Lacking error messages** **- The only of the three websites to include a dedicated search feature**	**- A user's first visit will be fluid and intuitive** **- A more complex menu system exists for returning users** **- Art jams offer complete filter system** **- Very clearly marks important actions**	**- Fluid and natural menu navigation** **- Highly responsive especially when sculpting** **- Important actions are obvious to user**
Accessibility	**- The tools tend to produce a lot of lag, which may make it inaccessible for some users** **- All images have descriptive alt text** **- Menus have good interaction, but the tools themselves struggle more**	**- Does not rely on images for its UI and so lacks alt text for them** **- The narrator tool we tested with did not work properly with this tool** **- Good functionality, but often limited accessibility**	**- Overall poor accessibility for motor impaired disabilities** **- Good contrast ratios** **- Limited or no screen reader access**
Responsiveness	**- Adapts to many devices, functional on different OS's** **- Touch targets appropriately resize to suit touchscreen** **- No obvious distortion or cropping of images**	**- Maintains full functionality on both mobile and desktop web apps** **- Some touch targets may be inappropriate size for mobile devices**	**- Good optimisation for weaker devices** **- Poor mobile functionality** **- Does not respond well to touchscreen**
Aesthetics	**- Sleek and Clean design, very professional**	**- Magma is the most visually engaging of the three web tools** **- The homepage uses many different fonts**	**- Minimalistic, appealing design** **- Less visually engaging than the other two tools**

	- Diverse colour scheme, using purple as a base **- Effective use of white space, very little visual clutter on desktop** **- Less effective white space on mobile**	**in its Hero text in a cohesive way** **- The homepage feels full and lively while avoiding visual cluttering with sparce but powerful white space** **- In contrast the second homepage puts function over form but keeps the same identity through its images**	**- Less colours and good use of white space**
Content Quality	**- Avoids technical jargon, simple, accessible language** **- Maintains high degree of relevance with its many diverse tools** **- Minor issues with grammar**	**- Avoids technical jargon, only using it very rarely** **- Very well structured content, easy to navigate** **- Incredibly relevant for creating a fun and collaborative environment for artists.**	**- Technical Jargon can alienate new users** **- Good content structure** **- Readily available without download**
Interactivity	**- Clear and consistent visual feedback** **- Non-intrusive animations** **- Engaging and responsive interactive content**	**- Gives logged in users a much more functional homepage** **- Non-disruptive and helpful automated actions to speed up menu navigation** **- Very limited transition effects, interesting and unique optimisation**	**- Opens into the sculpt screen** **- Intuitive navigation and good UX design** **- Immediate visual feedback for actions.** **- Well defined interactions with UI**
Consistency	**- Uses mostly a single font** **- Good array of colours without feeling disparate**	**- Very consistent font and colour, despite how different some pages can be**	**- Consistent use of colour, font and layout.** **- Clear labelling makes navigation easier**

	- Consistent branding elements throughout website	**- UI elements are fully consistent on all pages** **- Very reliable interactions** **- Consistent branding and brand identity**	**- Some tools (i.e. Transform) can be difficult to locate.**
Typography	**- Typeface is fun and informal within a degree of professionalism** **- High contrast ratio makes headings stand out** **- Good typographic hierarchy** **- Sleek logotype**	**- The homepage greets new users with a lot of distinct fonts to build purpose and brand** **- All other font use is consistent and very deliberate** **- Similar logotype to Pixlr but still building its own identity.**	**- Good contrast ratio** **- Consistently applies hierarchy** **- Inaccurate and inconsistent casing at times** **- No logotype**

Audience and Context Research

User: John Doe

Prompt: You are a graphic designer proficient in photoshop, looking for a similar tool that you can take on the go, that can be used through a web browser. You have colour vision deficiency.

TEST 1:

Goal: User attempted to begin sketching with purple

Path Taken: User clicked on “Start Drawing” from the homepage, taking him to the draw screen. User attempted to select colour, but encountered challenge.

Challenges: User could not access colour selection due to lack of accessible options for their colourblind condition.

Solution: In window, include option to change colour wheel to sRGB/CMYk sliders.

TEST 2:

Goal: User attempted to sketch a simple image

Path Taken: User clicked “Start Drawing” from the homepage, taking him to the draw screen. User changed the Colour mode to sRGB sliders, then selected a colour. User selected pencil tool, changed opacity and size to desired value. Successfully completed task.

Challenges: User had to path from the home screen, even though they already had accessed the site.

Solution: Use local storage to check if user has been on the site before, and remember their settings and automatically redirect returning users to the draw screen.

TEST 3:

Goal: User wants to import project from Photoshop into the website, to continue working on it from local Cafe.

Path Taken: Homepage detects previous stored data and redirects user to the draw screen automatically, restoring their colourblind settings. User clicks on “File”, then through the dropdown menu selects “Open File” and enters project folder through file directory and it opens in the page. Task completed successfully.

Challenges: Website automatically converts the psd to png, which takes a considerable amount of time.

Solutions: Optimise file operations and invest in more server space (RAM)

User 2: Joe Smith

Prompt: You are an traditional artist going to community art college, your courses involve digital art. You are a beginner with digital art, learning how to use free websites and tools but they cause your old computer is too laggy.

TEST 1:

Goal: Create a new file in portrait in website and start drawing.

Path Taken: User spends a long time on the starting page before pressing “start drawing”, taking them to the draw screen. The user notices the “file” button after a long time searching and hovers over it, then presses new file. The user enters the height and width he wants and a canvas is created. He attempts to draw, but struggles because he is using the mouse. User doesn’t notice the options to change size and opacity. Task completed with mixed success.

Challenges: The desktop version may be inaccessible to users without high grade digital drawing equipment, and some options may be difficult for non-tech savvy users to locate or understand.

Solution: Make the web app accessible on touch screen devices (e.g. iPad / tablet) and make important actions more visually distinct for users.

TEST 2:

Goal: Use multiple tools to create a simple image.

Path Taken: User first picks the brush tool, then proceeds to scribble around while messing with the slider, then uses the eraser to erase the scribbles. Then the user fails at attempting to use the “lasso” tool as after selecting an area on the canvas they re-attempt to use the brush tool, however, this time it only draws in the selected area and nowhere else, this confuses the user. Task Failed

Challenges: User did not understand the function of tools and was not aware of the keyboard shortcuts to undo.

Solution: Indicate keyboard shortcuts to users and include GUI elements to perform shortcuts. When the user hovers over a tool or shortcut a short description should appear explaining it.

TEST 3:

Goal: Try to save an image file as png. User was given a Samsung tablet to complete this.

Path Taken: User draws a small stick figure and presses “file”, then “save as”, then the file explorer opens and the user immediately clicks save.

Challenges: Clicking through the file explorer pop-up saves the file with the name “untitled” and in the default format, which is .tiff

Solution: Add an option to “Export as PNG” to the File menu, as png format will be more versatile and workable for most users’ purposes.

User 3: Jane Furlong

Prompt: You are a small business owner, scoping new and cheap tools to give her website an interesting look. Your company cannot afford industry standard tools and needs a tool that does not require specific training. You are provided with a sample image with multiple layers, already open in the application.

TEST 1:

Goal: User wants to observe how the parallax effect looks and how to access it to see if it would look good for her business’s website.

Path Taken: User is on the Home page and clicks the “Start Drawing” button. It redirects the user to the drawing page. The user clicks random elements and finds herself in the “Layer View”.

Challenges: Can’t figure out how to get out of “Layer View”.

Solutions: Have the “Layer View” and “Front View” both visible at all times with the current view highlighted.

TEST 2:

Goal: User wants to know more about the website’s creators.

Path Taken: User starts on the drawing screen, she explores the page wanting to find an about menu. She clicks around for awhile until she finally figures out that clicking the logo on the top left returns her to the homepage. She proceeds to search through the homepage, eventually clicking the logo and a drop down menu appears, one of these options is an about menu. Task Success.

Challenges: Not obvious to the user that clicking the logo will return to the homepage, and the user was confused that the logo would act differently on the homepage and the drawing screen.

Solution: Add a hamburger menu in the top right of the homepage, which will open into the same menu with the about section.

TEST 3:

Goal: User was instructed to try test 1 again with the updated GUI.

Path Taken: User starts on the drawing screen, and clicks into layer view immediately, then spends a few seconds dragging the camera around. She then promptly re-enters front view when realising that its not what she's looking for. She then tries to move the camera in front view, but is on the pencil tool, she realises that she needs to be on the drag tool by hovering over and reading its effect. She successfully drags the camera around and engages with the parallax effect that she desired. Task success.

Challenges: User had minor issues with understanding that the tools were different between the two views, but had no major problems with navigating the UI.

Project Goals and Objectives

What is the Project's Purpose:

Our purpose is to create a web application that allows users to create images with 3-D like effects that can be imported seamlessly into their HTML webpages.

Define Broad Goals:

This website will include a homepage, about page, and a drawing page.

The homepage will allow users to learn about the project and its creators, as well as quickly and effectively taking them to the drawing page.

The about page will be accessible through the homepage and feature information about the creators and provide easy ways to contact us.

The drawing page will have a minimalistic and intuitive UI, with complex options hidden behind dropdown menus to welcome new users. Multiple drawing tools will be available, including a brush tool, eraser tool, lasso select tool and a drag tool. Users will be able to change between a "front" and "layer" view which let users view and edit the canvas in 2-D and 3-D respectfully.

In front view, the brush tool will have 2 slider elements, one to set its size and another for opacity.

In layer view, the user can see their work in 3-D and change its perspective with the drag tool, the user can make cutouts of the layers with a cut tool and manually edit the spacing between each layer with a slider element.

Translate Goals into User-Focused Objectives:

Allows users to create 3-D looking images with a parallax effect, which can make their HTML webpage more visually engaging.

Helps users by providing a digital design application with intuitive UI to acquaint them with the process of designing in a digital environment without overwhelming them with huge lists of features.

Allows users to compile multiple existing images or image elements with transparency to add a parallax effect to them in order to create the aesthetic of a 3-D scene.

Draft a Value Proposition:

“Our tool provides an easy and cheap way to create a parallax effect on images without having to go through the process of creating an account or subscription.”

Website Links

PixIr: Free Online AI Photo Editor, Image Generator & Design tool

Magma: Paint and Sketch for Free Online with Friends | Magma Drawing Website

SculptGL: SculptGL - A WebGL sculpting app