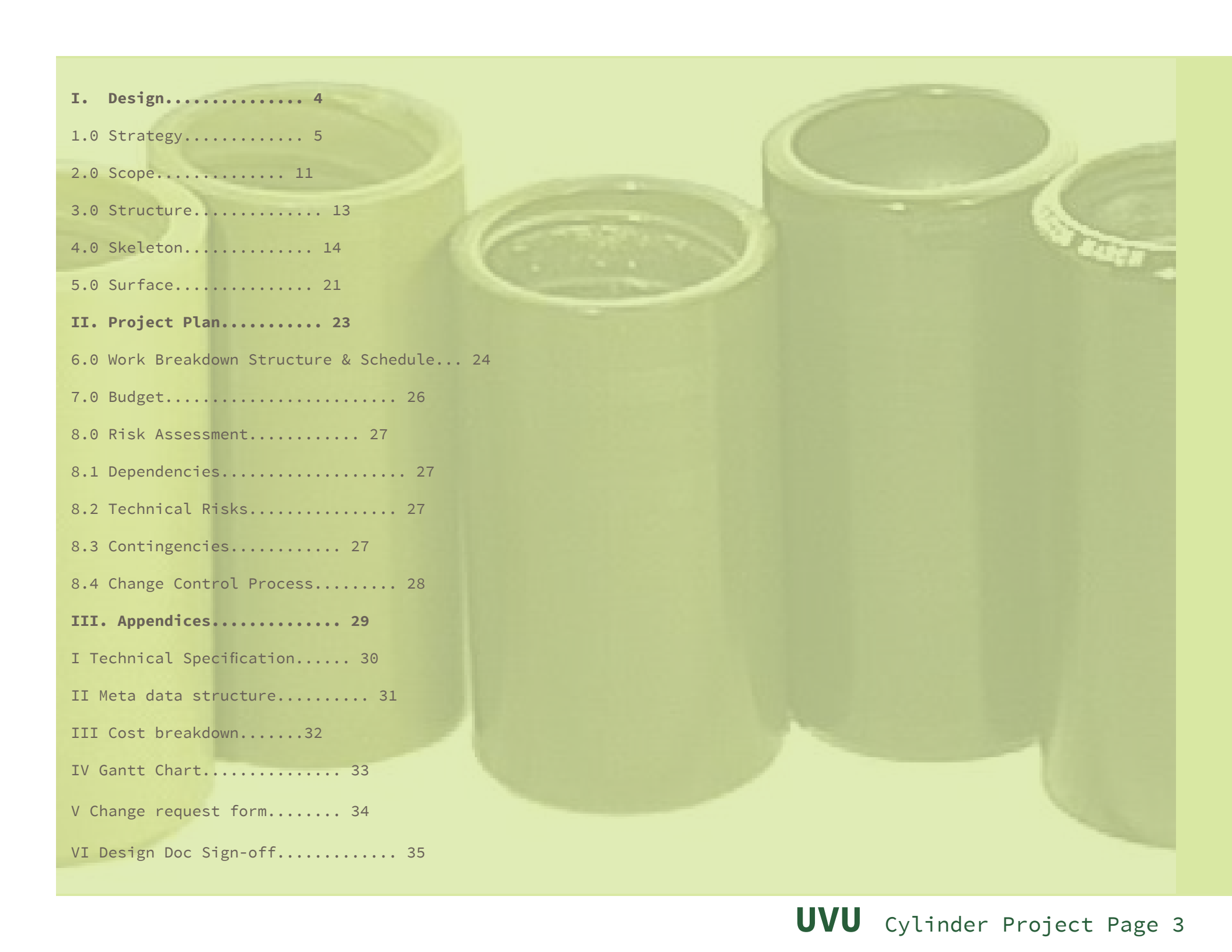


Cylinder
Project
Design



- Design Document
- Cylinder Project
- Utah Valley University





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Design Specifications

This design document is to address the specifics of the Cylinder Project. By outlining the plan for the development of the final project. If you are looking for details about the project rationale, requirements, goals, roles and responsibilities refer to the Project Proposal.

sections

1. strategy
2. scope
3. structure
4. skeleton
5. surface

1.0 Strategy

To better understand the people who will be using the website, Se created four perso-
na's to represent different user segment.



Stephen
The Hobbyist



Dave
The Student



Lauren
The Professional



John
Collector

Conclusion

Based on our analysis, and the overall goal of putting this up on the UVU website. our main target persona is going to be the student. So the site needs to be have an even greater emphasis on usability across as many devices as possible. That means the experience on the desktop is just as good as the experience on a i phone, Amazon fire tablet, or four inch windows phone. This will require a intuitive minimalist approach. as well as reliable streaming with small quick loading MP3s.

1.1 Persona: Primary Dave

Dave the Student

AGE: 25

OCCUPATION: Student

HOBBIES: Motorcycles, Westerns

LOCATION: New York



"If I can show versatility in my filming, I will have a better portfolio to show employers."

Goals

- Find inexpensive resources
- Get professional quality
- Have the rights to publish

Background

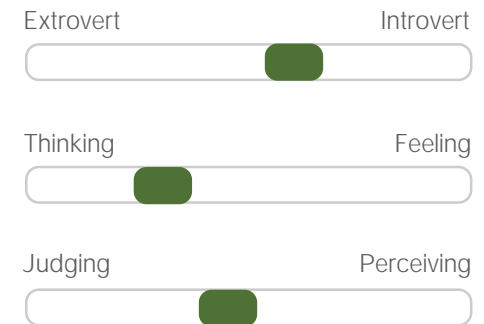
- Single
- High School Diploma
- Constantly using internet for resources

Bio

Dave is often filming personal projects with his friends. Being a film student, he has limited income and resources. He is willing to work with anything that could help make his films better.

He likes to get things done efficiently, but still have fun. Dave loves to shoot westerns and other things about that time period.

Personality



1.2 Persona: Secondary Laura

Lauren the Professional

AGE: 30

OCCUPATION: Social Media Marketing Director

HOBBIES: Travel, Yoga

LOCATION: San Antonio



"The world is fast and changing place. I aim to keep up with it."

Goals

- Save time online
- Find interesting content to share
- Maximize social media resource

Background

- Married, no kids
- Masters Degree
- Has been working full-time for 5+ years
- Average income - \$79k

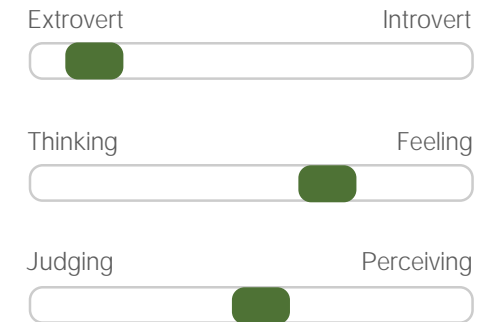
Bio

Lauren is a director of marketing and a member of the executive board of her company.

Lauren's role in the company is key as it transitions to a more consumer-facing, brand-based business world wide.

She would like to sell music and videos online to help add revenue to her business.

Personality



1.2 Persona: Secondary Stephen

Stephen the Hobbyist

AGE: 29

OCCUPATION: DJ/Bank Teller

HOBBIES: Running

LOCATION: Los Angeles



"I just like to see people happy. I want to make music that'll put a grin on your face."

Goals

- Find sample of music for DJing
- Write songs with sampled music
- Find audio format that works
- Search for songs on the go

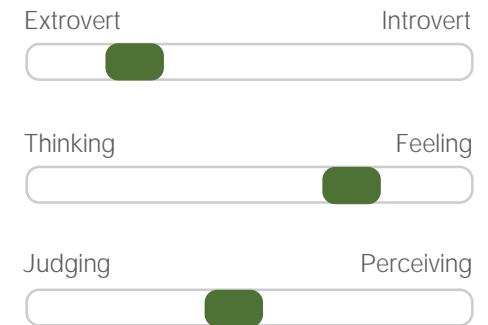
Background

- English Major
- Graduate of West Los Angeles College
- Held same job for 6+ years
- Runs every morning

Bio

Stephen Blake started DJing in highschool. While he tries to make as much money as he can through DJing, he has to keep a day job to pay bills. Recently he wants to write songs that blend old with new. So he is scouring the internet to find early recordings that he can sample for his tracks.

Personality



1.2 Persona: Secondary John

John the Collector

AGE: 36

OCCUPATION: Composer

HOBBIES: Singing, Collecting

LOCATION: Chicago



"Listening to old music inspires me to make new things."

Goals

- Learn from old sources
- Write songs
- Expand his music collection

Background

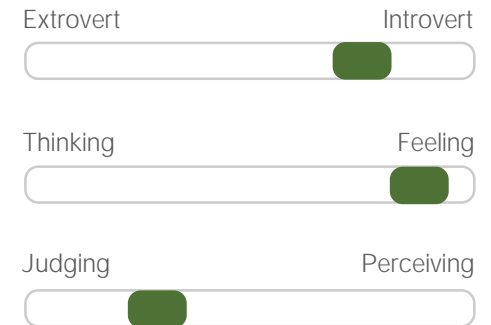
- Single
- Attended Chicago School of Music
- Lost count of how many records he owns

Bio

John loves listening to music. One of the things that he really enjoys is remixing old songs.

He learned how to composing from his father who is also a composer. John attended music school and studied a variety of different styles of music. He has an affection for jazz.

Personality



1.5 Strategy Conclusion

In conclusion the strategy of this site is to give students access to a type of media that is not easily accessed. To succeed in this goal our designs will create an environment where barrier to access of the media will be very low.

- Have a cohesive easy to understand design
- Stream music quickly and with high quality
- Have a wide variety of tracks to keep users coming back
- Provide useful information about cylinders and the cylinder project
- Effectively stream audio and have a way to upload future audio
- Have a robust Meta data infrastructure
- Have a smart usable search engine that utilizes the meta data and creates a quick and easy to search environment for users.

2.0 Scope

The goal for the Cylinder Project is that it will keep going on for years as more audio is added and improvements are made. The initial portion of the project will be created over the course of 2016-2017 academic school year. There will be a focus on the construction and populating the server with 60 - 80 recorded cylinder tracks. The media is license free and currently in cylinder form in Mike Wisland's collection. Bellow describes the features of the main parts of the website and the content that can be found there.

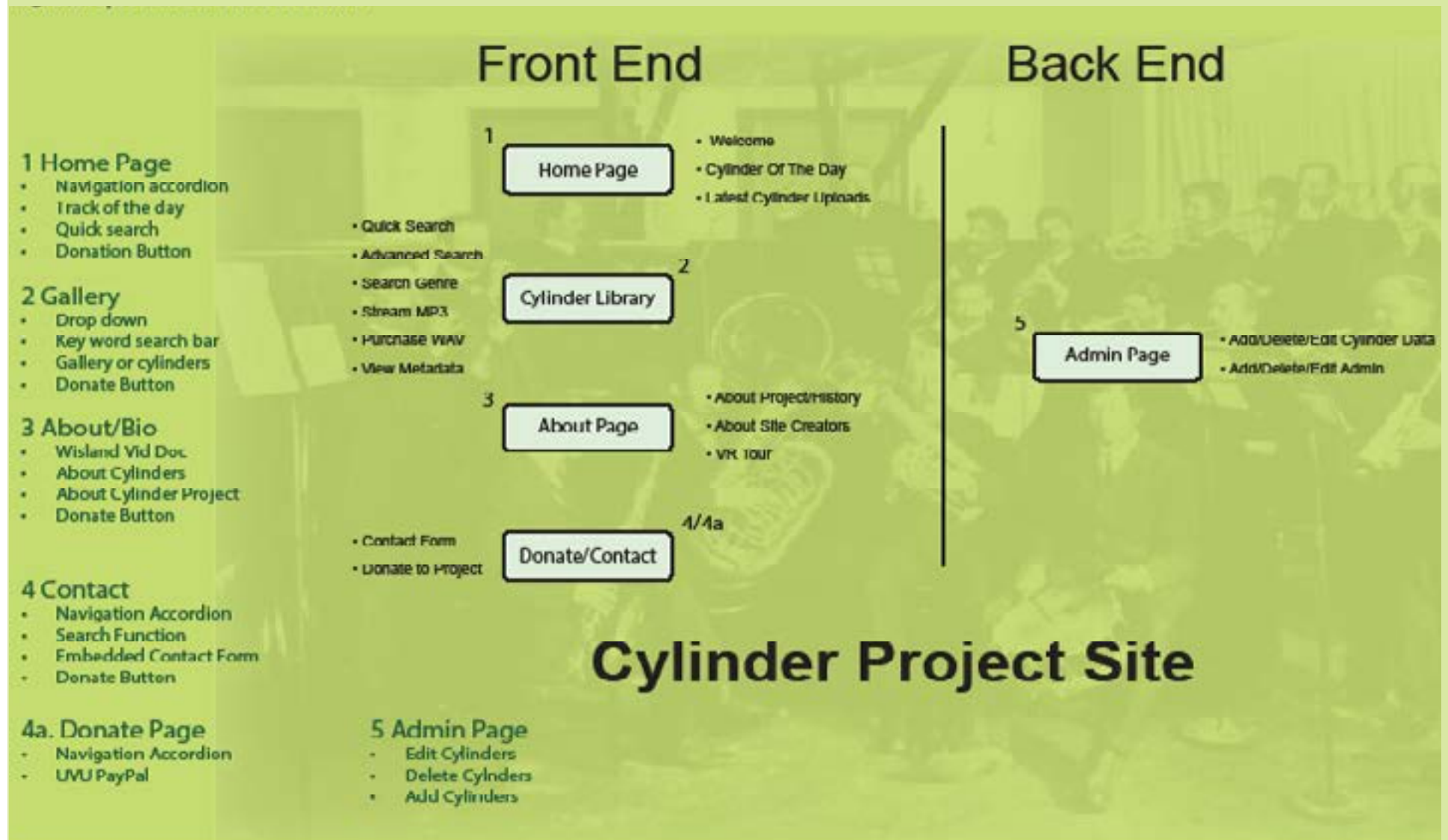
Page Within Site	Purpose For Page	Content
Home	Entice the user to the site	<ul style="list-style-type: none">• What is the Cylinder project• Track of the Day• What is the Cylinder Project
Search Page Cylinder Gallery	Allow users to browse through the cylinder library or search by specific criteria.	<ul style="list-style-type: none">• Search by word• Choose specific key words• Gallery of all the cylinders
Bio	Provide a complete time line of the Cylinder Project	<ul style="list-style-type: none">• Description of What Cylinders are.• Description of The History of Cylinders by Mike Wisland

2.0 Scope

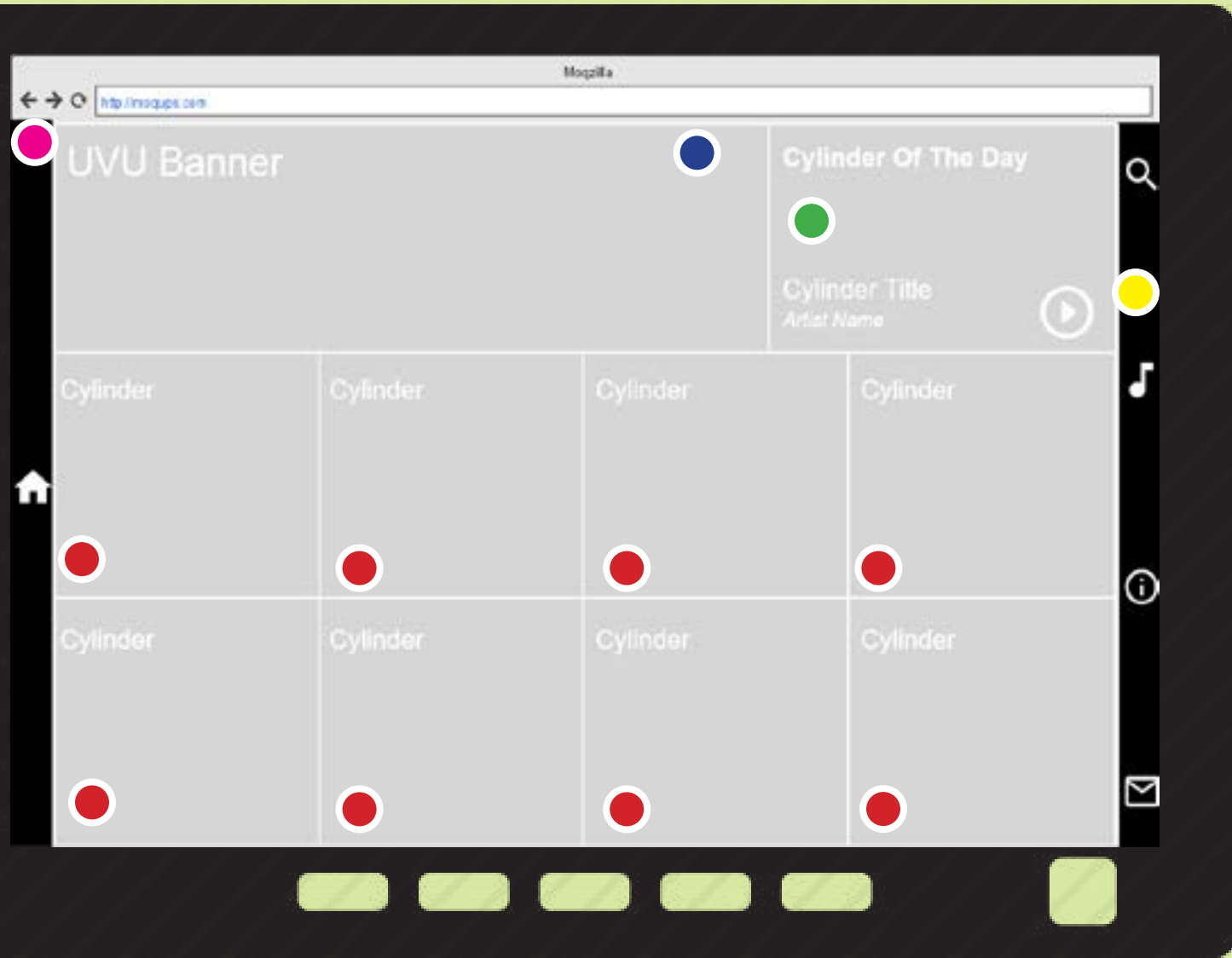
Page Within Site	Purpose For Page	Content
About	What is the Cylinder Project, how did it start? where is it going?	<ul style="list-style-type: none"> • Description of how the project started • Who is Mike Wisland and the Cylinder Team • Vid Doc of Wisland and his passion for Cylinders
Admin	A place where new files can be uploaded and current files can be edited or deleted	<ul style="list-style-type: none"> • Admin login via UVU • Upload and data input • file view and data edit and or delete
Contact	A way to contact the who ever is currently in-charge of the Cylinder Project	<ul style="list-style-type: none"> • Form for comments • Link to an email for formal contact with Cylinder Project team.
Donate	Donate to the site via UVUPal	<ul style="list-style-type: none"> • UVU Pay Pal donation option. • Form for the donation

3.0 Structure

Diagram represents website structure



4.0 Skeleton (1a. Home/Desktop)



●
Accordion style Menus
make for a snappy
quick and intuitive
navigation

●
The page opens inside
the menu. You will be
able to scroll content
within.

●
Track of the day cylin-
der track player

●
Four pages for sim-
plicity and speed
1: Home
2: Cylinder Library
3: About/Bio
4: Conact/Donate
5: Admin (not public)

●
Articles, tracks, and
front page information

4.0 Skeleton (2a. Mobile Concept)

● Current Selected track information(Meta Data)

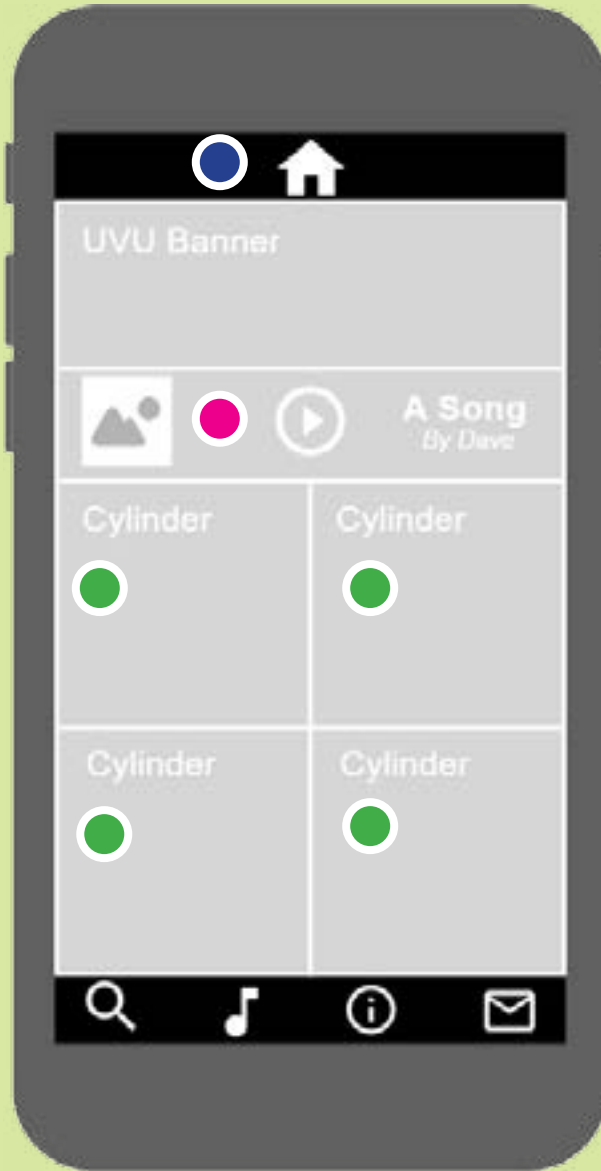
● Menu

● Results of search criteria

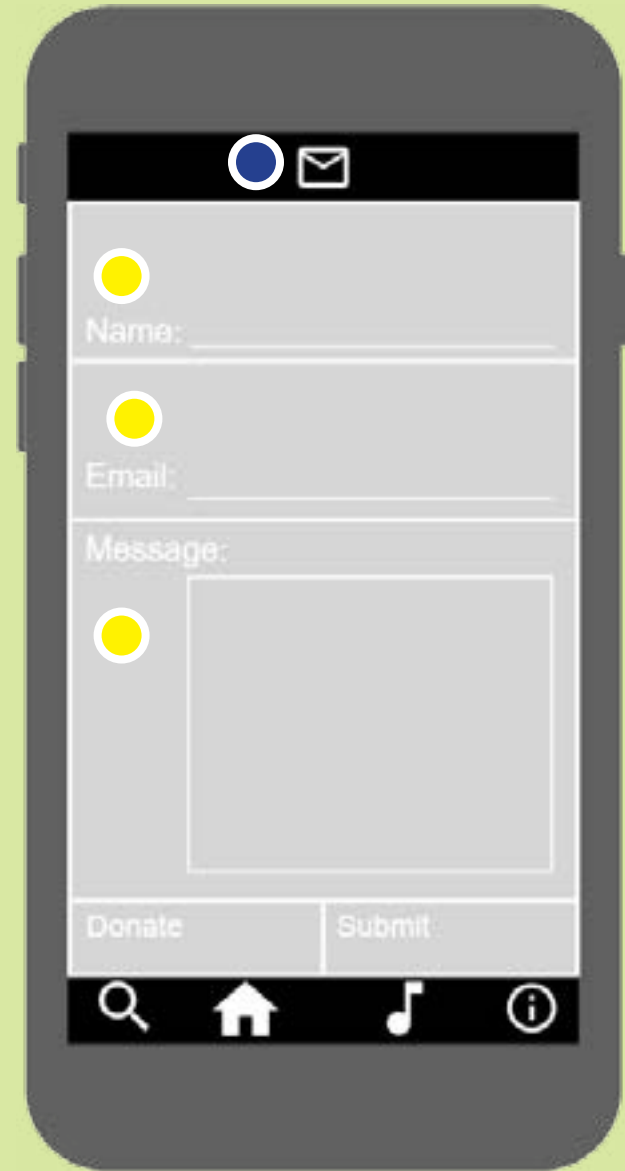
● cylinder track

● Contact forms

Mobile Home

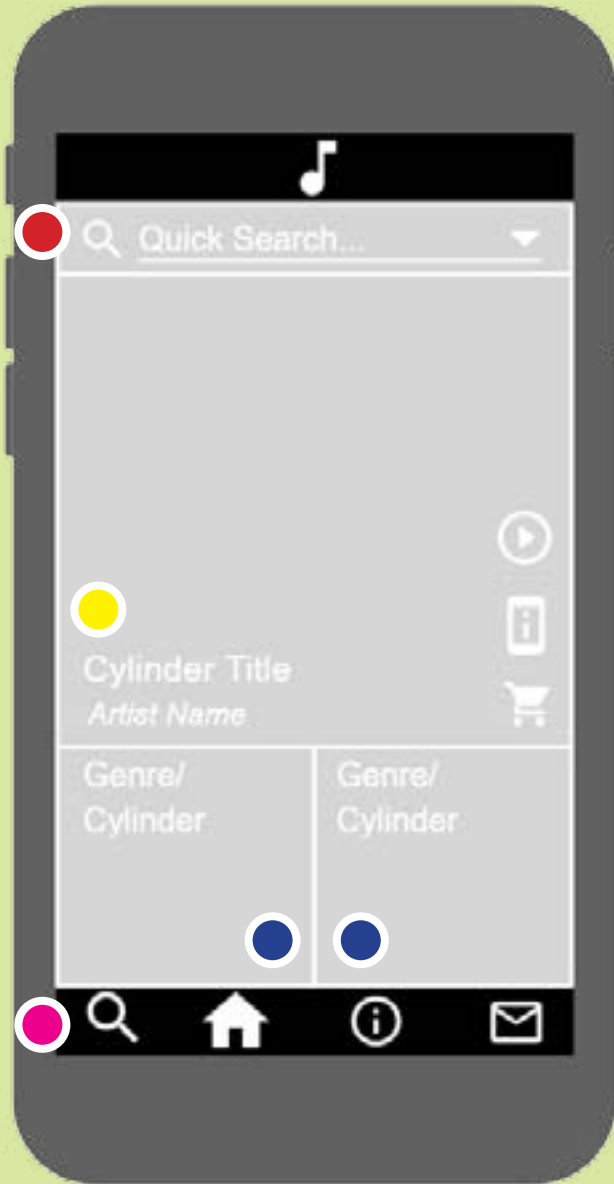


Mobile Contact

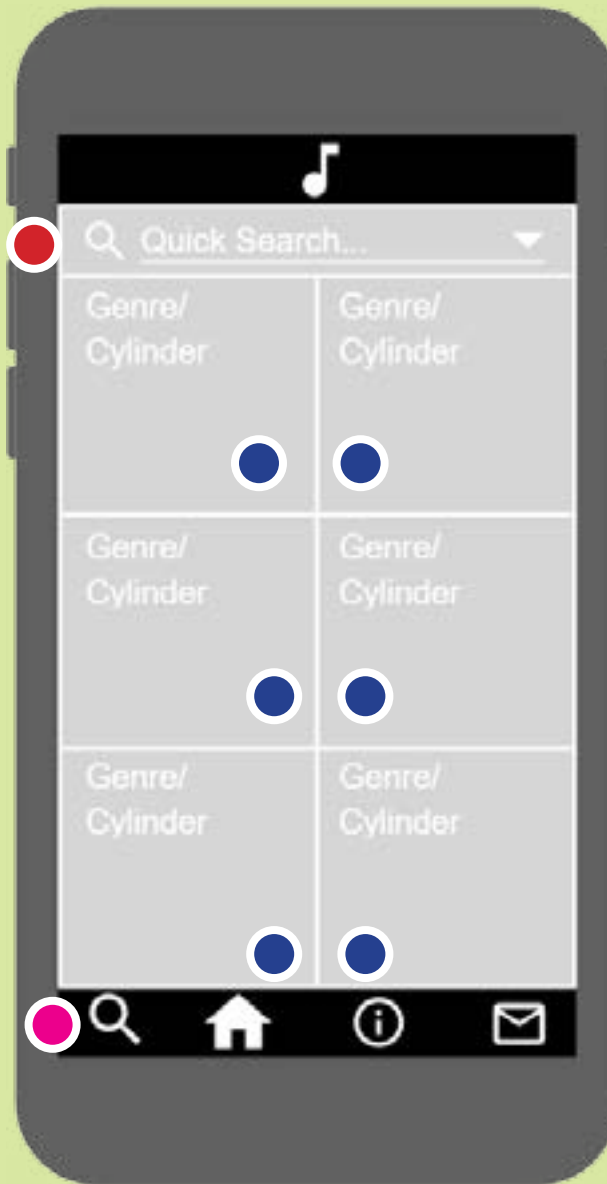


4.0 Skeleton (2b. Mobile Concept)

Mobile Library



Mobile Library2



Accordion style Menus
make for a snappy quick
and intuitive navigation



Playable cylinder tracks



Search bar by a specific
keyword



Track of the day cylin-
der track player



Current Selected Track

4.0 Skeleton (2c.Tablet Concept)

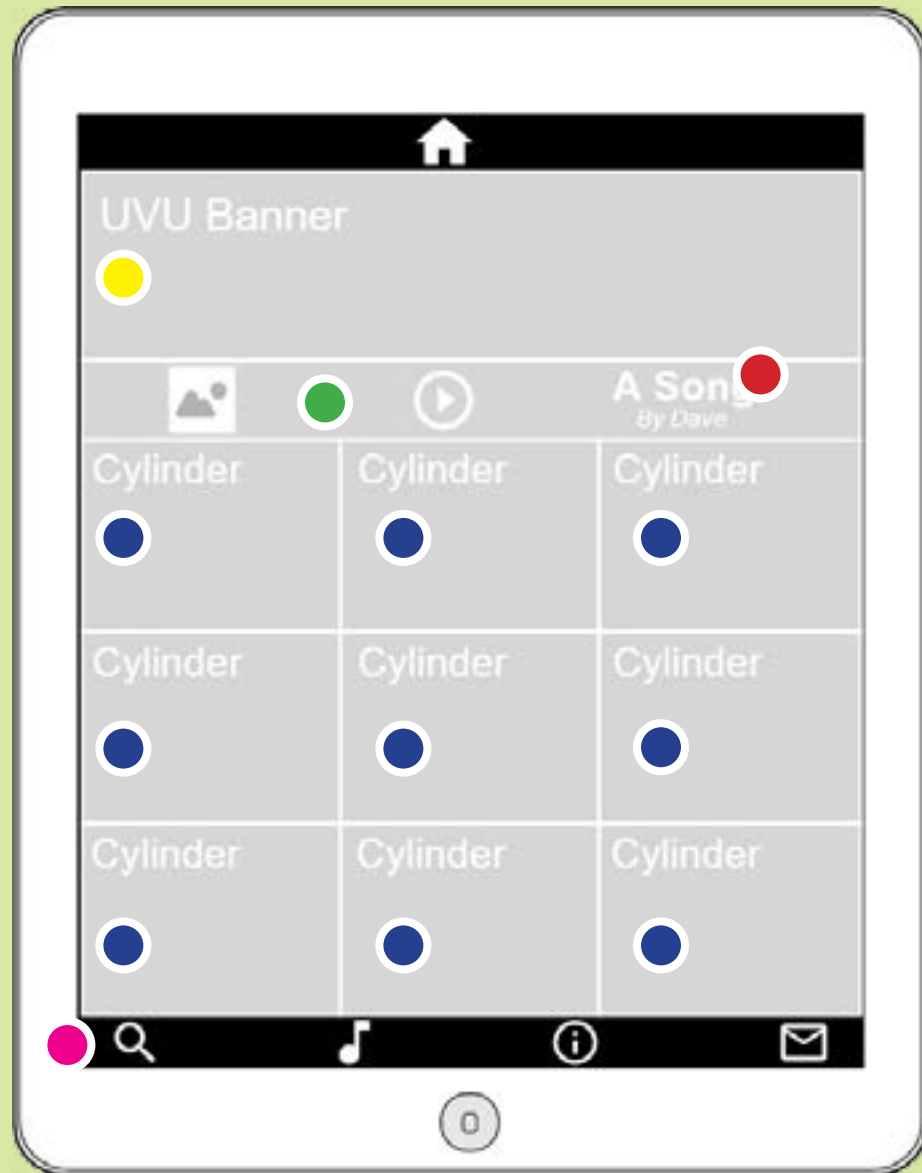
●
Accordion style Menus
make for a snappy quick
and intuitive navigation

●
Playable cylinder tracks

●
Search bar by a specific
keyword

●
Track of the day cylin-
der track player

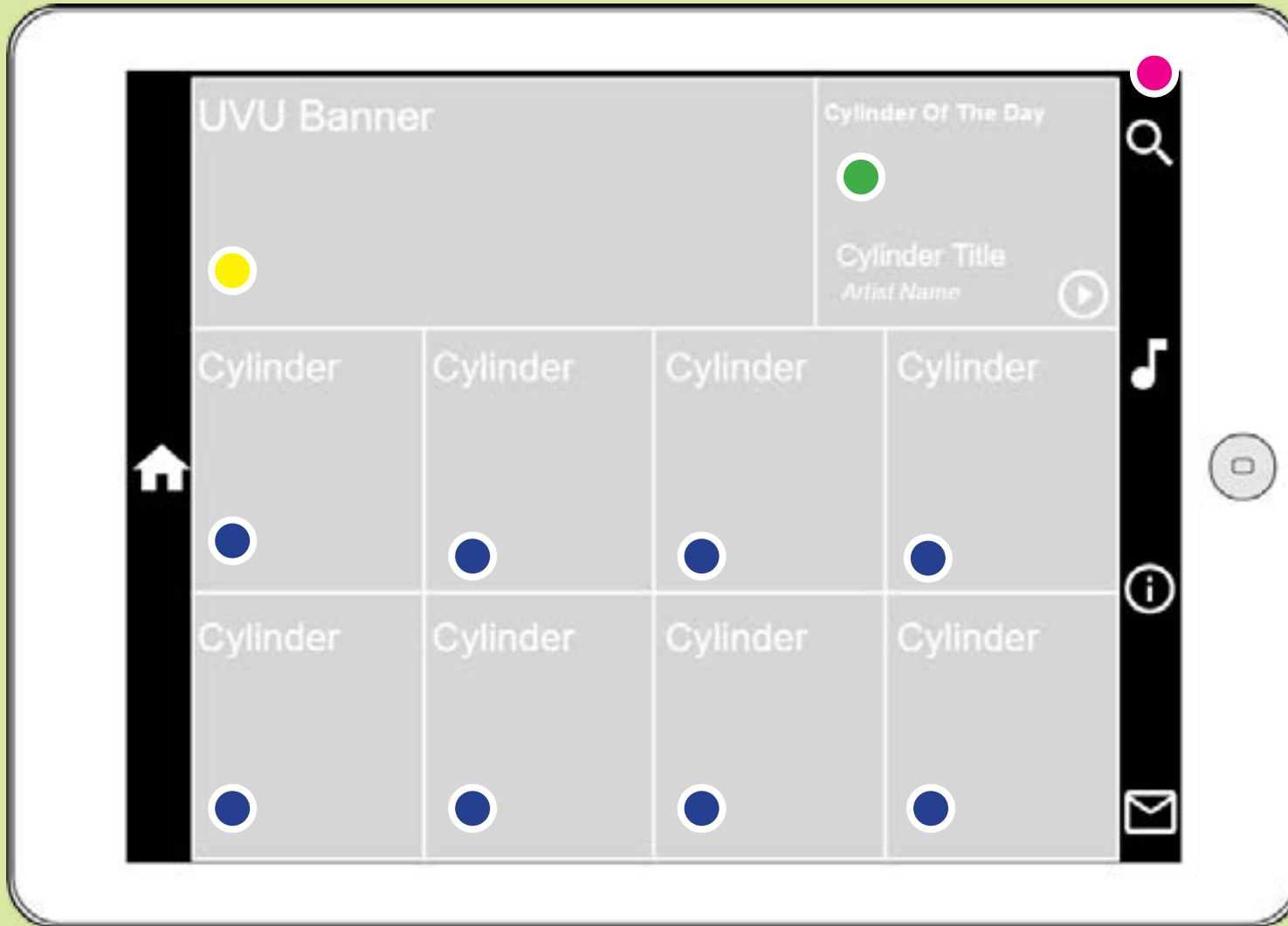
●
Banner




Tablet Home


4.0 Skeleton (2D. Tablet Concept)

Tablet Home landscape



 Accordion style Menus
make for a snappy quick
and intuitive navigation

 Playable cylinder tracks

 Search bar by a specific
keyword

 Track of the day cylin-
der track player

 Banner

4.0 Skeleton (2E. Tablet Concepts)

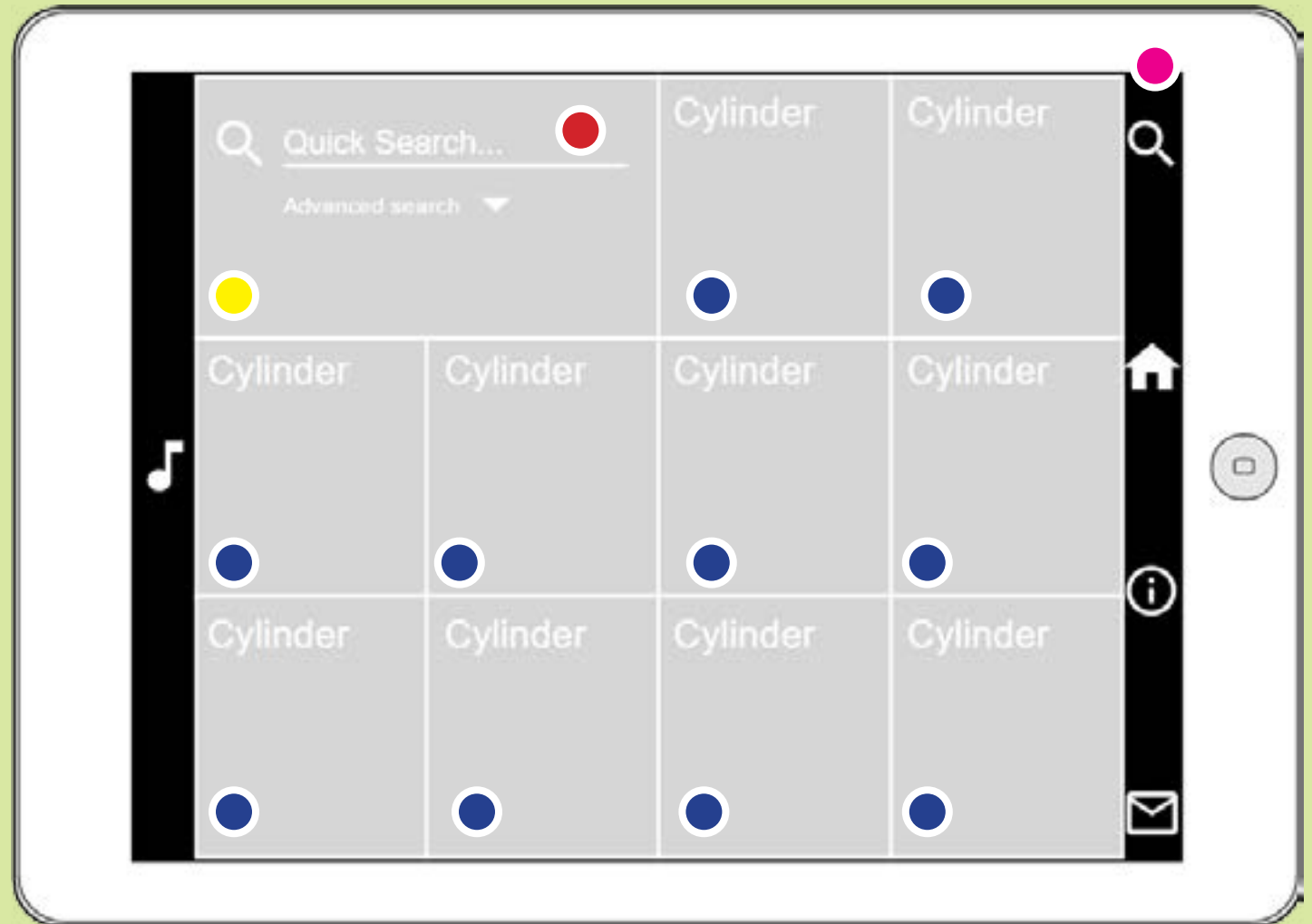
●
Accordion style Menus
make for a snappy quick
and intuitive navigation

●
Playable cylinder tracks

●
Search bar by a specific
keyword

●
Current Selected track

Tablet Library landscape



5.0 Surface

Icons: The website will have 4 menu icons. bellow are possible designs that can be used. (not final designs)



Home/Landing page



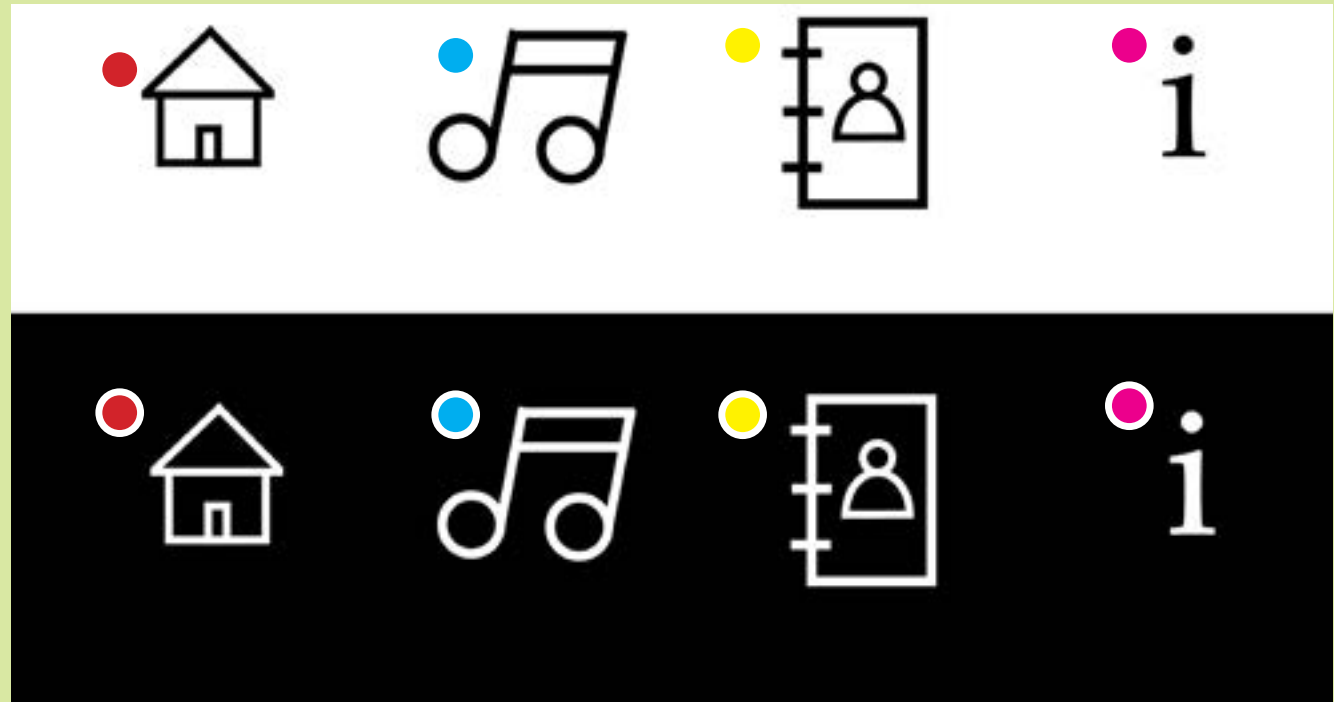
Cylinder gallery



Contact Page/Donate



About/Bio page



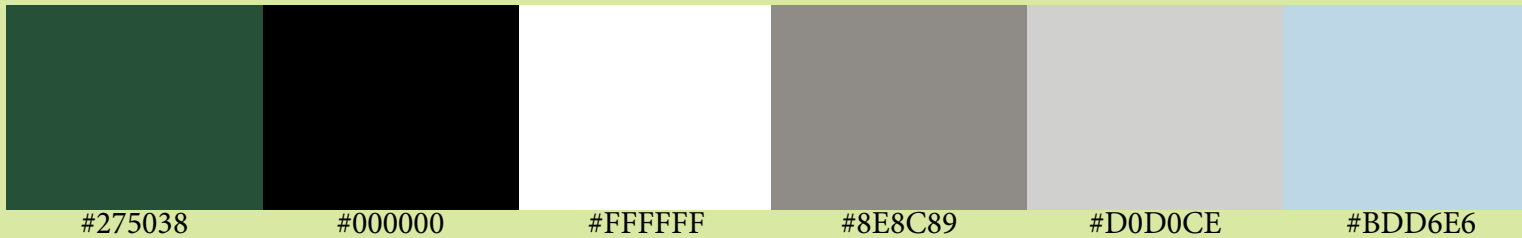
The following link is an example of how the navigation and mechanics of the sigh might work.

<http://dgm4310.tropht.com/designTemplate/>

5.0 Surface

Motif: Because the Cylinder Project will be hosted on the UVU website. The colors will be in line with the UVU web style guide. It will be minimal and sleek. The look of the site will not get in the way of the content and experience we are trying to deliver.

Colors: In keeping with the UVU style guide there will be a lot of greens grays and whites.



Text: Sans Serif (Helvetica Neue-Regular and Condensed Bold) font in accordance with the UVU style guide and be Web-safe fonts.

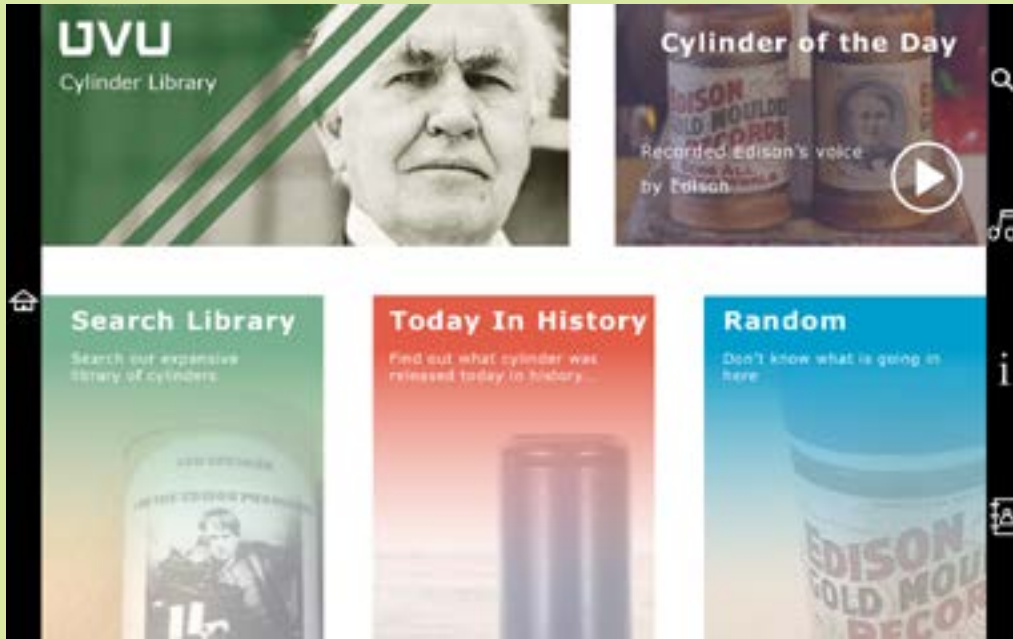
Headings and Titles

Accent text to emphasis

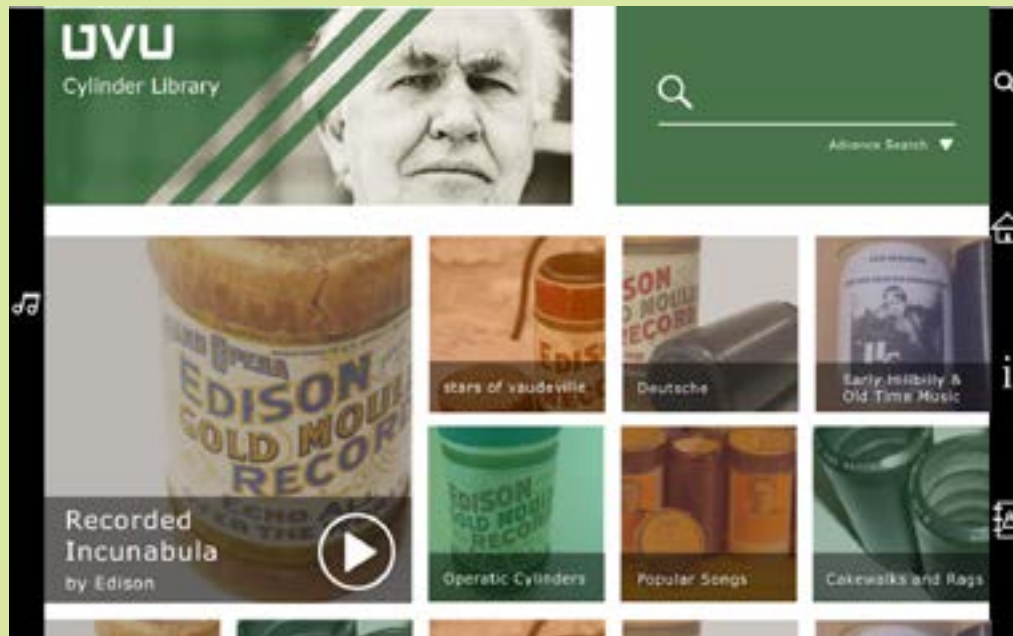
A sample of the body text and other text throughout the website.

5.0 Surface

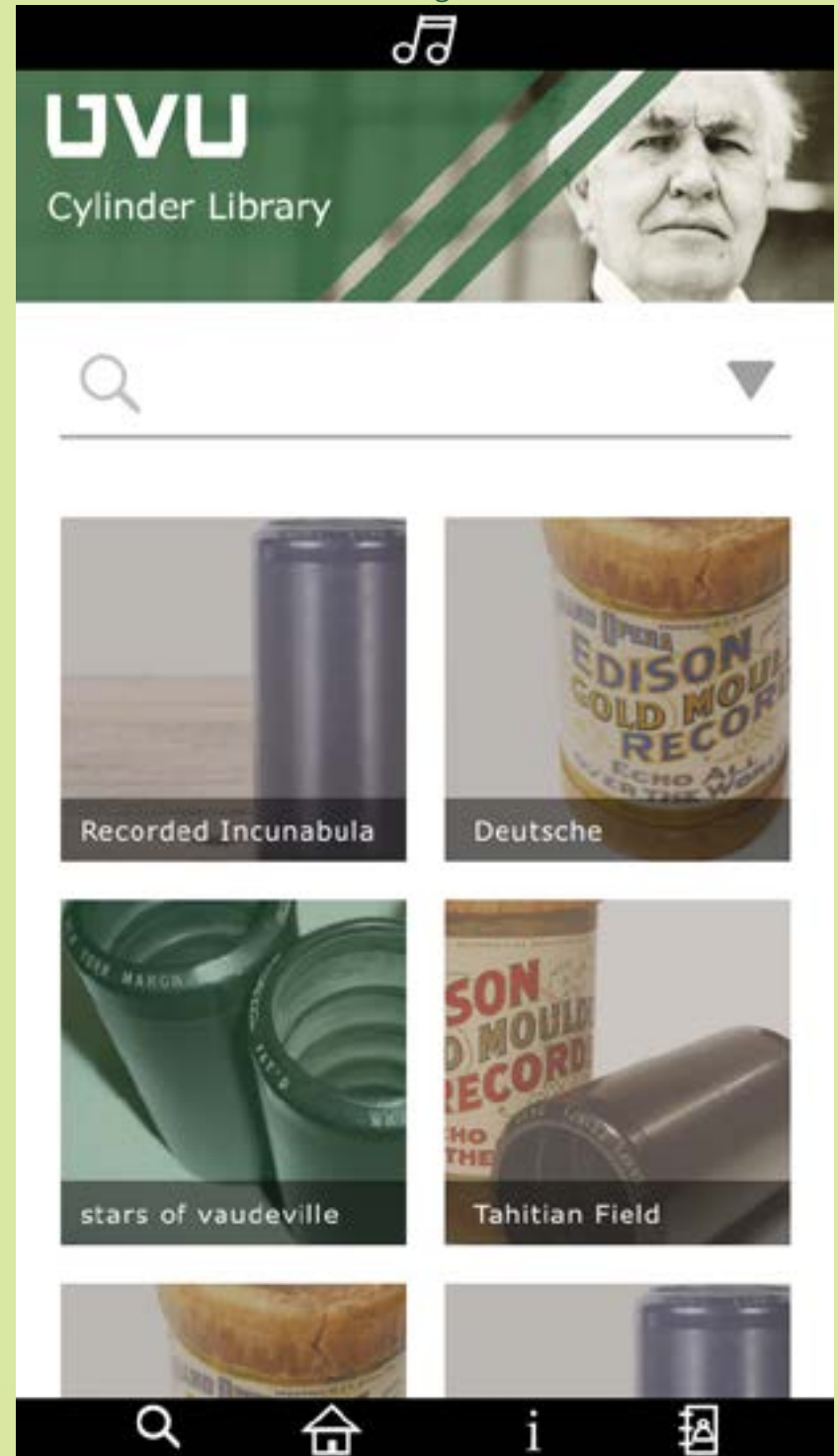
Home Page Desktop



Library Page Desktop



Home Page Mobile



Project Plan

The project plan describes how the DGM team plans to implement the design

sections

- 6.0 Work Breakdown
- 7.0 Budget
- 8.0 Risk Assessment



6.0 Work Breakdown Structure & Schedule

Phase/Task	Duration	StartDate	EndDate	Person(s)
Launch Cylinder Project	211 days	09/01/2016	03/30/2016	
Project Initiation	39 days	09/01/2016	10/10/2016	
Create web prototypes	10 days	09/01/2016	09/12/2016	Yuki; Mengxi
Conduct kick-off meeting	1 days	09/17/2016	09/17/2016	Team
Prepare Proposal	13 days	09/17/2016	09/30/2016	Abe
Client/Advisor review proposal	5 days	10/01/2016	10/06/2016	
Revise Proposal	3 days	10/07/2016	10/11/2016	Abe
Client/Advisor sign-off proposal	5 days	10/12/2017	10/12/2016	
Design and Planning	61 days	10/13/2016	12/13/2016	
Apply for Grant	01 days	10/13/2016	10/16/2016	Jared
Sort Physical media	14 days	10/14/2016	10/28/2016	Jenifer
Prepare transcription/restoration	16 days	10/19/2016	11/02/2016	Jenifer
Prepare Design Doc (rough draft)	14 days	10/20/2016	11/02/2016	Abe
Revise Design Doc (final)	10 days	11/03/2016	12/12/2016	Abe
Client/Advisor sign-off Design Doc	0 days	12/12/2017	12/12/2016	
Development	61 days	01/07/2017	02/13/2017	
Audio Processing	48 days	01/10/2017	2/27/2017	
Transcribe/Restore Audio	30 days	01/10/2017	02/10/2017	Audio Team
Research & Add metadata	30 days	01/15/2017	02/15/2017	Jared; Blake
Review /Test Audio	25 days	01/23/2017	02/18/2016	
Revise Audio	23 days	01/28/2017	02/28/2017	
All audio uploaded to database	0 days	02/28/2017	02/28/2017	
Image Processing	30 days	01/14/2017	02/24/2017	Web team
Transcribe/Restore Images	14 days	01/20/2017	02/03/2017	
Research & Add metadata	20days	01/23/2017	02/19/2017	
Review Images	20 days	01/19/2017	02/12/2016	
Revise Images	20 days	01/23/2017	02/19/2017	
All images uploaded to database	0 days	02/24/2017	02/24/2017	

6.0 Work Breakdown Structure & Schedule

Phase/Task	Duration	StartDate	EndDate	Person(s)
Website	64 days	01/10/20	3/15/2017	
Create page templates	4 days	01/10/2017	01/15/2017	
Customize CMS for site	8 days	01/20/2017	02/29/2017	
Write site text content (bio)	02 days	01/30/2017	02/02/2017	
Enter site text content	03 days	02/03/2017	02/05/2017	
Program back-end	05 days	02/06/2017	02/12/2017	
Compile previously restored content	20 days	01/14/2017	02/05/2017	
Integrate media content	3 days	02/24/2017	02/28/2017	
Alpha release	0 days	03/02/2017	03/02/2017	
Client/advisor review alpha	05 days	03/05/2017	03/10/2017	
Make revisions to site	05 days	03/10/2017	03/15/2017	
Beta Release	0 days	03/15/2017	03/15/2017	
Testing & Delivery	15 days	03/15/20	3/30/2017	
Conduct cross browser testing	2 days	03/15/2017	03/17/2017	
Conduct user testing	3 days	03/17/2017	03/20/2017	
Make revisions	0 days	03/02/2017	03/02/2017	
Client/advisor review alpha	05 days	03/05/2017	03/10/2017	
Make revisions to site	05 days	03/10/2017	03/15/2017	
Prepare Final Report	05 days	03/15/2017	03/20/2017	
Launch live site	01 days	03/20/2017	03/21/2017	
Project sign-off	0 days	03/21/2017	03/21/2017	

See Gantt Chart in Appendix

7.0 Budget

Below is the estimated budget by phase. A complete cost breakdown is included in the Appendix

Phase	Cost	Total
Pre-Production	\$2500.00	
Production	\$13,631.00	
Post Production	\$8,354.00	
	Total	\$24,485.00

Budget assumptions

- All labor costs are based on rates of (\$35/hour)
- Overhead is not included in costs.



8.0 Risk Assessment

8.1 Dependencies

Completing this project given the time and budget specified depends on the following conditions to be met.

- Access to Mike Wislands Cylinder Collection
- Restoration time
- Cylinders get recorded in time
- Coordination of students' schedules for collaboration

8.2 Technical Risks

- Damage to recording equipment
- Damage to cylinders
- Website bugs

8.3 Contingencies

- Using new Recording equipment if old equipment is damaged by using the grant money and having multiple machines to record on
- Availability of student volunteers to perform various duties
- Oversight of project by faculty advisors



8.4 Change Control Process

There is always the possibility that a project schedule and budget may be affected by change requested by the client that come in too late in the life of the project, or that are so significant that they change the scope and costs of the project. To help manage any unforeseen changes, we will follow a simple change request process, which uses The Change Request Form included in the Appendix.

1. If the client wishes to request a change during the development process, they should fill out and submit the CRF and submit to the project manager
2. The project manager will review the impact of the request and possible solutions on the project scope, schedule, and cost.
3. The project manager will make a recommendation and discuss it with the client
4. Finally, the project manager and client will decide on the course of action that is mutually agreed on and authorize change or put change on hold.



Appendix

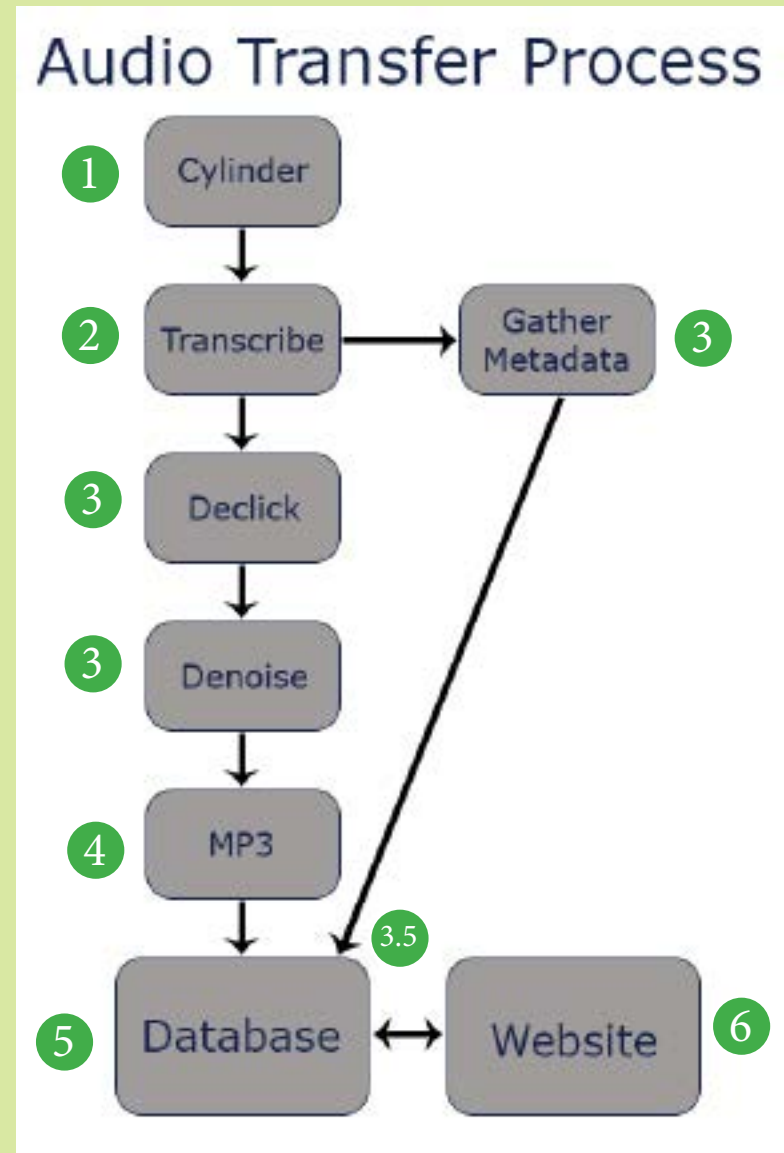
The Appendix includes all detailed documents that support the design and project plan.

sections

- I. Technical Specifications
- II. Meta data structure
- III. Cost Breakdown
- IV. Gantt Chart
- V. Change Request Form
- VI.. Design Document Sign off

I. Technical Specifications

- 1 Start with a working cylinder
- 2 Transcribe it to a digital format.
- 3 Collect the meta-data about the cylinder and record it. Then move to the Data base.
- 3 Get rid of the abnormal noises, clicks, popping sounds, etc by De-clicking
- 4 Once we have the audio file digitally restored and have saved it, we will create a MP3 version of this restored audio file.
- 5 This is the version that we will upload into the database.
- 6 The website will be able to access this data-base and thus the MP3 version will be available to stream on the website.
- 3.5 We will take the metadata that we have gathered and put it into the database as well so that the information about each cylinder (title, artist, etc.) will be available on the website with the restored MP3.



II. Meta data structure

The foundation of the site will be built with Node JS. What makes Node unique is that you are able to use JavaScript on the back-end of the website. Normally JavaScript is reserved for front-end DOM manipulation.

Rather than setting up the more traditional LAMP stack (Linux, Apache, MySQL, PHP), we can streamline the process by using something more familiar. The MEAN stack (Mongo, Express, Angular, Node) is a very popular and easy to set up environment these days.

A very important part of this site is ensuring that the administrator can easily add new cylinder audio and the metadata associated with it. Mongo Database works great with Node because it uses JavaScript Object Notation (JSON). This format is very easy to develop with.

Each cylinder will use the same structure to store the metadata. These structures are called Schemas. The following is the Schema that will be used for each cylinder:

```
cylinder : {  
  number : Number,  
  title : String,  
  artist : String,  
  moldNumber : Number,  
  description : String,  
  take : Number,  
  warped : Boolean,  
  cracked : Boolean,  
  type : String,  
  genre : String,  
  condition : Number,  
  miscA : String,  
  miscB : String  
}
```



III. Cost BreakDown

All the rates were taken from Google to get an average what each position would normally cost.

However, because this is a project made for the school by students, there is no employee cost.

The additional costs, on the other hand, will need to be paid by the school.

Employee Cost Breakdown

Name	Position	Cost per Hour	Hours	Total
Abe Raigne	Project Manager	\$60.00	80	\$4,000.00
Blake Stevens	Full Stack Developer	\$44.00	80	\$3,520.00
Mengdi Li	Content Strategist	\$38.00	80	\$3,040.00
Jared Cooley	Design/ Content Strategist	\$40.00	80	\$3,200.00
Yuki Arai	Design/Front End	\$42.00	80	\$3,360.00

Additional Costs

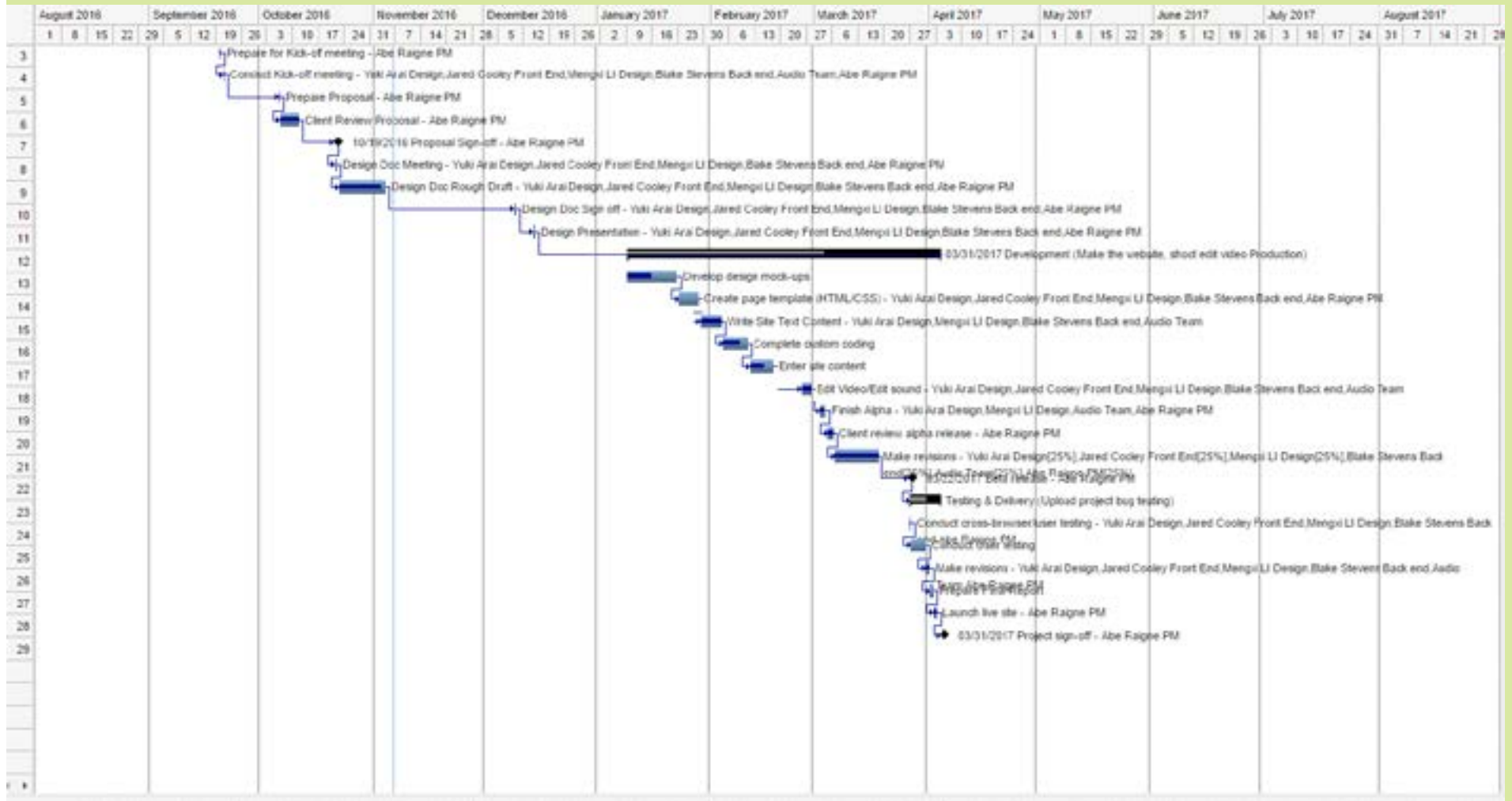
Name	Description	Total
Grant from University	In order to get the project off the ground, a grant is required. This money will be used to patent and develop the technology needed to digitally record the cylinders.	\$1,800.00
Bluehost Server Space	Server space will be required to store all the cylinders. UVU already has tie to Bluehost.	\$180.00/Year

Grand Estimated Total

\$19,100





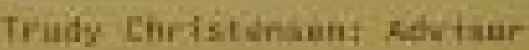



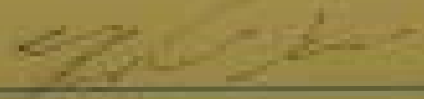
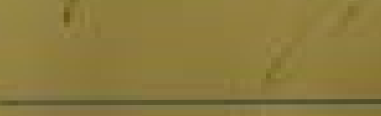

IV. Gantt Chart



V.Change request form

Submission Info <i>(to be completed by client)</i>	
Project:	Date:
Name:	Phone:
Request <i>(to be completed by client)</i>	
Description:	
Response <i>(to be completed by project manager)</i>	
Name:	Date:
Solution:	
Impact	
Scope:	Resources:
Cost:	Schedule:
Authorization	
Project Manager Signature:	Client Signature:
Request ID:	

VI. Design Doc Sign-off

 Mike Wisland: Client	12/7/16 Date	 Paul Cheney: Mentor	12/8/16 Date
 Trudy Christensen: Advisor	Date	 Abe Baignes: Project Manager	12/19/16 Date
 Mengxi Li: front end web	12/07/2016 Date	 Jared Cooley: front end web	12/7/2016 Date
 Yukit Arai: front end web	12/07/2016 Date	 Jennifer Haynes: audio restoration	Date
 Blake Stevens: back end web	12/12/2016 Date		