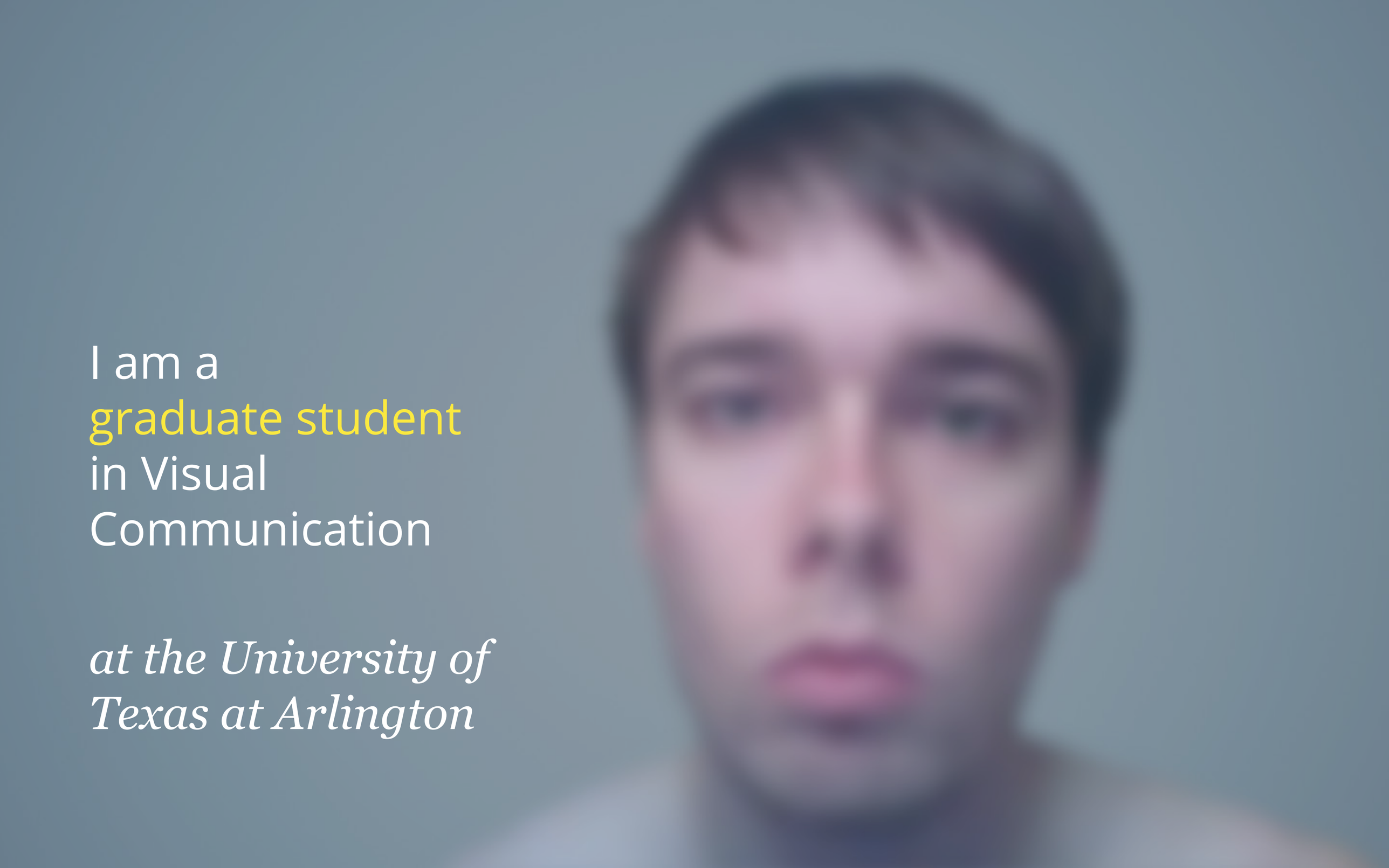
Kai ‘Opua

MFA Thesis
Visual Communication

authored by
Collin Hover

Hello,

my name is Collin Hover



I am a
graduate student
in Visual
Communication

at the University of Texas at Arlington

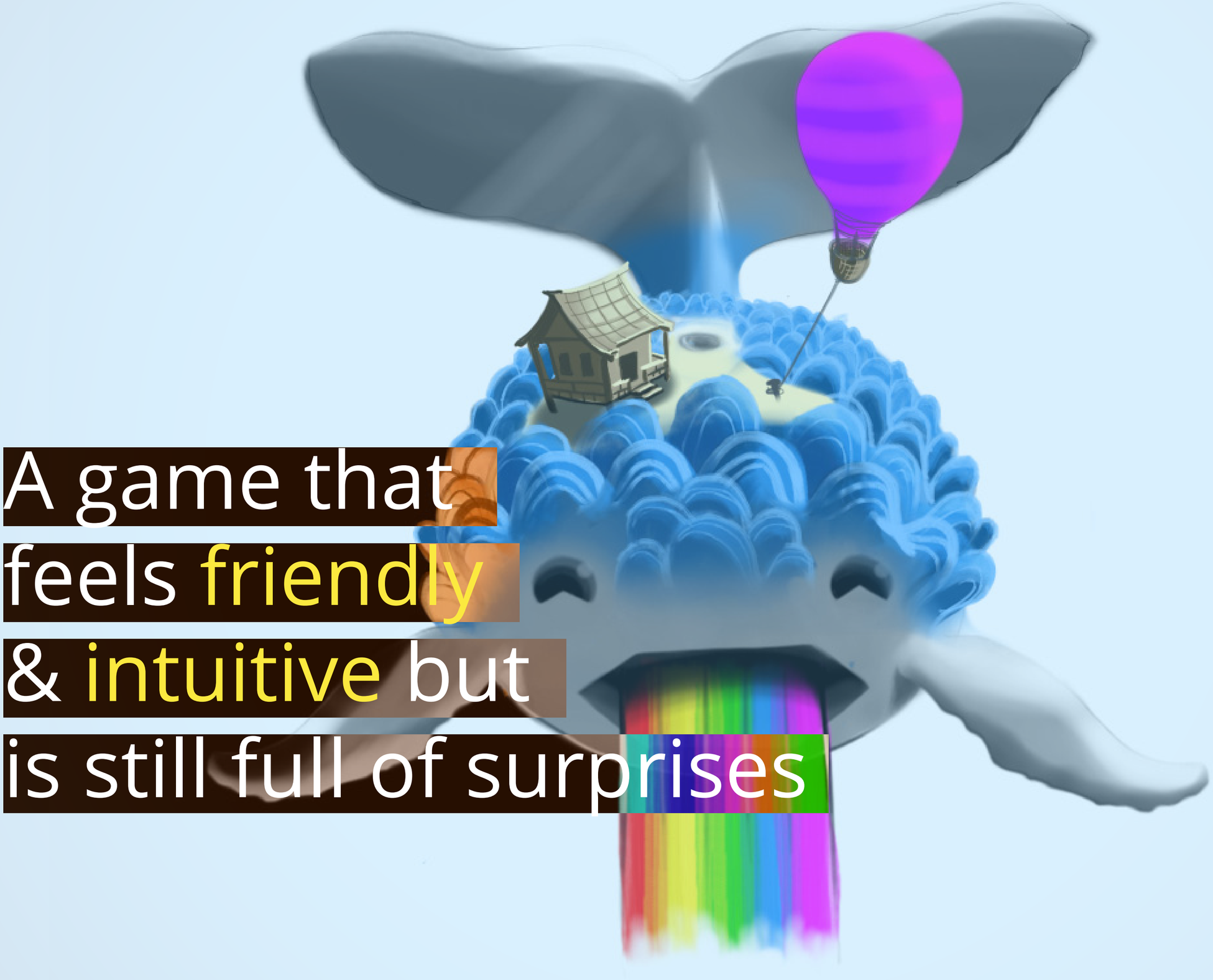
This project is a MFA

thesis

A 360 degree experience designed to be both meaningful and playful

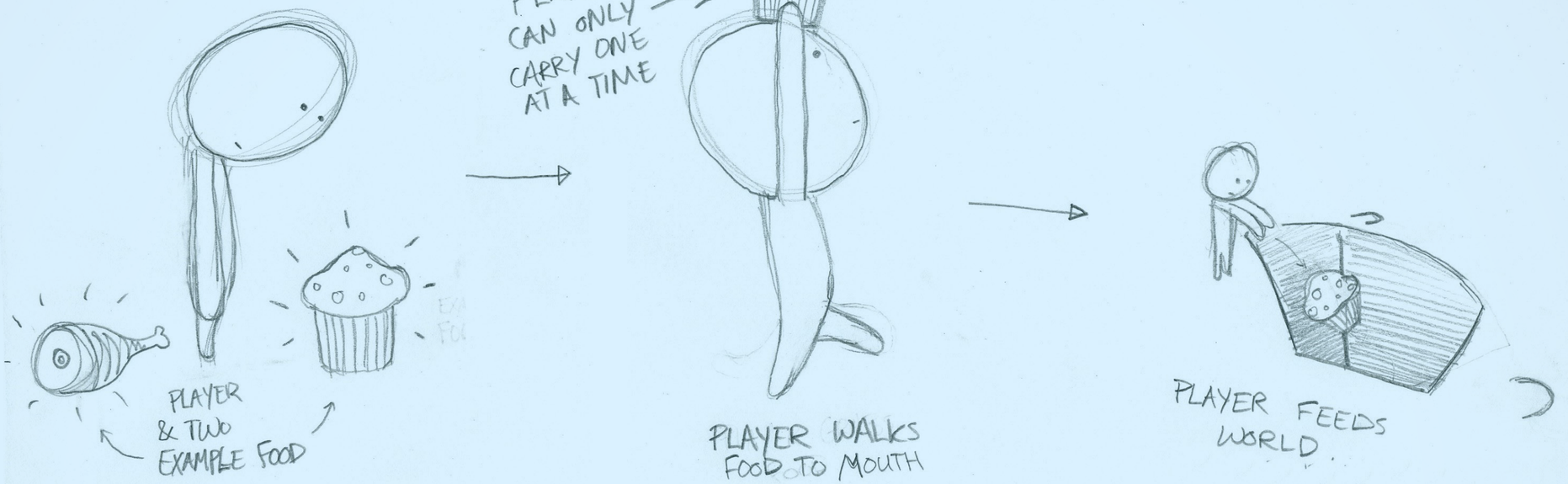
A way to teach web design to an audience of ages 12 - 18

A website built to be accessed from anywhere

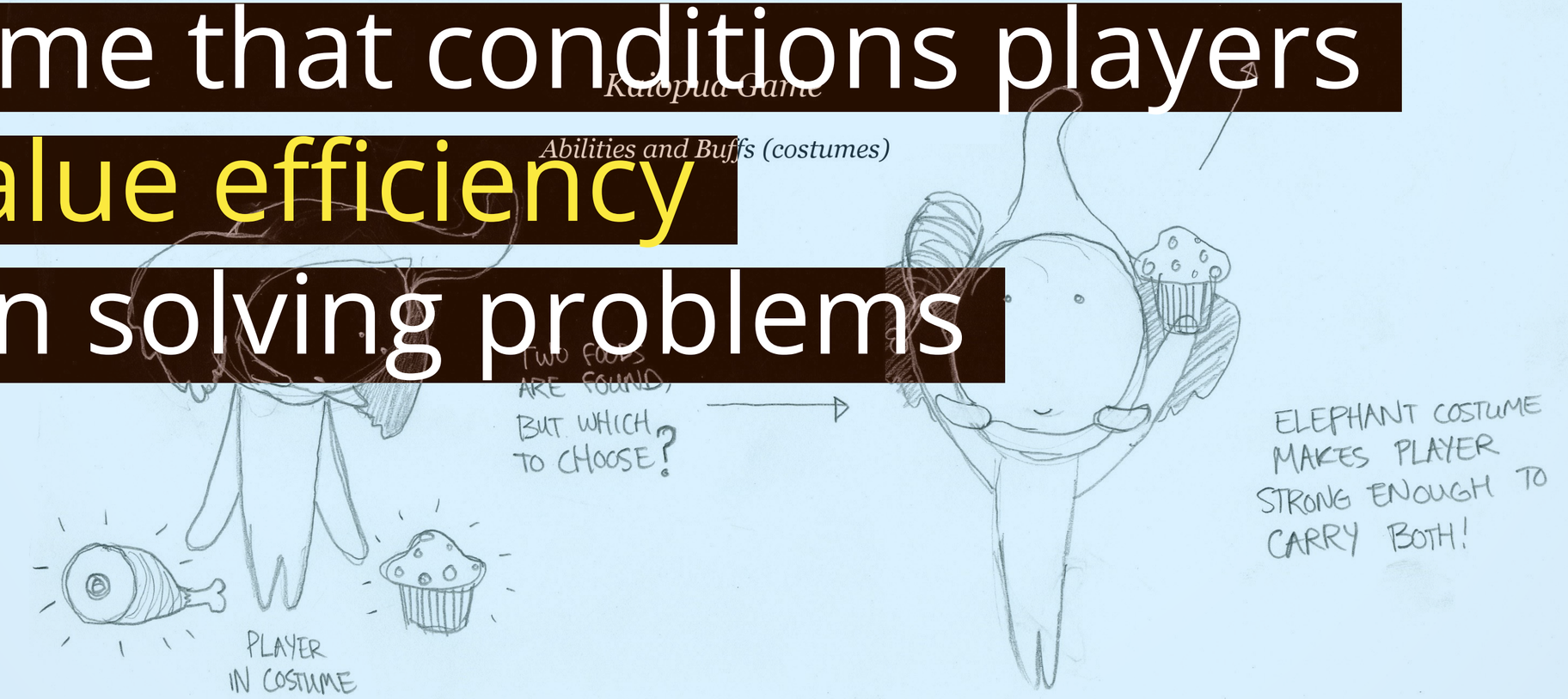

A game that
feels friendly
& intuitive but
is still full of surprises

A way to explain the importance of efficiency in visual communication

. . . is an extension of the foot



A game that conditions players to value efficiency when solving problems

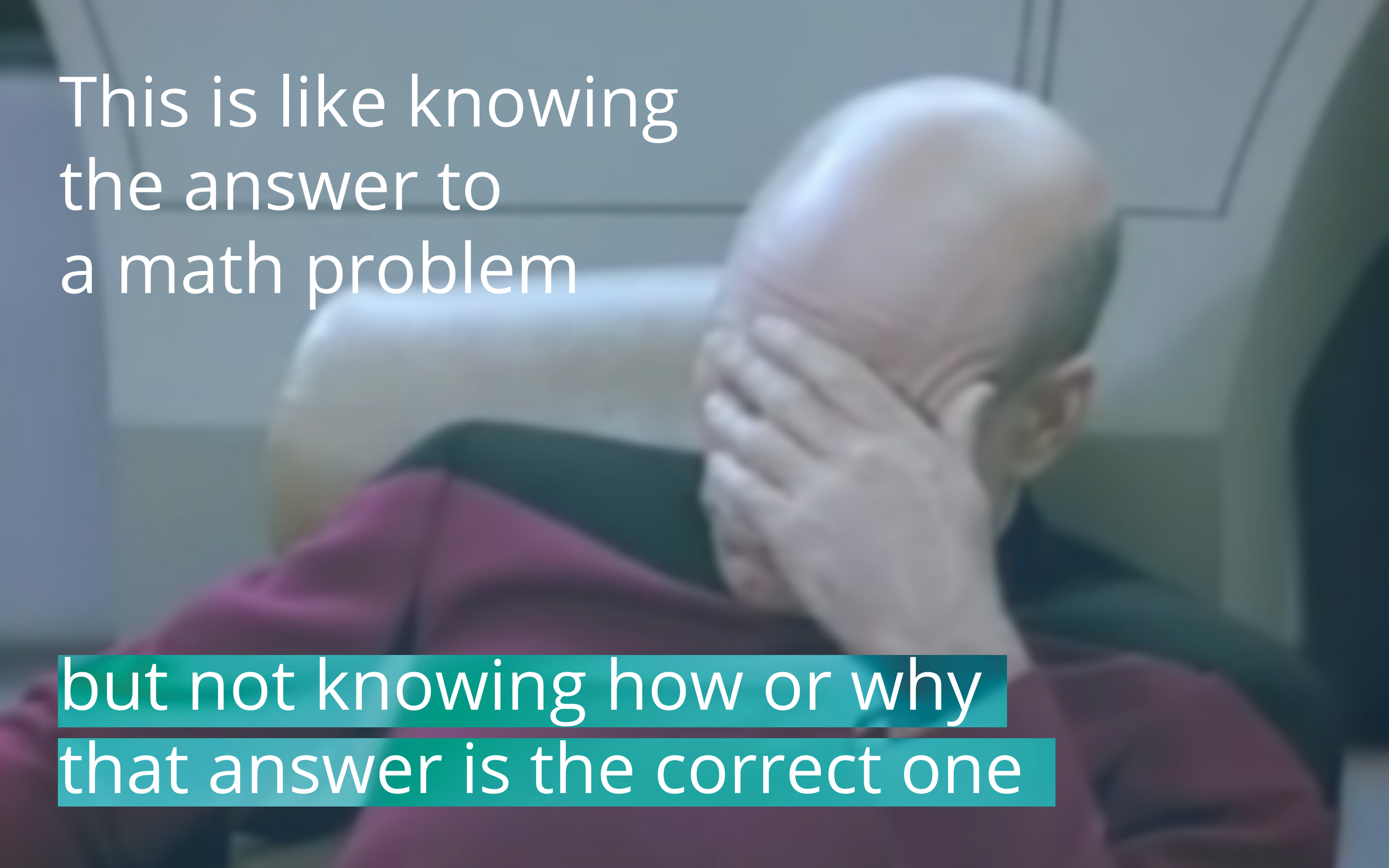



A game that gives the player
the ability to change
the size of any object

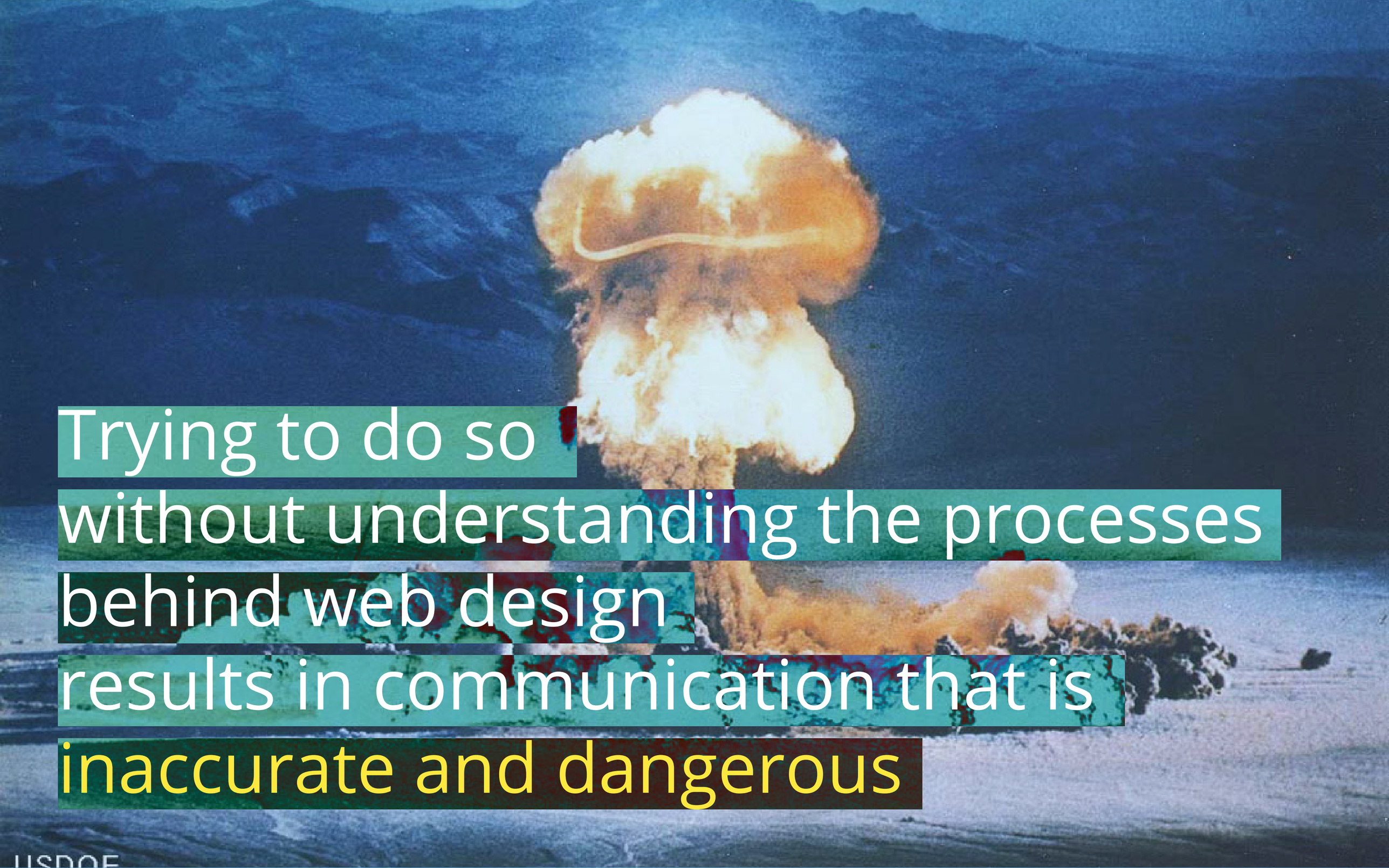
I want to tell you why this

matters

Students are proficient in
using digital tools to create websites,
but do not understand
the concepts behind the tools


This is like knowing
the answer to
a math problem
but not knowing how or why
that answer is the correct one

For the same reason, you cannot solve web design problems without first knowing how those problems work


Trying to do so
without understanding the processes
behind web design
results in communication that is
inaccurate and dangerous
USDOE

Web designers *(just like any other creative professional)*
have a mental framework they use
to understand problems
and create solutions

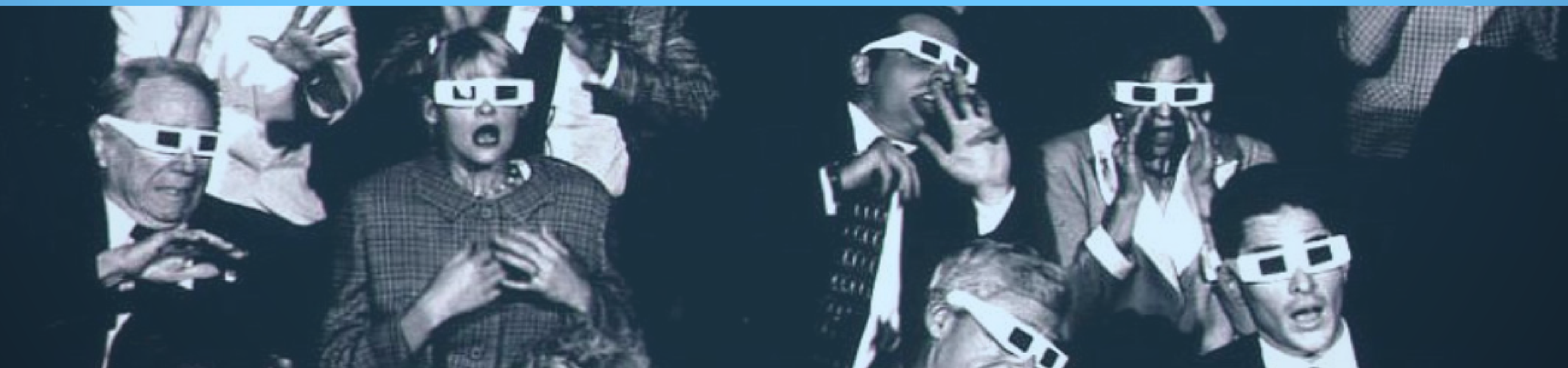
This involves a number of concerns such as:

structure,

function vs form,

& audience

(common to many designers)



This also involves special emphasis placed on values such as:

usability,

interactivity,

accessibility,

& efficiency

Usability

is walking a mile in someone’s shoes

to make a friendly solution

Interactivity

is reacting to someone’s choices to bring them an engaging solution

Accessibility

is knowing that you cannot
control someone's technology,
so we make a flexible solution

Efficiency

is understanding no one
has all the time in the world,
so we need a simple solution

And of all the aspects of
web design I've mentioned,

efficiency
has the clearest measure
of right and wrong

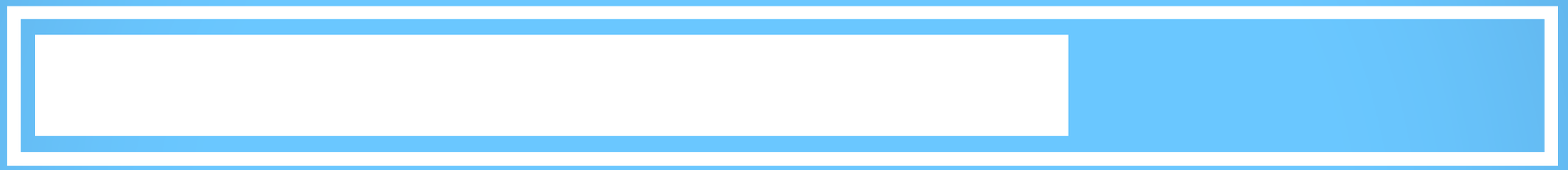
This is because we can quantitatively measure how

quickly, cleanly, and clearly

a goal is met *(p.s. this cake is great)*

This makes
efficiency a very strong candidate
for a game based learning situation

Within web design,
efficiency is minimizing the time someone spends doing unnecessary activities on a website



Waiting for the site to load is
by far the worst of these activities

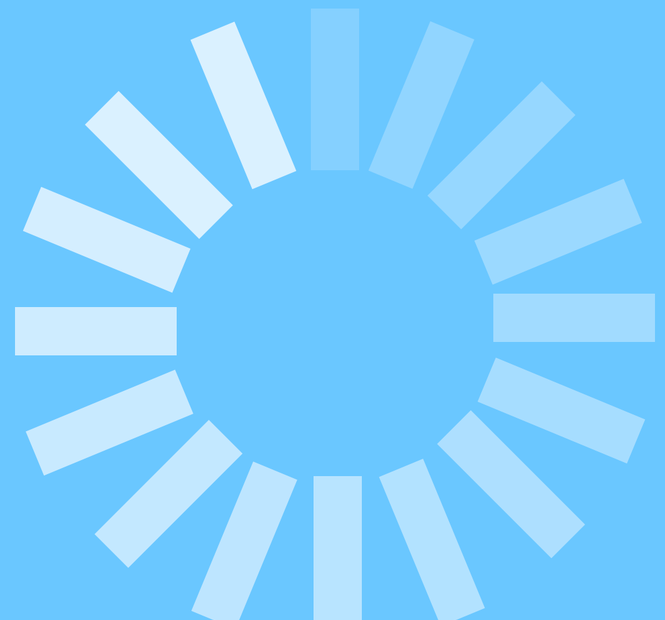
~~How fast can you download a website?~~

(this is a terrible question)

How long will someone wait for a website to load?

(this is a better question)

The key here is
the size of the resources
the website uses
to reach its goal

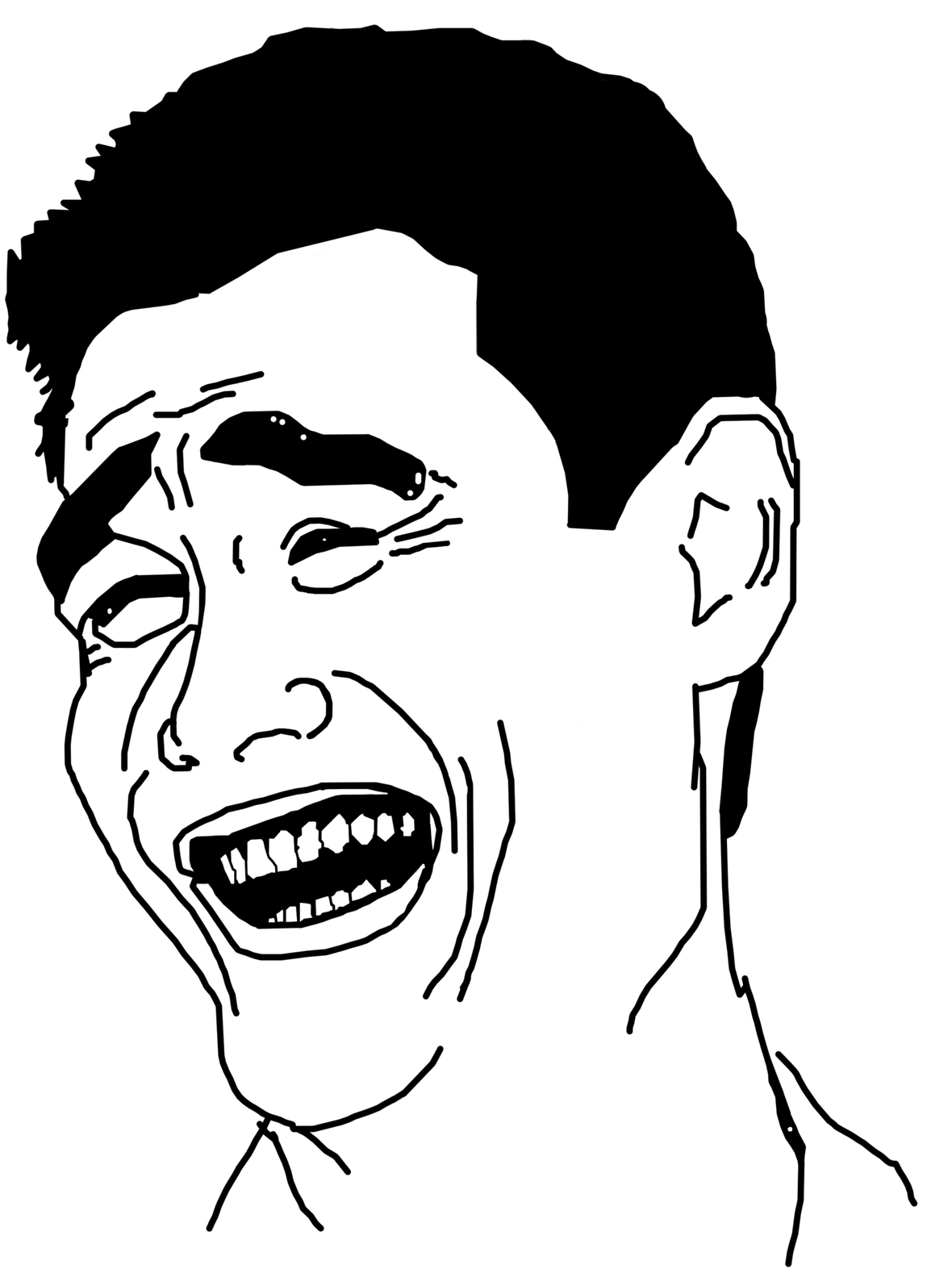


The more files we need
& the bigger they are,
the longer we have to wait

We care about someone's tolerance for waiting because

if someone doesn't wait for a website to load,

the website does not exist



The difficulty for a web designer is controlling the

& **size**

of the files

Because it isn’t as easy as

making everything as small as possible

or using the same image 100 times

Images need to be
the right size for the layout

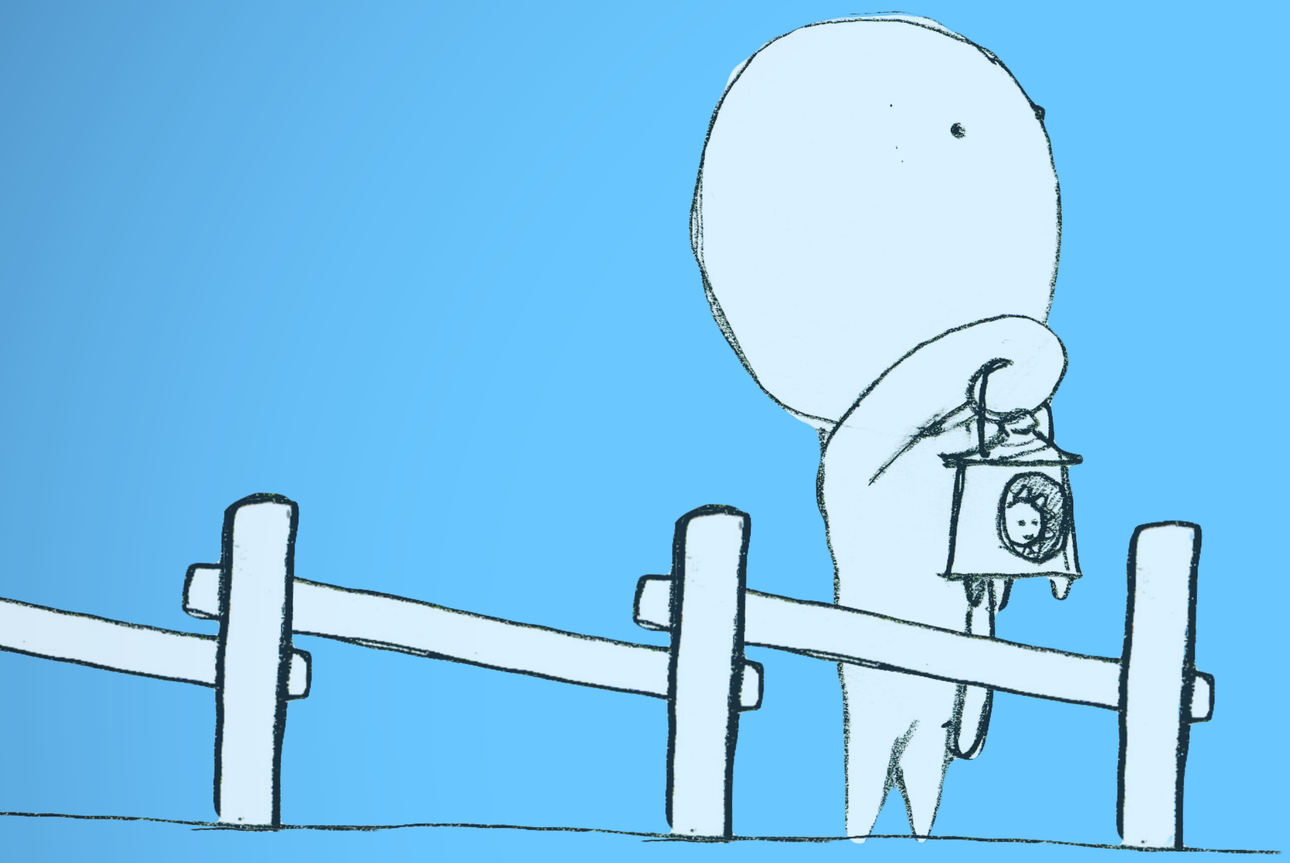
```
/*
Kaiopua.js
Main module, handles browser events.
*/

var KAIOPUA = (function (main) {
    var shared = main.shared = main.shared || {},
        utils = main.utils = main.utils || {},
        loader, error, game,
        lastGamma, lastBeta,
        libList = [
            "js/lib/jquery-1.6.4.min.js",
            "js/lib/RequestAnimationFrame.js",
            "js/lib/requestInterval.js",
            "js/lib/requestTimeout.js",
        ];
});
```

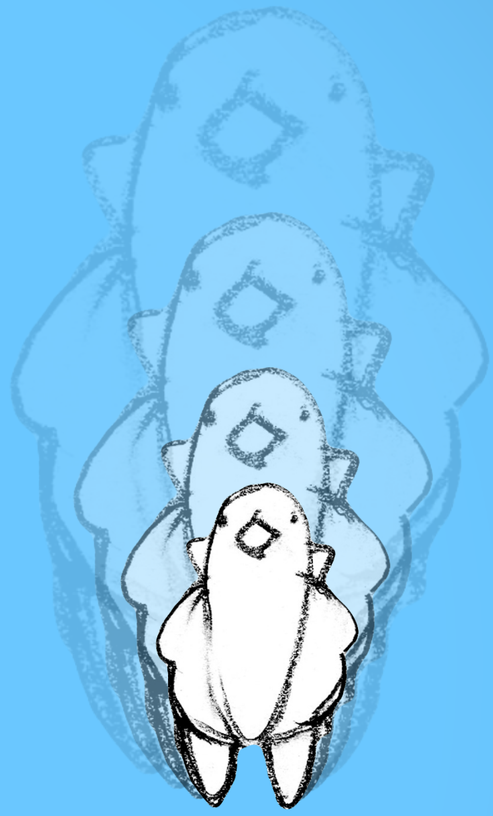
and code that the user never sees should be minified

(ex: left code > right code)

```
var KAIOPUA=(function(g){var b=g.shared=g.shared||{},s=g.utils=g.utils||{},k,p,u,r,l,t=["js/lib/jquery-1.6.4.min.js","js/lib/RequestAnimationFrame.js","js/lib/requestInterval.js","js/lib/requestTimeout.js","js/lib/signals.min.js"];});
```

A web designer’s task
of controlling the size of resources
is mirrored in the game





Players will have the ability to

change the size of objects

in their environment *(to solve puzzles)*

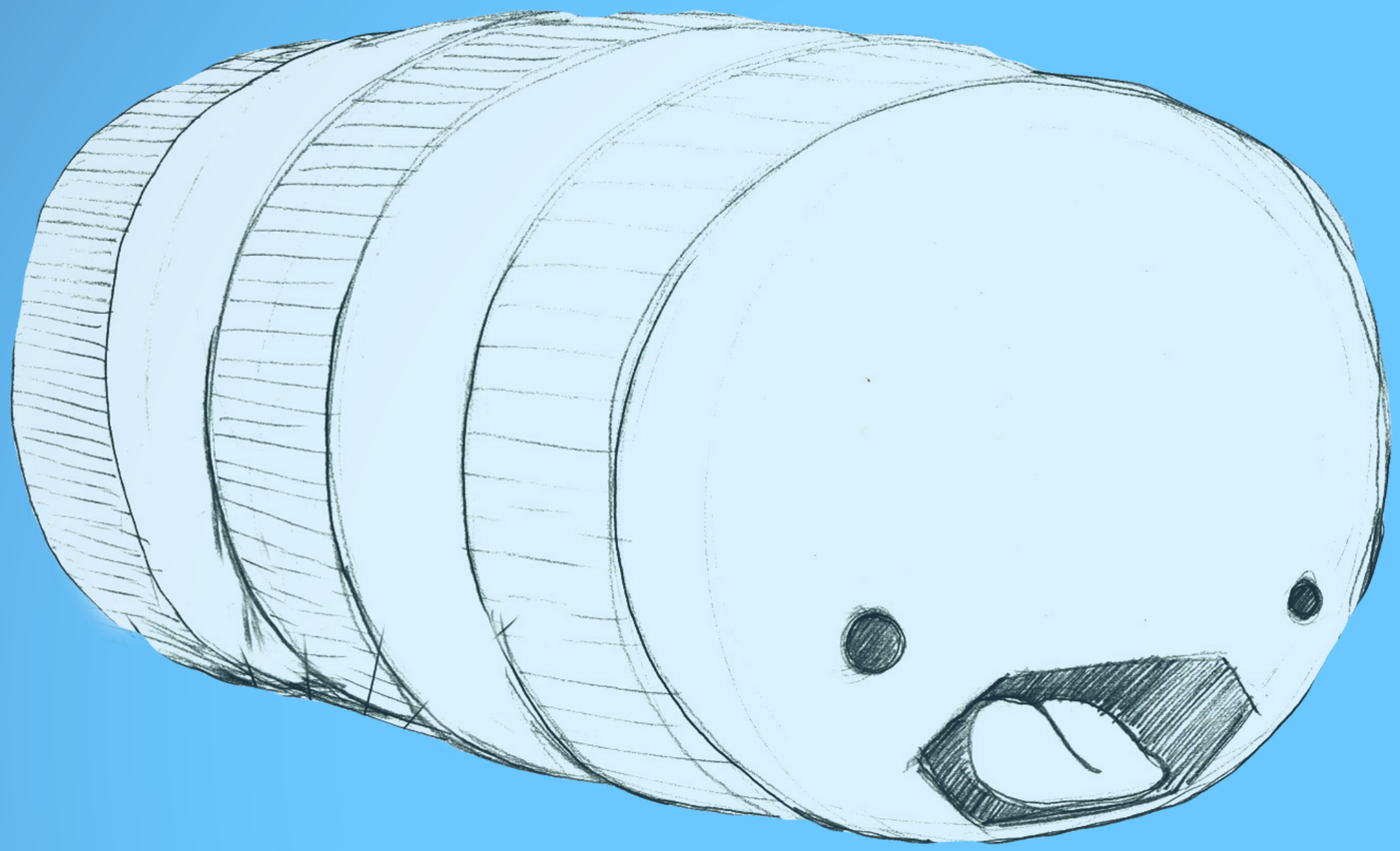
The player can either make an object

larger and heavier,
or smaller and lighter

Let me show you how

this works


A web designer has been asked
to create a website for people
to research high resolution images
of rocks



Meanwhile,

the game world *(a giant space worm from Hawaii)*

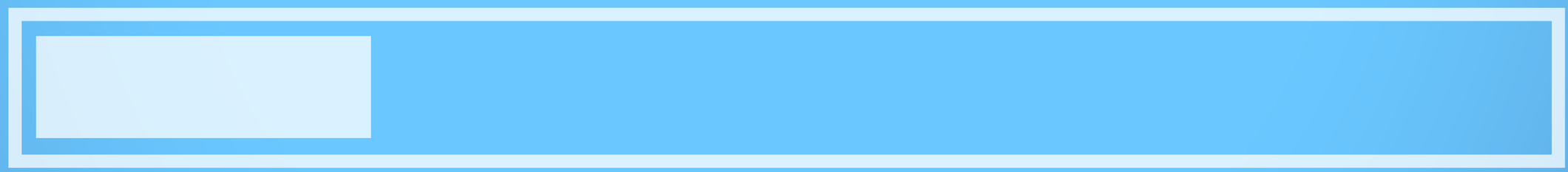
is hungry and wants to eat a boulder,

but can’t feed itself

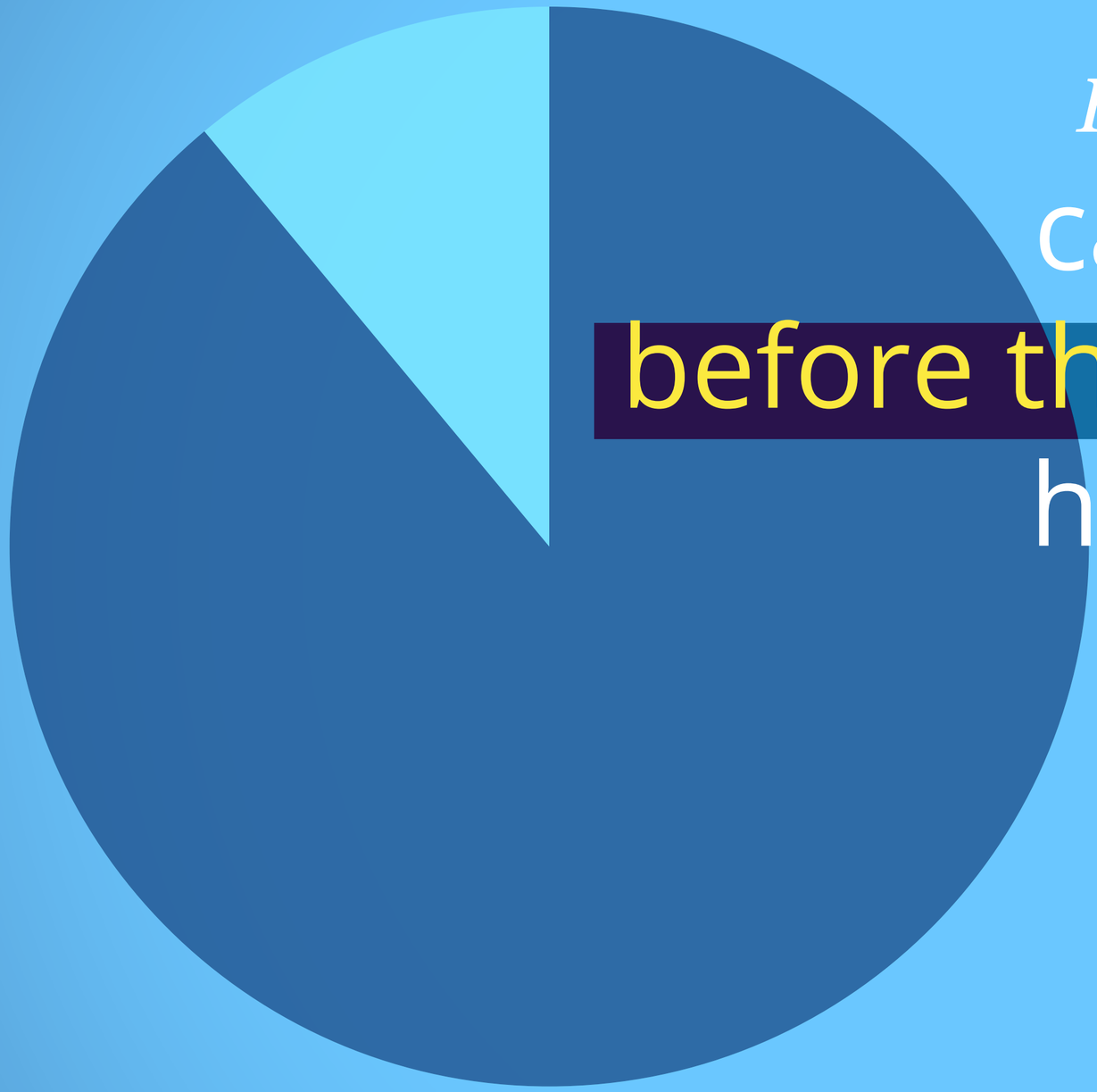
The web designer finds that

the images he has are so large
that they will take hours to load

& he knows not even the most patient researchers will wait that long

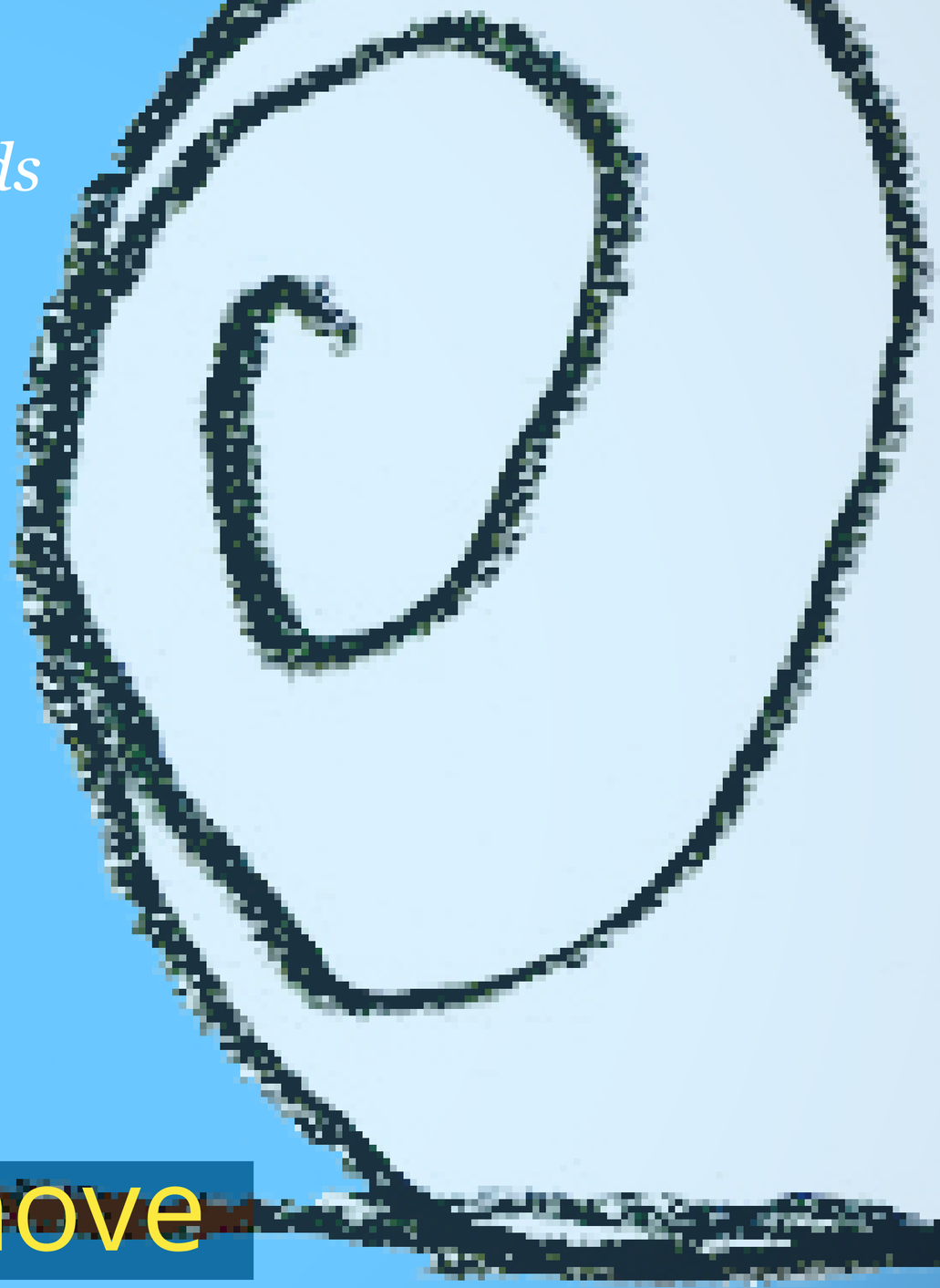


rock_image.psd - estimated time: 1.5 hours



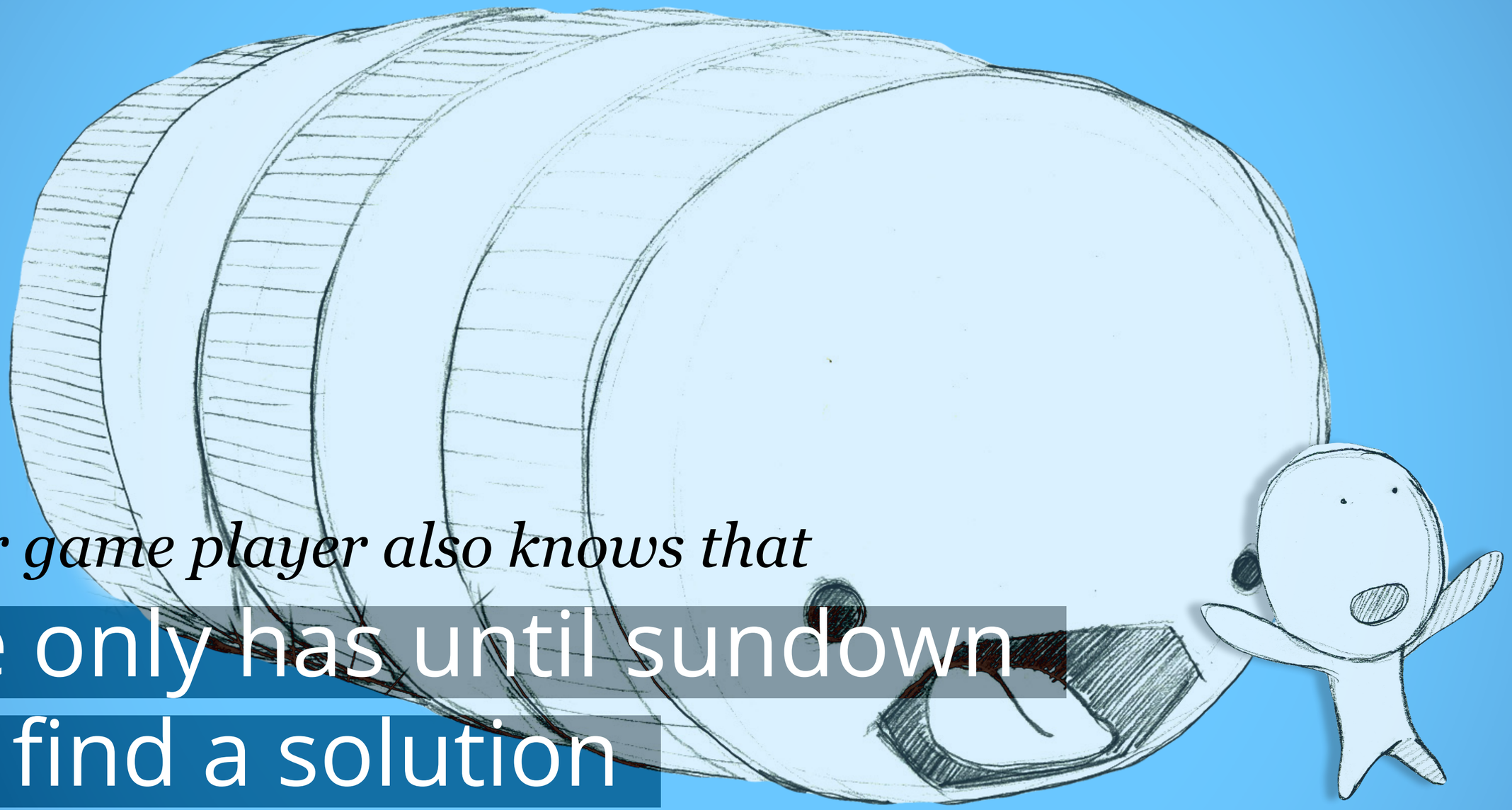
However, if the web designer
can't find a solution
before the project deadline
he'll be out of a job!

In the other galaxy, our valiant player finds



a colossal boulder

but it is too heavy to move



Our game player also knows that

he only has until sundown to find a solution

or else the space worm will have to eat him to survive!

1 hour

10 sec.

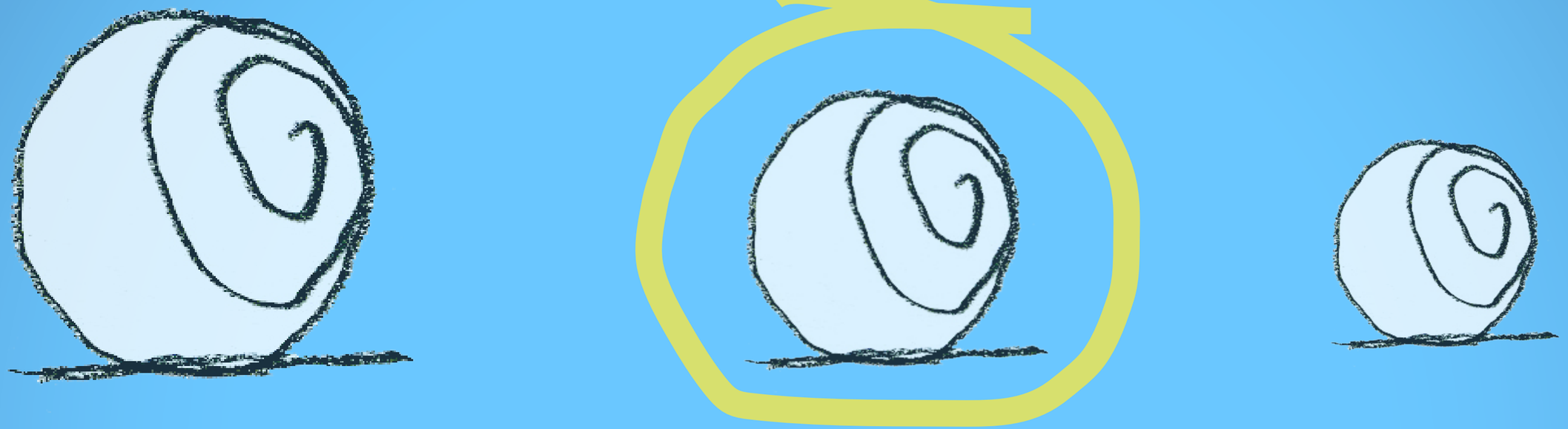
Back in our web designer's world,

he has resized his images

(so that users of his website can) download them

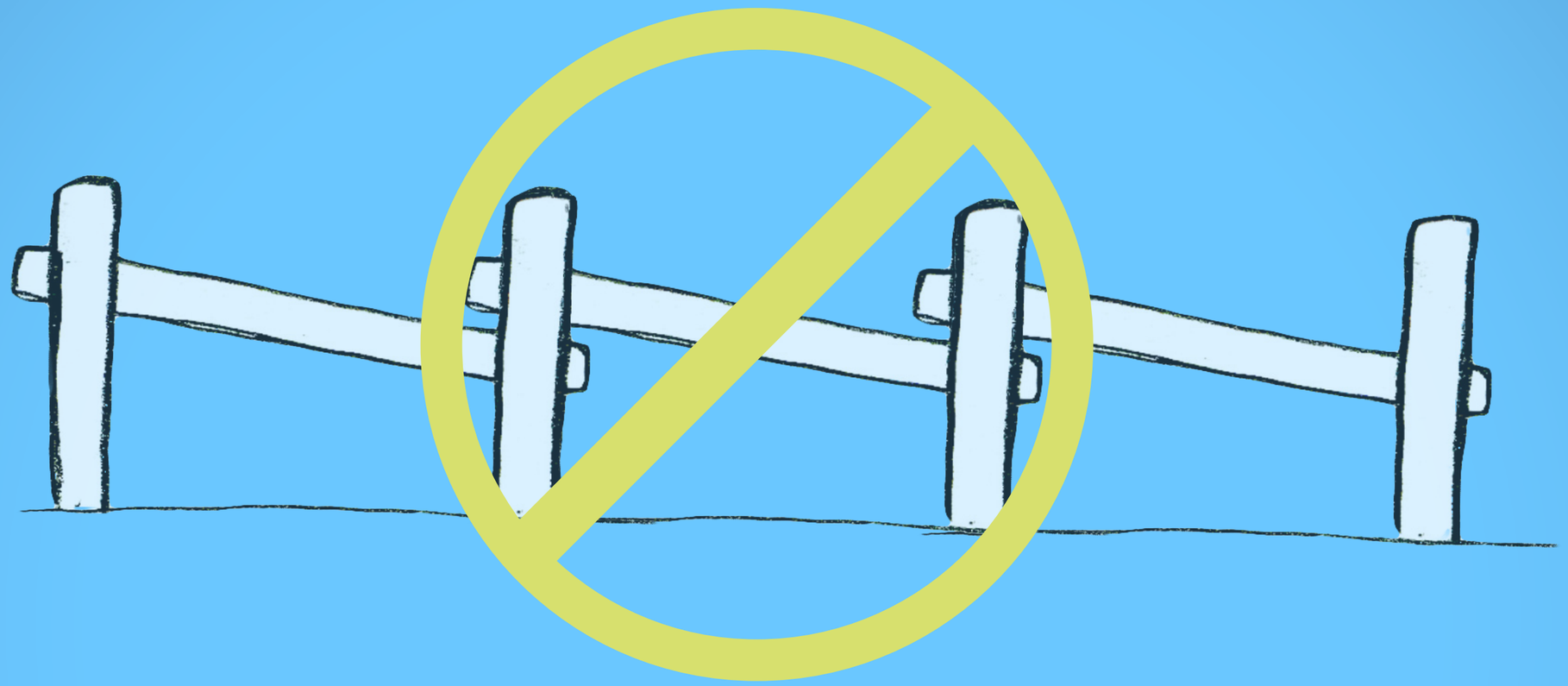
in seconds & still get enough detail to

give satisfying information



Thinking quickly, our game player

shrinks the boulder down into
a small stone, just the right size
for him to carry and still big enough to
give the space worm a satisfying meal



Both the player and the designer

have used efficient design thinking to remove barriers & create a smoothly flowing experience

In the game hero's case, his problem was

the worm's hunger needs,
and how he could deliver
the correct food

before the worm got tired of waiting and ate him instead

On the web designer's side, his problem was

the researcher's image needs, & how he could deliver the correct images at a big enough size to use for research, within a reasonable timeframe

Crisis averted!

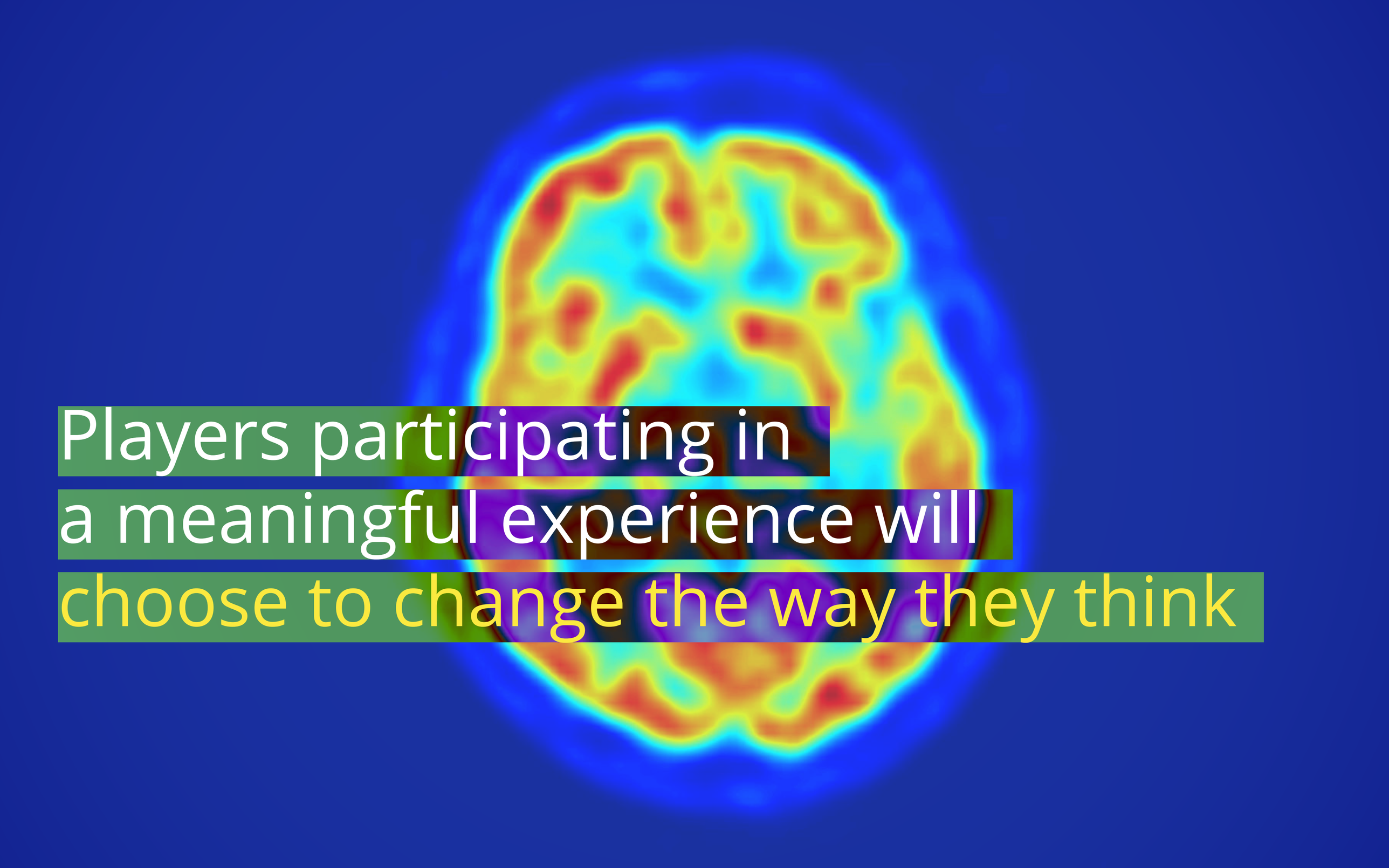
I want this project to be

successful

A successful thesis in this case would be

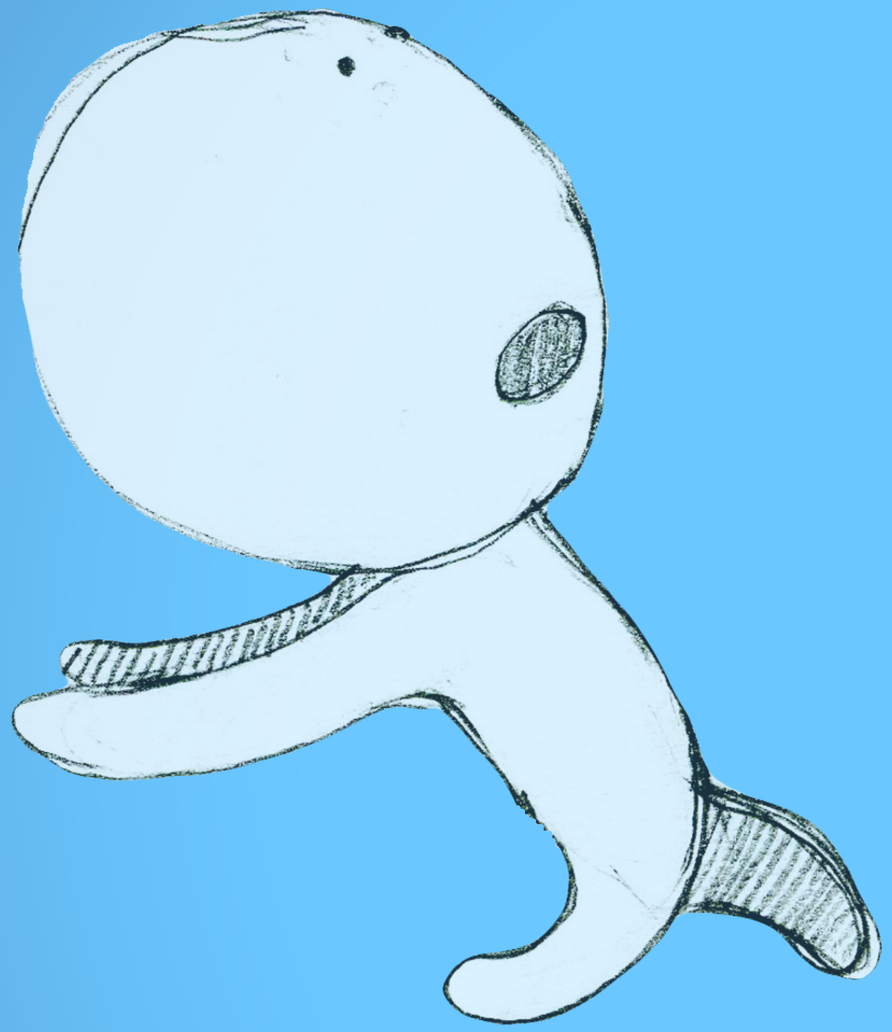
the solution that is both

meaningful and playful


Players participating in
a meaningful experience will
choose to change the way they think

An obvious attempt at indoctrination will be instantly rejected by the player

source: James Portnow, Daniel Floyd - Extra Credits



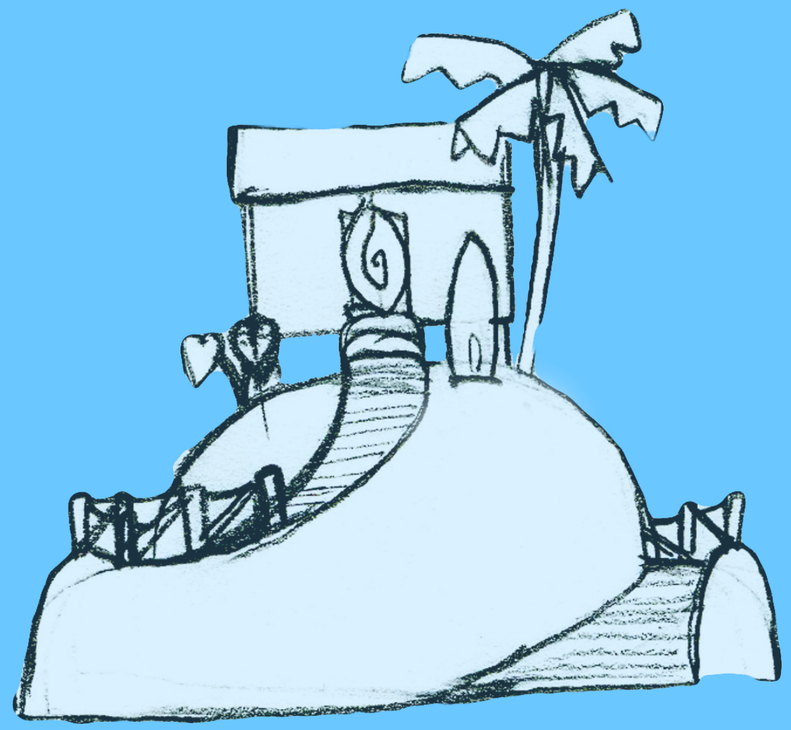
Players participating in

a playful experience

may be more likely

to adopt new information

source: David A. Kolb, John Dewey, Kurt Lewin, and Jean Piaget - Experiential Learning



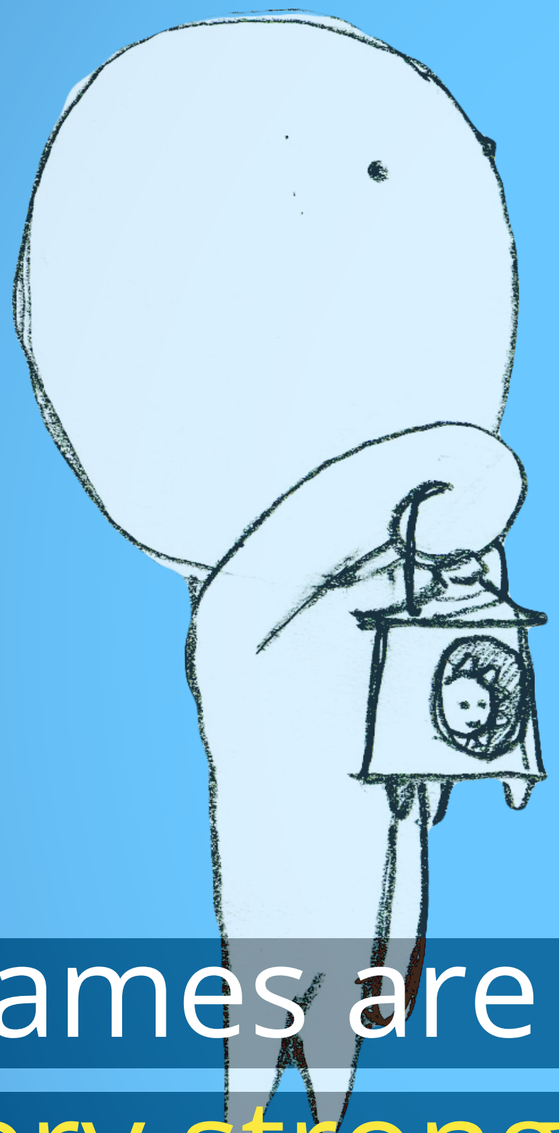
Its suggested that a third space

is optimal for meaningful experiences

source: David Williamson Shaffer - How Computer Games Help Children Learn

A third space is defined as somewhere between

formal instruction and free play



Games are a
very strong third space

Players enjoy themselves by

internalizing & playing by the rules

source: David Williamson Shaffer - How Computer Games Help Children Learn

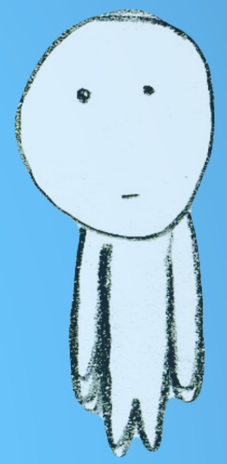
Two products will define this project as successful:

a written discourse

& a playable game

the writing

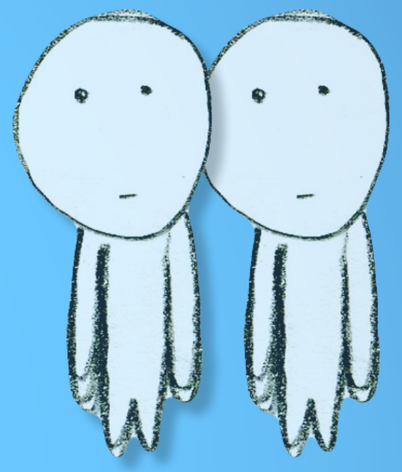
will attempt to explain:



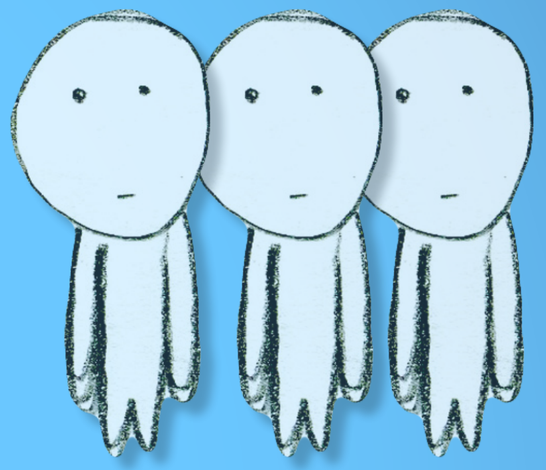
the proposition that

this game will help players

solve real world web design problems

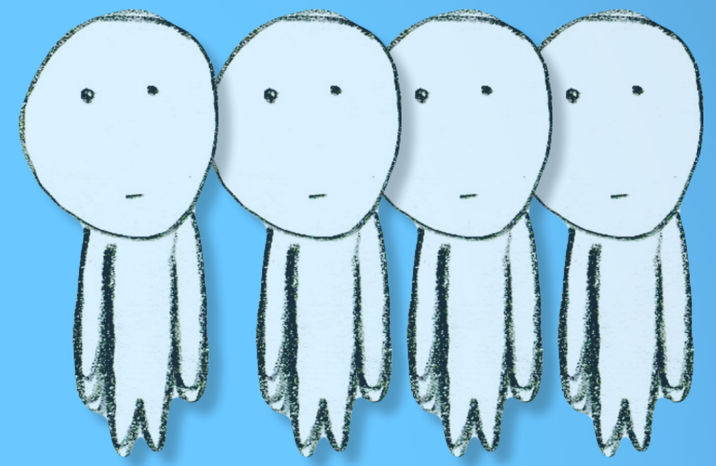


what real world web design problems
exist that are difficult to solve



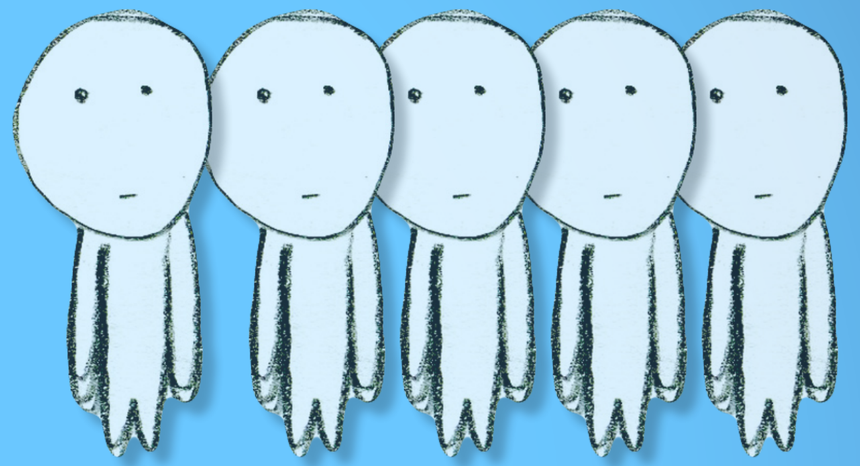
why these problems are difficult to solve and why it is

difficult to teach others to solve them



how this game will teach players to

better approach these problems



and as possible,

real cases of the success of the game

the Game

will be playable and include:

An animated character

images from early game development

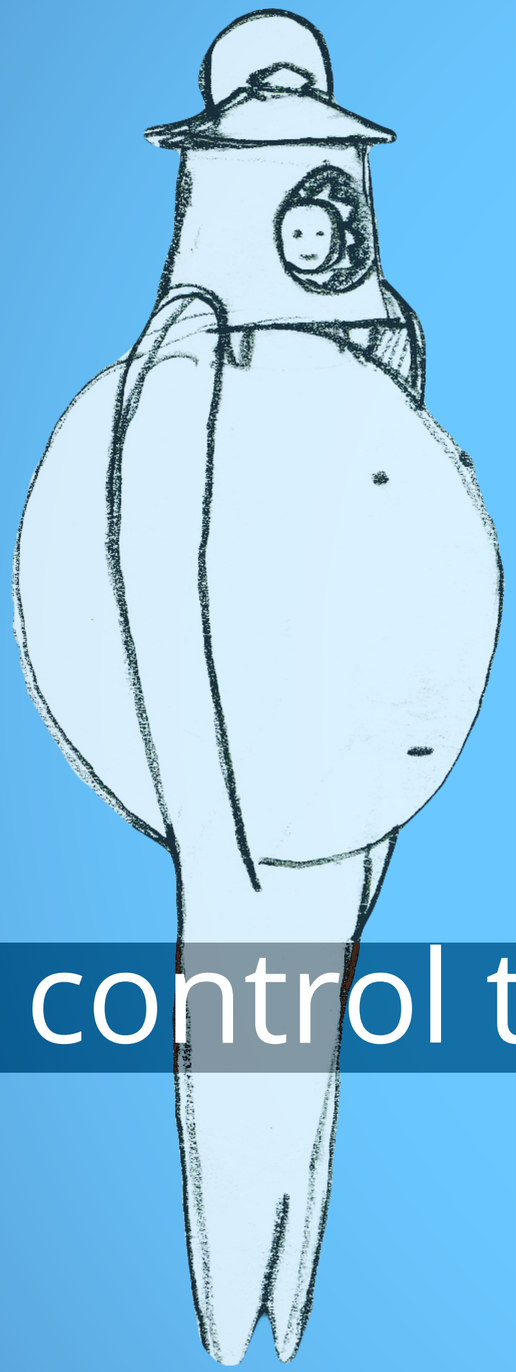

User Ortho
A living world
images from early game development
(51) Cube : Frown

A place for the character to live

and an environment to make it real

Working player movement and 3D physics

images from early game development



Working player ability to

control the size of objects in the world

using a small lantern

Colored visuals

image of game start menu

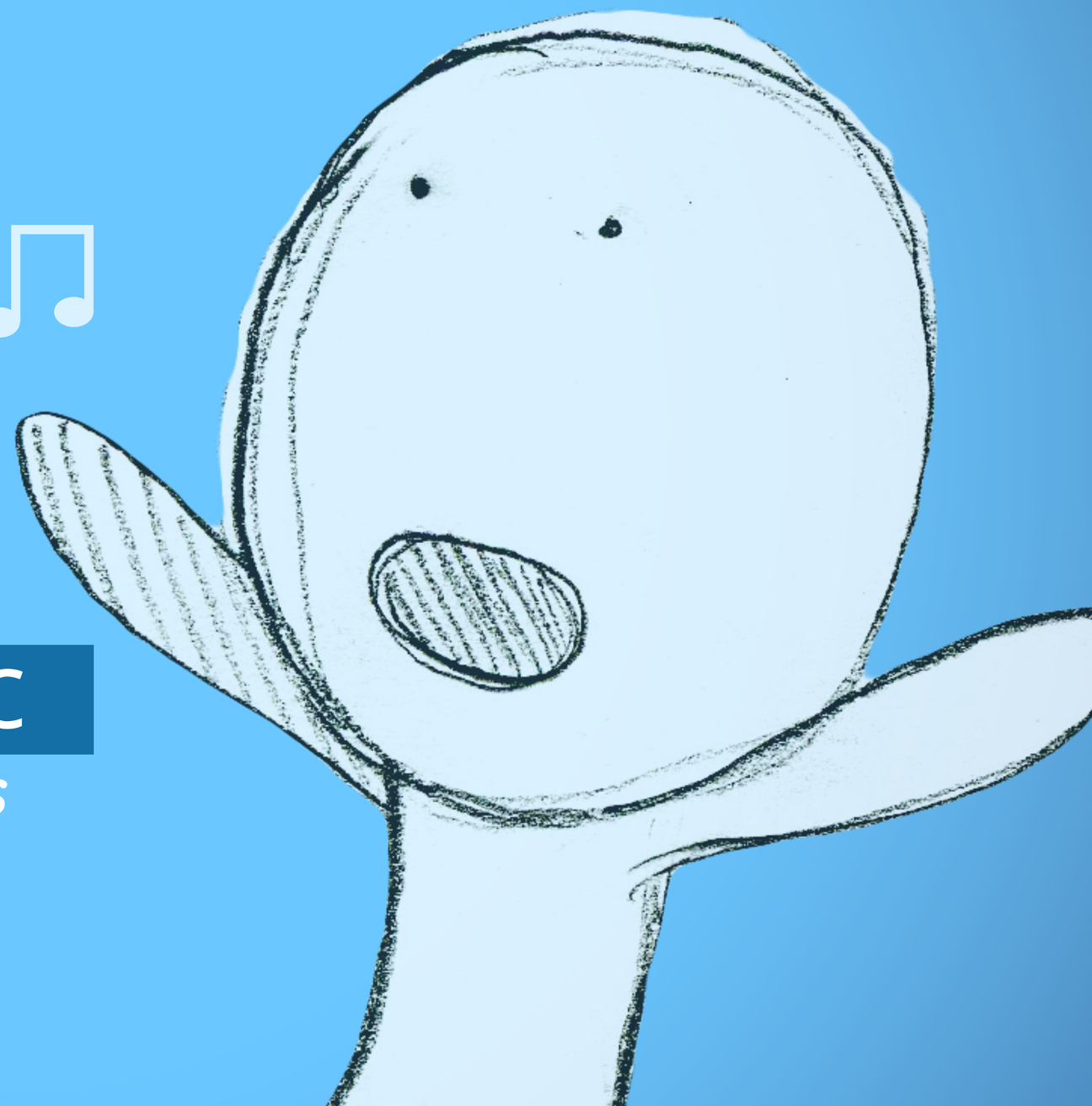
A single puzzle that demonstrates

why efficiency is important & how to use it

images from early game development

Limited game music

and environment sound effects



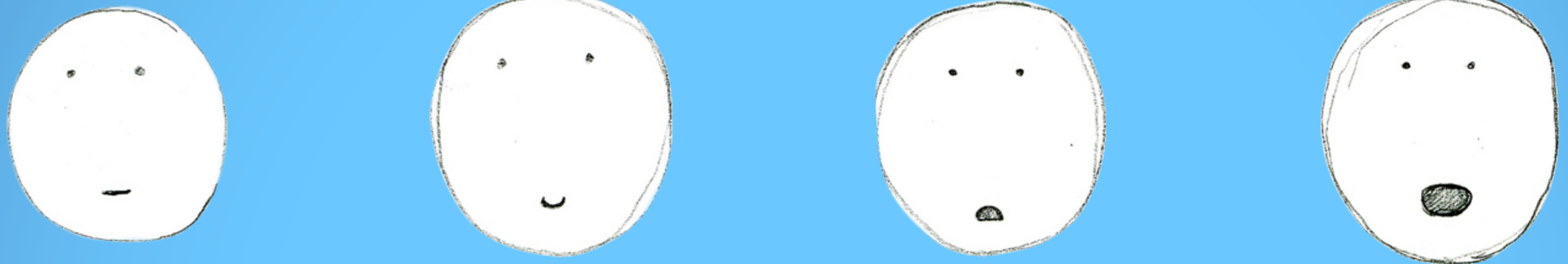
Speaking of the

visual style

The visual experience of the game

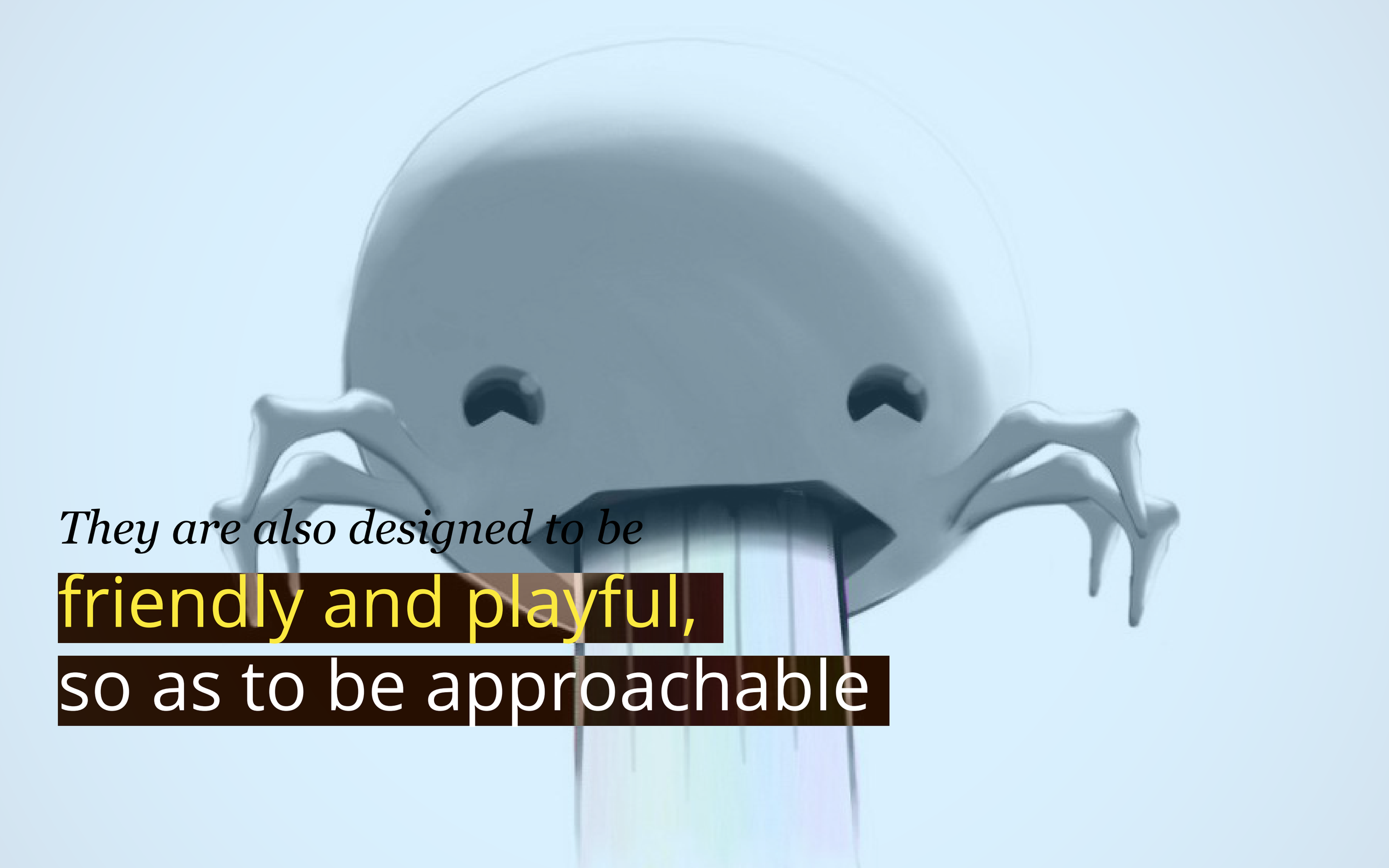
has a heavy influence on the attitude

of the player



The character and environment designs are all made to

communicate
as much as possible
with as little as necessary



They are also designed to be

friendly and playful,

so as to be approachable

User Ortho

and

strange and altruistic,

so as to be interesting

(26) Cube.004

Influenced by

Hawaii

The setting should be

different from reality to be interesting

but believable in its structure

Hawaii and Hawaiian culture

is mysterious, attractive,

and is relatively different

from both western and eastern culture

I grew up in Hawaii and

feel it is worthy of sharing

through tangential learning

Tangential learning is:

a reference is made in a game to something that may also exist outside the game world, that causes the player to research about it on his/her own

to give you an example,

the game name is my middle name,

Kai ʻOpua

which means clouds over the ocean

thank you

for listening (or reading)