

# **ENSE 271 - Project Report**

Mandolas

Aryan Chandra, Meklit Alemu, and Brydon Herauf

Project Sponsor: Dr. Tim Maciag (ENSE 271 Lecturer)

## **Business Need and Opportunity**

### **The Need:**

The RMO is currently operating with a less than ideal system for distributing music. It is causing stress among members and needs to be reworked. There are several other issues that can be addressed in the process of designing a music distribution system.

### **The Opportunity:**

We have been asked to work alongside the RMO to explore new and innovative web/mobile designs. High-level guidelines, principles, constraints, & assumptions include:

- Design approach: Design Thinking (Agile)/Fast Feedback Cycle
- License: Creative Commons Share & Share Alike (CC BY-SA 4.0)
- Technology/Programming environment: StoriesOnBoard (Tim/Adam will be creating user accounts), Adobe XD, Figma, WordPress, Local by Flywheel, GitHub (public repository required)
- Initial design notes
  - Interactions should be supported by a clear and simple user interface with a focus on inclusive design and accessibility
  - The RMO and its membership should be supported by effective system security and easy to maintain access management control
  - The RMO and its membership are supported by volunteer members. It is acknowledged that the server infrastructure will be supported by a third-party host. However, the technology itself should be user-friendly and as self-maintained as can be as the RMO does not have an information technology support structure (minus volunteer efforts of its members)

## **Project Planning**

### **Customer Types**

- Northstar: Section Leaders & Music Distributors.
- Carryover: Students, Teachers, and Section members.

### **Project Assumptions**

During the project planning phase, we assumed the team would get access to the previous RMO website, deliver a finished product on time, have time to test the product and receive feedback, and create a website using wordpress. Most of our assumptions were true. However, the assumption that “all relevant RMO members will attend checkpoint meetings” was false. Not all relevant members present at the project checkpoints, so we adjusted our project feedback process.

### **Project Constraints:**

Some of the constraints envisioned during project planning include being required to deliver a quality product within a limited deadline, produce a high-fidelity prototype within a month, and get frequent feedback to ensure design meets customer’s expectations. Since the team consisted of three product developers, the student/teacher corner and the public page will only be done if there is extra time.

### **Affinity diagramming Key Findings**

We researched the problems and solutions regarding RMO’s website into distinct clusters: communication, design, and management related. We summarized optional solutions and subcategories like creating verification / access tokens, methods of organizing calendar, and methods of sorting files, design display types. We concluded that our priority will be about helping RMO improve their communication style through personalized documents / music sheets. We prioritized updating their calendar as well.

### **Empathy Mapping Key Findings**

Most RMO members were frustrated with using email to distribute music, were worried about the future website’s understandability, and prioritized communication. They requested orchestra sections, calendar sections, and improved archived methods. Based on RMO’s expressed pain and gains, we concluded that using emails should be a last resort, and we should strive towards an understandable and personalized website.

## **Evolution of User Story Maps (USM) and Main Viable Project (MVP)**

Initially our MVP contained more entries than the end result. We focused on the teacher/student side of things and less significant features such as filters. As we worked on the project, we realized that it was unrealistic to produce all the features. We removed the teacher/student section and the non-essential entries to a future release. What we ended up with is considered an MVP, because it contains all the necessary features to create a working site. The remaining features are things that would enhance user experience, but are not entirely necessary.

## **Prototyping Activities and Findings**

Our low fidelity (LoFi) designs enabled us to brainstorm alternate website ideas. Our high fidelity (HiFi) design enabled us to express our vision to the RMO and narrow down on our main viable product ideas. Prototyping played a big role in receiving helpful feedback from the members. For example, we found that RMO preferred a navigation bar that limited the amount of clicks required to get to a page.

## **Link to People-Centered Design**

- **Discoverability/Understandability:** The navigation panel is easily discoverable from any page by clicking the hamburger menu situated in the top left corner. We included links to their social media in the footer. Signifiers are attached to buttons
- **Affordance, Signifiers, and metaphors** - metaphors signified actions such as a magnifying glass to signify search function, calendar sheet to signify calendar, a bell to signify notification, user silhouette to signify account, music note to signify music section, etc.
- **Proximity / similarity** - newsletters, music sheets, and recent updates are presented in proximity with other similar styles. For example, in the home page, previews of calendar events are displayed using tiles made from similar shapes, fonts, spacing, and labels.
- **Mappings** - Website is designed for the Regina Mandolin Orchestra members, so we used North American natural mapping conventions. The navigation panel displays on the left side of the website, Icons show to the left of written details, notification displays on the top right of the website, titles and headers are left aligned, and more negative space occupies the right side of web design.

## **Project Results**

### **Project Likes and Dislikes**

The opportunity to work directly with a customer, and have regular meetings to go over our ideas was something new and enjoyable. The regular presentations pushed us out of our comfort zones, and gave us an idea of what working on a real world project is like. It also gave us an opportunity to become more experienced with a few useful technologies. The pace of the project was quite high at times. However, given the short length of this semester it was appropriate. Working with wordpress was a struggle at times, but we got better as we went. Overall, this project was a great learning experience for us.

### **What Went Well**

We did a great job of communicating and splitting up the work evenly. We also did well in our meetings with the RMO, where we were able to collect and implement feedback each time. The initial planning stages as well as LoFi and HiFi prototyping was very smooth.

### **What Did Not Go Well**

Getting some of the features to work on wordpress was our biggest struggle. Some of our initial ideas had to be scrapped once we tried implementing them. We also faced minor roadblocks with Figma, but nothing worth noting.

### **Translating Prototypes into WordPress**

Our hifi prototype and wordpress product ended up looking very different. In terms of appearance, the difference is noticeable, however all of the main concepts are present. For the core features, we were fairly successful with implementing them in wordpress by using plugins. There are a few things we could not get working, and therefore took different approaches. However, in the features we did implement, our solutions are satisfactory, even though they may be different from our initial plans.

### **People-Centered Design Ideas Helping and Hindering Design Explorations**

While designing our HiFi prototype, we kept people-centered design ideas at the top of our focus. This both helped and hindered our design explorations. It helped in

giving us guidance for certain designs, which we could use to spark ideas and feel confident in our designs. However, it also placed some restrictions on us, since some creative ideas did not follow people-centered design principles.

### **Do the Same for Future Projects?**

Creating three different LoFi prototypes introduced a lot of great ideas from individuals. Using a starter template made it easy for us to set up the header and footer. We also did a good job of prioritizing. We could not get done every feature they wished for, but ended up with all of the important ones.

### **Done Differently on Future Projects**

On future projects, we would try to use less wordpress plugins, as each plugin adds a layer of dependency to the site. Perhaps we could have explored built in wordpress capabilities more thoroughly before jumping to a plugin. We also should have completed the default layout of our hifi prototype before working on any of the pages. By not doing this, we had to make some unnecessary adjustments to multiple pages.

### **Opportunities and Design Ideas for Future Work**

One of the features we did not get around to implementing was searching and sorting. Professor Maciag mentioned a searching and filtering plugin that he would have access to. This should be implemented so users can search and sort through the music pages, and archives. There should also be a notification bell in the top right, which will have notifications when something is posted to the user's music or exercise page. An option to switch between list and card format would be nice for the music and archive pages. A teacher/student area of the site would also be very useful for the RMO. This would operate similarly to the other music pages, but would be for teachers to send out music to their students. Finally, to create a better user experience, we should look into a multi upload feature for the adding music page.

## **WordPress Theme/Plugin**

### **Theme:**

1. Astra
  - 4.9 / 5 Stars (based on 5072 ratings)

### **Plugins:**

1. Jetpack - WP Security, Backup, Speed & Growth
  - 4 / 5 Stars (based on 1770 ratings)
  - Last Updated: 6 days ago
  - Active Installations: 5+ Million
  - Makes your WordPress site more secure and faster. Provides 24/7 Auto Site Security.
2. Menu Icons
  - 5 / 5 Stars (based on 726 ratings)
  - Last Updated: 2 weeks ago
  - Active Installations: 200,000+
  - Gives you the ability to add icons to the menu items.
3. Starter Templates
  - 5 / 5 Stars (based on 2993 ratings)
  - Last Updated: 1 week ago
  - Active Installations: 1+ Million
  - Able to copy and paste some wonderfully created website templates. Borrow ideas or start fresh with a wide range of selection.

#### 4. The Events Calendar

- 4.5 / 5 Stars (based on 1924 ratings)
- Last Updated: 4 days ago
- Active Installations: 800,000+
- Create and manage an events calendar.

#### 5. Ultimate Member - User Profile, User Registration, Login & Membership Plugin

- 4.5 / 5 Stars (based on 1343 ratings)
- Last Updated: 2 weeks ago
- Active Installations: 200,000+
- Able to create easy login, signup, forget your password and edit profile pages. You are also able to add roles, email, phone number and a wide variety of things with this plugin.

#### 6. Ultimate Member - Terms & Conditions

- Last Updated: 3 weeks ago
- Active Installations: 6,000+
- Add-on for Ultimate Member that adds a Terms and Conditions selection option for pages.

#### 7. Widget Options - Add Context To WordPress Widgets

- 5/ 5 Stars (based on 1448 ratings)
- Last Updated: 4 days ago
- Active Installations: 100,000+
- Allows for the control over the sidebar widgets even more. Can change and customise sidebars, footer, header and so on.

#### 8. User Submitted Posts

- 5 / 5 Stars (based on 845 ratings)
- Last Updated: 4 weeks ago
- Active Installations: 20,000+
- User Submitted Posts (USP) adds a frontend form via template tag or shortcode that enables your visitors to submit posts and upload images.