

S E 4 9 2

Gourd Guardian Spirits in the Gardens

<http://sddec23-01.sd.ece.iastate.edu>

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Advisor: Judith Islam - Assistant Teaching Professor

Team Members

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What is Spirits in the Gardens?

Halloween!

- Family Friendly
- 1700+ Unique Pumpkins
- Candy
- Costumes
- FUN!!



Event Preparation

Time Consuming

- Lots of Data Entry: 1700+ Stencil Entries
- Hard to search and input/update data



	A	B	C	D	E	F	G
1	#21 - TRADITIONAL PUMPKINS						
2	ID #	Title	Website	Printed	Cut	Traced	Carved
3	21-1	Age of the Zombie Pumpkins	ZP	1	1	1	1
4	21-2	Bat Cave	ZP	1	1	1	1
5	21-3	Dawn of the ZP!	ZP	1	1	1	1
6	21-4	Demi	ZP	1	1	1	1
7	21-5	Face of the Minions	ZP	1	1	1	1
8	21-6	Hammy	ZP	1	1	1	1
9	21-7	Halloween Movie Jack	ZP	1	1	1	1
10	21-8	Horton	ZP	1	1	1	1
11	21-9	Heartless Jack O Lantern	Yarchuck	1			
12	21-10-A	Misfortune Teller	ZP	1	1	0.5	0.5
13	21-10-B	Misfortune Teller (crystal ball)	ZP		1	0.5	0.5
14	21-11	Jack the Knife	ZP	1	1	1	1
15	21-12	Jasper	ZP	1	1	1	1
16	21-13	Keaton	ZP	1	1	1	1
17	21-14	Minecraft Pumpkin	ZP	1	1	1	1
18	21-15	Morty	ZP	1	1	1	1
19	21-16	Night of the ZP!	ZP	1	1	1	1
20	21-17	Puking Pumpkin	ZP	1	1	1	1
21	21-18	Monocle Top Hat	Stoneykins	1	1	1	1
22	21-19	Revenge of the ZP!	ZP	1	1	1	1
23	21-20	Sam's Jack O'Lantern	ZP	1	1	1	1
24	21-21	Silas	ZP	1	1	1	1
25	21-22	Sleepy Hollow Scarecrow Jack	ZP	1	1	1	0
26	21-23	Shriveled Up	O&B	1	1	1	1
27	21-24	Trick-or-Treat	O&B	1	1	1	1
28	21-25	Lazy Loafer	O&B	1	1	1	1

< > ... #21-Traditional Pumpkins #22-Video Games Placement in Garden Shaded Street

Problem Statement

Problem

- Keeping track of pumpkins using a spreadsheet is inefficient.
- Long queue of volunteers waiting line.
- Do not know how many pumpkins have been finished/remaining.
- Create a report and calculate number by hand.

Solution

- Web application that both the event organizers and volunteers can use to update their pumpkin statuses and more.



Goals

- The complete web application improves the workflow of the event.
- The application can handle the workload.
- An easy-to-use application with a User-friendly experience.
- Handle all issues related to the application during the event.
- Data is securely stored.



Requirements & Constraints

Requirements:

- Functional Requirements
- Economic Requirements
- UI Requirements

Constraints:

- Accessible online through a browser on mobile and desktop
- Fast response time for searching and showing stencil info from AI

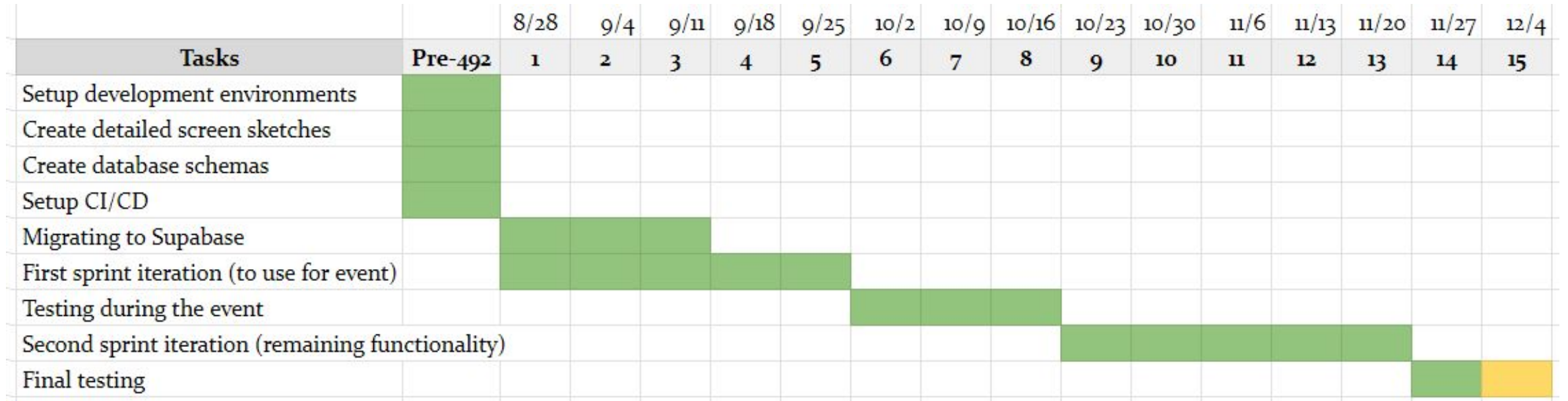


Schedule and Milestones

Tasks	Pre-492	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Setup development environments	█															
Create detailed screen sketches	█															
Create database schemas	█															
Setup CI/CD	█															
Implement application UI code		█	█	█												
Implement backend API code					█	█	█									
Implement stencil recognition AI								█	█	█						
Integrate frontend and backend code											█	█	█			
Deploy application into cloud server														█		
Test app															█	█

Project Gantt Chart (Planning)

Schedule and Milestones



Project Gantt Chart (Finished)

DESIGN

Design Context

Design Overview

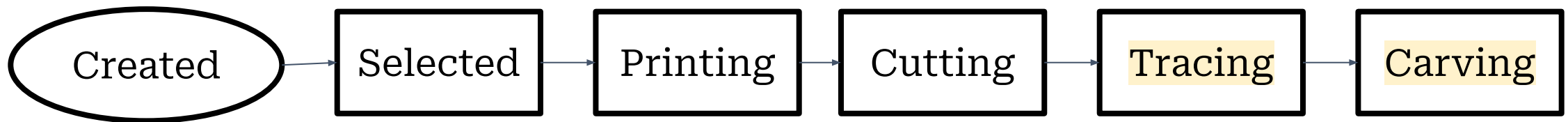
Tech Stack

Design Context - User Needs

Volunteers

- Search stencil by code
- Update stencil status **to Tracing** or **to Carving**
- End Tracing or Carving process

*Stencil Logging -
Status Update*

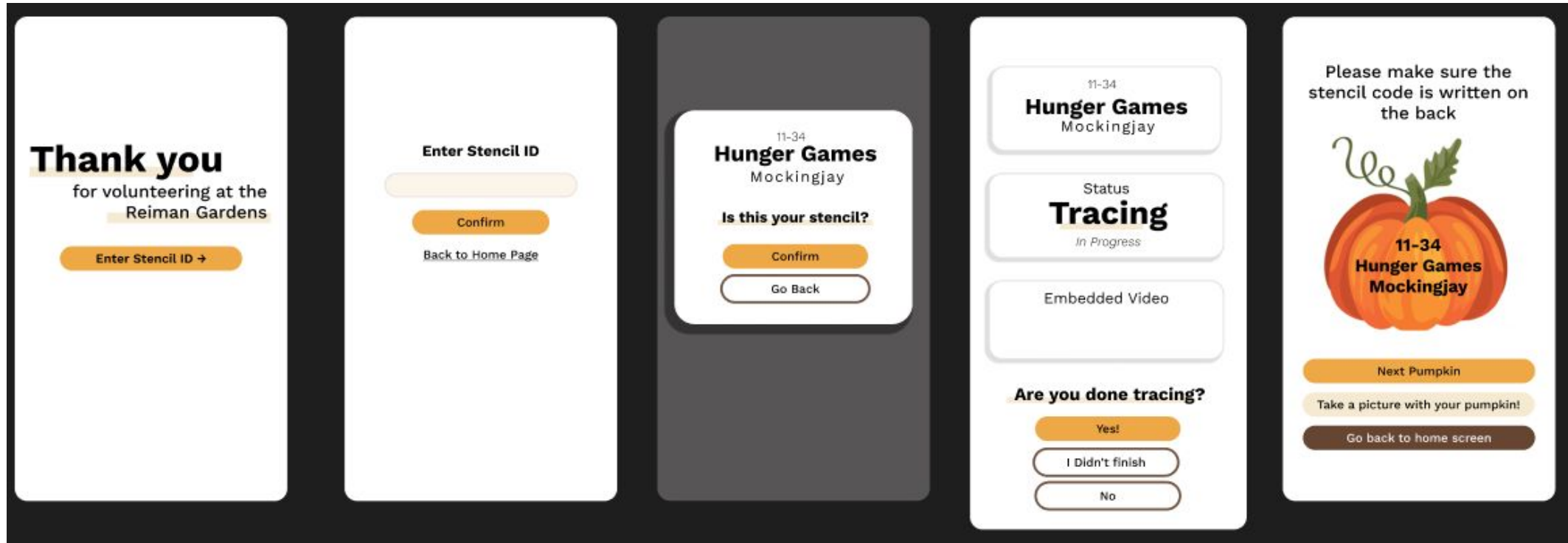


Stencil Stages

Proposed Design

Volunteer-side Pages

Stencil logging



Implemented Design

Volunteer-side Pages


Stencil logging

Thank you for volunteering at Reiman Gardens!

Your Name:

Event Code:

You can find the stencil ID in the box on the stencil paper

Frank
Donnie Darko
Movies
0-00-A 

Enter Stencil ID

Bull Rider
American Icons
1-3

Tracing
Not Started

Cowboy
American Icons
1-4

Tracing
In Progress...
Time elapsed: 00:00:13

Please make sure the stencil code is written on the back



Bull Rider
American Icons
1-3

Please Bring your stencil with you to an event staff member

Design Context - Admin needs

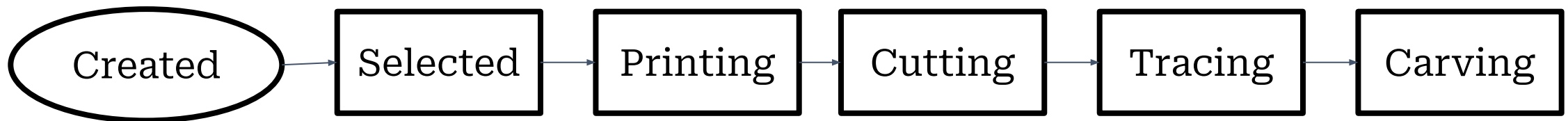
Volunteer Admins

- Create/Edit/Delete/View/Update stencils
- Select stencil for an Event
- Specify which week used
- Sort & Filter stencils
- Search stencil by code



*Stencil / Event
Management*

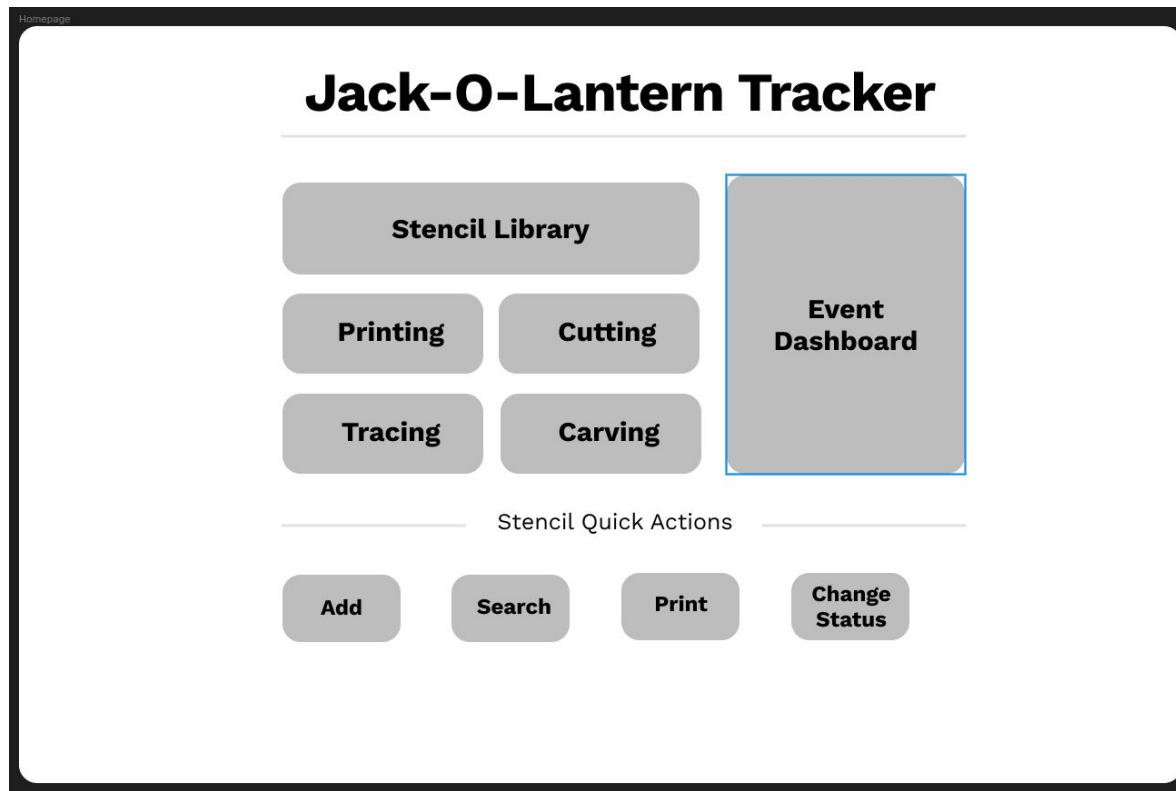
- Additionally: Update stencil status



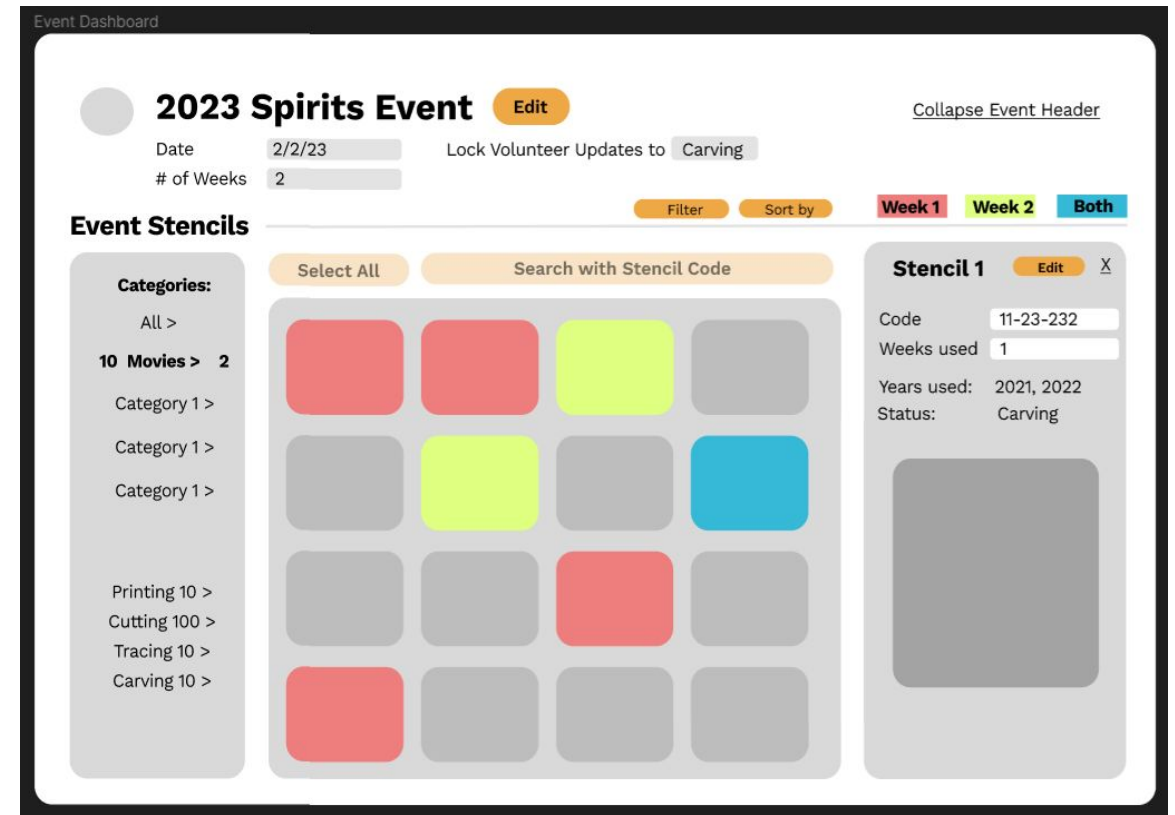
Stencil Stages

Proposed Design

Dashboard



Stencil selection



Implemented Design

Stencil selection

GourdGuardian Manage Stencils Selection VolunteerLocks Event Management Logout

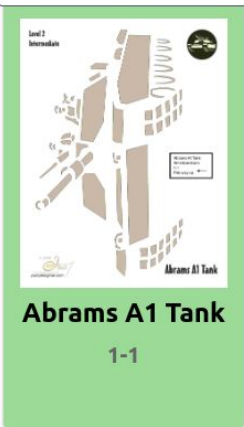
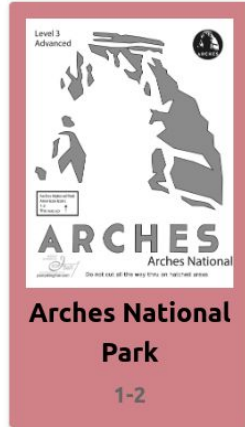
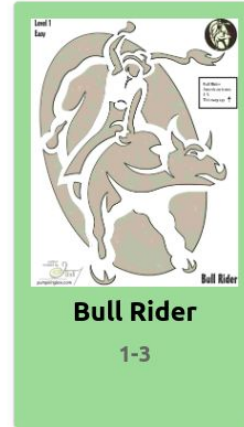
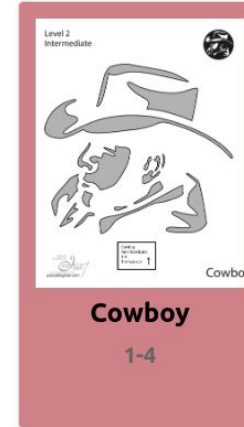

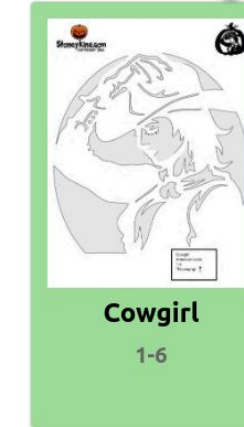

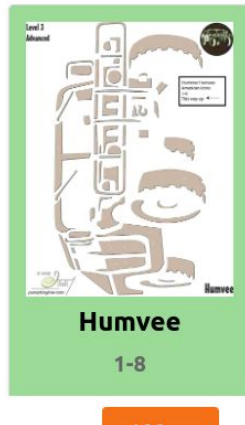
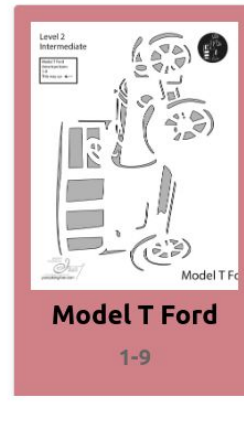

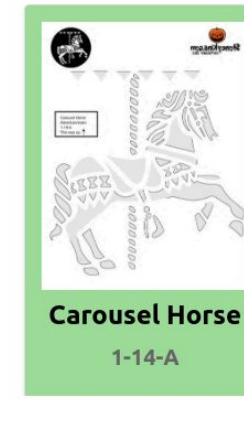
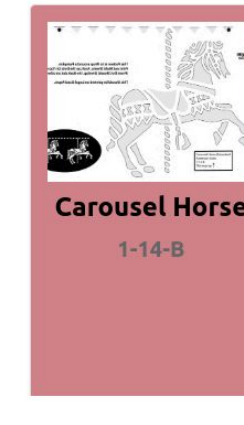
Year: 2023

Week 1: 801
Week 2: 776
Both: 269

Show All
American Icons (15/18)
Animals/Nature (60/96)
Cartoons (81/135)
Cereals/Commercials (12/27)
Creatures/Monsters (95/106)
Disney/Pixar/Cartoons/Movies (125/189)
Famous People (32/71)
Fantasy & Medieval (24/31)

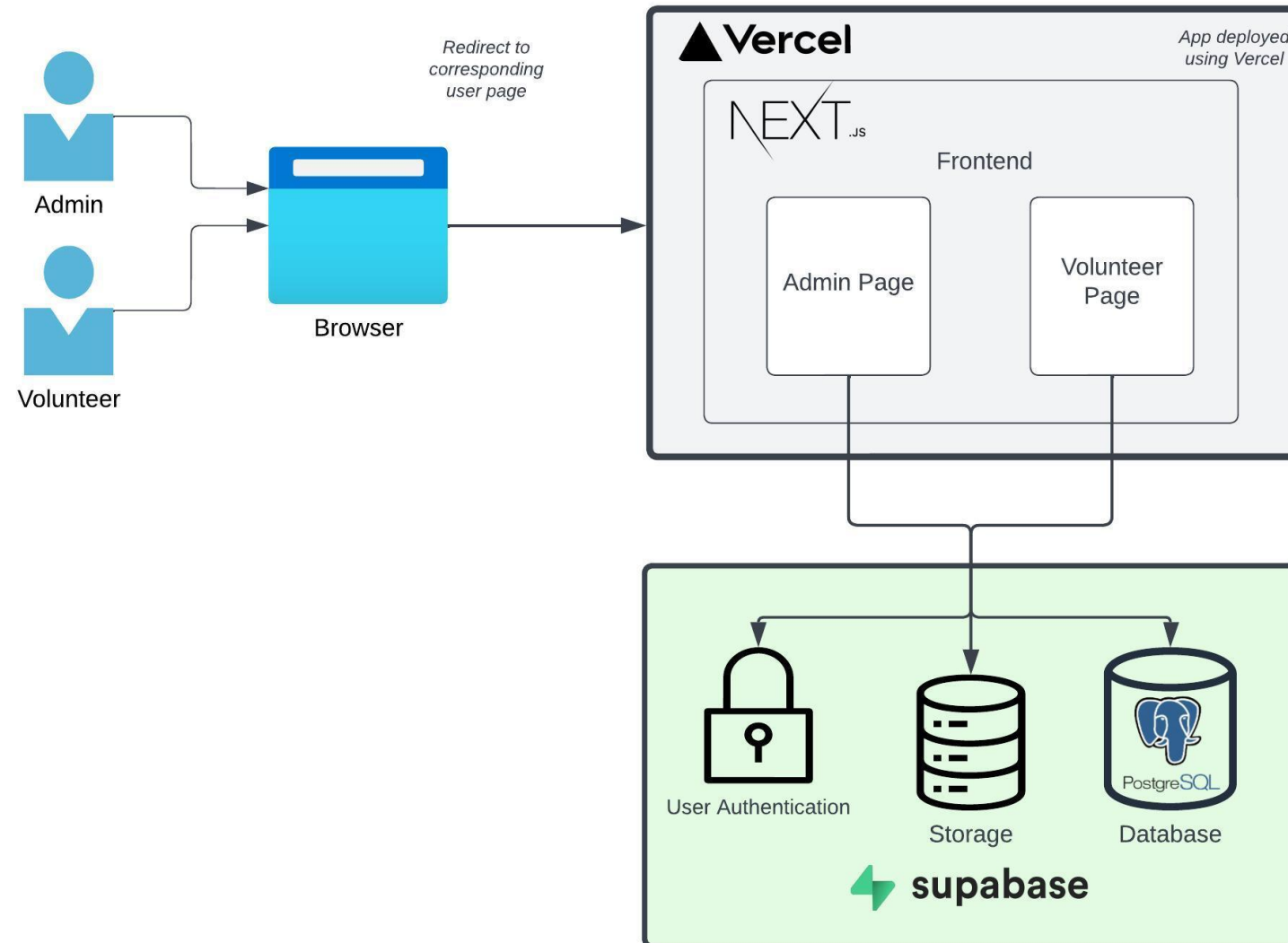
Search Here

Show all stencils

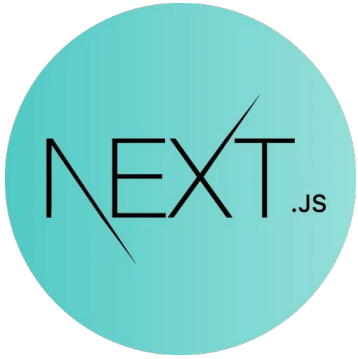
 <p>Level 2 Intermediate Abrams A1 Tank 1-1</p>	 <p>Level 3 Advanced ARCHES Arches National 1-2</p>	 <p>Level 1 Easy Bull Rider 1-3</p>	 <p>Level 2 Intermediate Cowboy 1-4</p>	 <p>Level 3 Advanced Fire Fighter 1-5</p>	 <p>Cowgirl 1-6</p>
 <p>Level 1 Easy Golf 1-7</p>	 <p>Level 2 Advanced Humvee 1-8</p>	 <p>Level 2 Intermediate Model T Ford 1-9</p>	 <p>Level 2 Intermediate One Small Step for Man 1-10</p>	 <p>Carousel Horse 1-14-A</p>	 <p>Carousel Horse 1-14-B</p>

Previous Next Items per page: 100

Design Overview



Tech Stack



React with Next.js

Development Framework



Web application

*Accessed through desktop and/or
mobile browser*



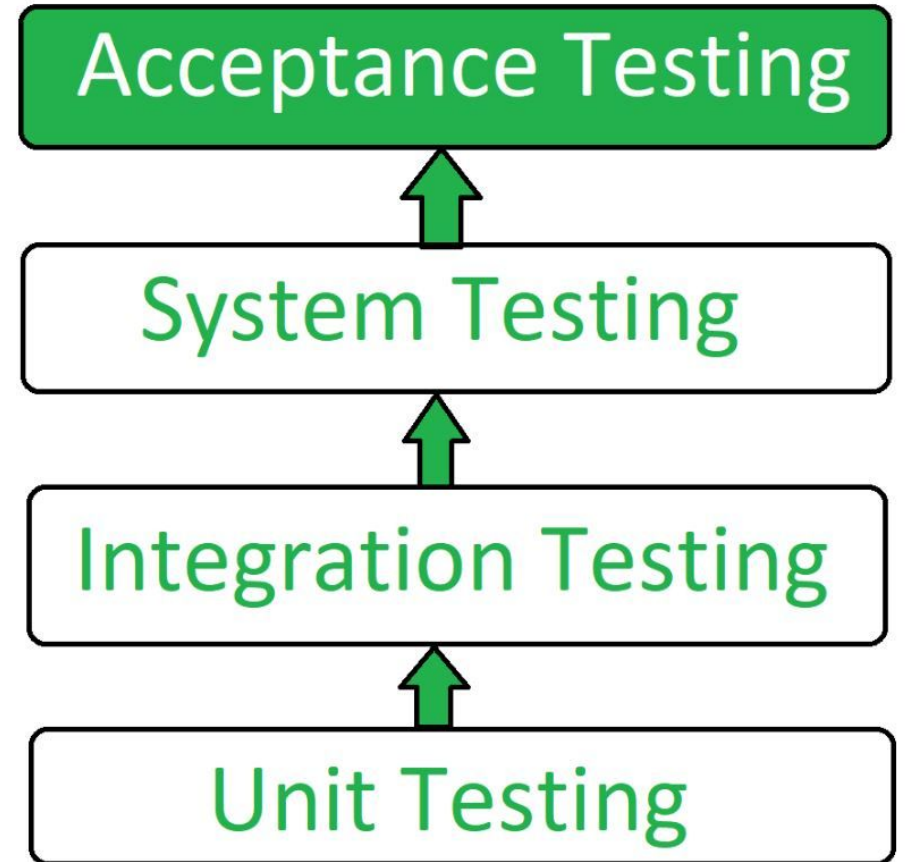
Vercel
Deployment



Supabase
Database Management

Testing

- Bi-weekly meetings with our client.
- A trial run of the event in October.
- Second trial run in November.
- Github issues and Trello for tracking user needs and requirements.



User Acceptance Testing

sid	week	tracing_start	tracing_end	tracing_by
"11-46"	2	"2023-10-06 15:43"	"2023-10-06 15:43"	"lauren"
"11-66"	2	"2023-10-06 16:54"	null	"Gabriel"
"21-20"	2	"2023-10-06 17:12"	"2023-10-06 17:21"	"brenna"
"21-126-B"	2	"2023-10-06 15:30"	"2023-10-06 15:30"	"laurrn"
"17-7-B"	2	"2023-10-06 14:39"	"2023-10-06 15:00"	"jill"
"17-13-B"	2	"2023-10-06 14:15"	"2023-10-06 14:27"	"jill"
"18-5"	2	"2023-10-06 15:04"	"2023-10-06 15:22"	"jill"
"21-123"	2	"2023-10-06 16:52"	null	"Anjali"
"1-8"	1	"2023-10-04 13:46"	"2023-10-04 14:22"	"tricia luick"
"22-18-J"	2	"2023-10-05 17:03"	"2023-10-05 17:26"	"enmanuel guerrero"
"22-17-E"	1	"2023-10-04 12:10"	"2023-10-04 12:30"	"megan osborne"
"11-33-B"	1	"2023-10-04 13:01"	"2023-10-04 13:20"	"bryn"
"3-23-A"	1	"2023-10-05 18:51"	"2023-10-05 18:54"	"teya"
"3-16-F"	1	"2023-10-05 18:30"	"2023-10-05 18:43"	"madi dohrn"
"2-7"	1	"2023-10-06 16:07"	"2023-10-06 17:37"	"riley williams"



Demo

- Gourdguardian.vercel.app
- Gourdguardian.vercel.app/admin/status

Challenges and Solutions

- Migration from the University server to Vercel and Supabase
- Improving stencil load time in admin selection menu
- Focusing on delivering a minimum viable product for the event that excludes stencil recognition



Future work

- Allow bulk stencils printing by implementing a feature that supports the combination of multiple PDF stencil files into a single file.
- Generate CSV reports with statistic based on user's data.
- Automatically backing up data everyday.
- Continuously work on updates to enhance the overall user experience.

Conclusion

- Our web application offering features that significantly enhance workflow efficiency, leading to time savings
- We met the needs and requirements of our client
- We are proud of what we achieved!

Resources

- [Next.js](#)
- [React](#)
- [Vercel](#)
- [PostgreSQL](#)
- [Supabase](#)
- [Supabase Authentication](#)

A collection of carved and lit jack-o'-lanterns in various shapes and sizes, glowing in the dark. The pumpkins are arranged in a dense group, with some in the foreground and others in the background. The light from the candles inside the pumpkins creates a warm, orange glow. The word "Questions?" is overlaid in the center of the image.

Questions?

Frightful and Delightful,

*it's a
big*

thank you!

