

## Statement of Work - 9/23/2013

### Objectives

As students in the University of Idaho Senior Design course, we, Pierce Trey and Ryan Sacksteder, aim to build upon the existing web application Bassoon Fingering Finder (BFF). Our clients will be Dr. Susan Hess (University of Idaho Music Department) and Mr. Luke Bakken (Spokane Symphony). We will seek to meet our clients' need according to this Statement of Work, improving existing functionality and adding new features to BFF.

### Scope

Two years ago, three Senior Design students began working on the web application BFF. This application was created in an effort to aid bassoonists in efficiently looking up note fingerings.

### Current Functionality

The current state of BFF allows users to do the following:

- *Set up a user account:* Without a user account, web visitors can only view general information about the application, and register for a user account. A user account allows a user to interact with BFF and use the functionality described in the bullets below.
- *View bassoon fingerings for a specified note via the All Fingerings table:* The user selects a note in the table. The fingering for that note is then displayed. If multiple fingerings exist for the note, they would be listed in separate rows within the All Fingerings table. Selecting a note which has multiple fingerings in the table displays only the fingering that was selected. Once a fingering has been selected and displayed to the user, they can like/dislike that particular fingering.
- *Search bassoon fingerings by note:* The user selects a clef and note on the staff. To change clef, the user must click the current clef symbol. The user selects a note by clicking the location of the note. The user can alternate between sharp, flat, and natural by clicking on the note head. If the user would like to search for a set of fingerings which can be used for transitioning easily between two notes, they can do so by entering both notes with the Add Note to Fingering feature. If multiple fingerings exist for the user-selected note, a series of numbers will appear just below the displayed note fingering, linking to alternate fingerings.
- *Submit a note fingering:* Users can submit a note fingering to be shared with other users. To add a fingering, the user selects the clef and note that they want to associate with the fingering. They then use a series of clicks on the individual key symbols on the bassoon fingering key diagram in order to notate their desired fingering. Information about the fingering type, source, and any additional comments can be entered for the fingering. After entering and submitting a fingering, a BFF administrator (Dr. Hess) can either approve or disapprove of it.

### Proposed Development

For the Fall 2013 semester, we will be continuing development on BFF. The work we plan to perform this semester can be divided up into two phases, to be completed in the following order.

## Phase 1: Bug Fixes

For the purpose of this document, a bug is an issue/ flaw or functionality improvement request for BFF. During a preliminary examination of the existing application, we discovered and logged 29 new bugs (in addition to 8 existing bugs that were rolled over from the first development cycle). See Appendix A for more information on these bugs. The bugs can be divided into two main categories, failed functionality and improvement/feature requests. The first phase of our development will be to address the failed functionality bugs. We should fix the issue at hand and make sure that the corresponding fix doesn't contribute to new bugs. The list of failed functionality bugs from Appendix A, includes: 48, 58, 63, 66 - 73, 81 - 84, 86, 90, 92.

## Phase 2: Functionality Improvements

There are a number of features and areas in BFF that are fully functional, yet could use some improvement. These improvements may be performance, user interface, or other types of improvements. Below is a list of features which should be improved.

- The user interface for how multiple fingerings of the same note are displayed should be improved. Scrolling through several variations of a fingering is not intuitive.
- The user interface for changing clefs needs to be improved. Currently it is not obvious to the user how one would change between clefs.
- Users should have an individual repository of fingerings which includes the global fingerings (that is, public fingerings which are shared with all users on BFF), as well any fingerings they have added. When adding a new fingering, it will be added to that user's individual repository and optionally submitted for approval to the global fingerings if that user desires to do so.
- Additional, currently logged, functionality improvement bugs from Appendix A include: 23, 24, 47, 61, 62, 64 - 65, 74 - 80, 85, 87 - 89, 91.

## Schedule

The following is a preliminary outline of milestones and completion dates. Any necessary changes to these dates should be approved by the developers and the client.

- 09/30/2013 - Ability to edit BFF and upload to Heroku (the host of the application)  
- Note: This includes fixing bug 92 in Appendix A.
- 10/21/2013 - Fix all existing failed functionality bugs
- 11/17/2013 - Complete functionality improvements
- 12/01/2013 - Finish application testing and submit for client approval
- 12/06/2013 - Project completion

## Price

This is a University of Idaho Senior Design project which has no exterior funding or budget.

## Project Roles

Pierce Trey and Ryan Sacksteder will serve as developers to the BFF application. Dr. Oman will be a project adviser for Pierce and Ryan. Dr. Hess will be the primary client with Mr. Bakken

acting as a secondary client. Final approval of the project will be given by Dr. Hess.

**Acceptance**

The signatures below signify that all parties agree to the Statement of Work described above.

\_\_\_\_\_  
Ryan Sacksteder

\_\_\_\_\_  
Date

\_\_\_\_\_  
Pierce Trey




\_\_\_\_\_  
Date

\_\_\_\_\_  
Dr. Susan Hess

\_\_\_\_\_  
Date

## Appendix A

The following list of bugs can be found at: [github.com/rsacksteder/BFF/issues?state=open](https://github.com/rsacksteder/BFF/issues?state=open).

|  |  |     |
|--|--|-----|
| <input type="checkbox"/>   | <b>Changes made to BFF cause the layout to get all messed up</b> <b>Bug</b>  | #92 |
| Opened by rsacksteder 19 minutes ago   |  |     |
| <input type="checkbox"/>   | <b>Easy way of viewing same fingerings in All Fingerings table</b> <b>Request</b>  | #91 |
| Opened by rsacksteder a day ago  |  |     |
| <input type="checkbox"/>   | <b>Deleting a user does not work correctly, takes you to error page: "NoMethodError in UsersController#destroy"</b> <b>Bug</b>   | #90 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>When registering a new account, you are notified if your email is already in use. If the username is already in use you are not notified until clicking the "Register" button.</b> <b>Request</b> | #89 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Clicking the BFF icon should take you to the home page</b> <b>Request</b>   | #88 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>A more organized/condensed way of listing All Fingerings would be nice</b> <b>Request</b>   | #87 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Email address of user that entered a fingering is displayed when selecting a fingering from All Fingerings page</b> <b>Bug</b>  | #86 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>There should be a way of removing an up/down vote (for example an unlike button)</b> <b>Request</b>   | #85 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>"Addres" is spelled incorrectly in user preferences</b> <b>Bug</b>  | #84 |
| Opened by rsacksteder 8 days ago  1 comment |  |     |
| <input type="checkbox"/>   | <b>Bad behavior when changing password</b> <b>Bug</b>  | #83 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Typo on Home page</b> <b>Bug</b>  | #82 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Update all references to Team TAB (the old team)</b> <b>Bug</b>   | #81 |
| Opened by rsacksteder 8 days ago  1 comment |  |     |
| <input type="checkbox"/>   | <b>Mobile site could use some work once full site is functioning smoothly</b> <b>Request</b>   | #80 |
| Opened by rsacksteder 8 days ago  1 comment |  |     |
| <input type="checkbox"/>   | <b>Should update contact links if necessary</b> <b>Question</b>  | #79 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>May want to simplify the bug submission process</b> <b>Request</b>  | #78 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Make date/time of fingering submission more readable</b> <b>Request</b>   | #77 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Make All Fingerings table sortable by any column</b> <b>Request</b>   | #76 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Fingering ID's start at 3</b> <b>Question</b>   | #75 |
| Opened by rsacksteder 8 days ago   |  |     |
| <input type="checkbox"/>   | <b>Users should have option to submit fingering for approval or just to save to their personal list of fingerings</b> <b>Request</b>   | #74 |
| Opened by rsacksteder 8 days ago  1 comment |  |     |
| <input type="checkbox"/>   | <b>On the All Fingerings page there are a number of fingerings which were not approved</b> <b>Bug</b>  | #73 |
| Opened by rsacksteder 8 days ago   |  |     |

|   |     |
|---|-----|
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Need way of selecting quarter/half/other partial notes when entering a fingering</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>   | #72 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Enter a New Fingering Show Help page has some spelling issues</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>  | #71 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Clicking "Legend" brings up a legend image, but the "Legend" text is still there</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>   | #70 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>"Cancel" button takes you to All Fingerings page</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>   | #69 |
| <small>Opened by rsacksteder 8 days ago <span style="font-size: 0.8em;">🗨️ 1 comment</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Searching for Fb causing issues (fingering might not exist)</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>  | #68 |
| <small>Opened by rsacksteder 8 days ago <span style="font-size: 0.8em;">🗨️ 1 comment</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>"Submit" button should be labeled "Search" when searching for a fingering</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>  | #67 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>"Tracker" is spelled wrong on Contact page</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>   | #66 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Searching for note and selecting note in All Fingerings menu should go to same location</b> <span style="background-color: green; color: white; padding: 2px;">Request</span>  | #65 |
| <small>Opened by rsacksteder 8 days ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Should change url of web app</b> <span style="background-color: green; color: white; padding: 2px;">Request</span>   | #64 |
| <small>Opened by rsacksteder 8 days ago <span style="font-size: 0.8em;">🗨️ 2 comments</span></small>  |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Canvas turns black when entering fingering.</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>  | #63 |
| <small>Opened by lukebakken a year ago <span style="font-size: 0.8em;">🗨️ 3 comments</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Not obvious how to change clef.</b> <span style="background-color: blue; color: white; padding: 2px;">Development</span> <span style="background-color: purple; color: white; padding: 2px;">Question</span>                     | #62 |
| <small>Opened by lukebakken a year ago <span style="font-size: 0.8em;">🗨️ 4 comments</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Tenor clef- can only enter notes up to G4</b> <span style="background-color: blue; color: white; padding: 2px;">Development</span>   | #61 |
| <small>Opened by susanmhes a year ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Search feature does not find multiple note fingerings</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span>  | #58 |
| <small>Opened by susanmhes a year ago</small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>ID # 11 shows us as F3 rather than D2 when searching for F3 notes</b> <span style="background-color: red; color: white; padding: 2px;">Bug</span> <span style="background-color: black; color: white; padding: 2px;">EXPO</span> | #48 |
| <small>Opened by susanmhes a year ago <span style="font-size: 0.8em;">🗨️ 1 comment</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Enharmonic spelling, e.g, C#=Db, Bb=A#</b> <span style="background-color: blue; color: white; padding: 2px;">Development</span> <span style="background-color: black; color: white; padding: 2px;">EXPO</span>                   | #47 |
| <small>Opened by susanmhes a year ago <span style="font-size: 0.8em;">🗨️ 3 comments</span></small>  |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Standard, alternate, pianissimo, trill and shake labels</b> <span style="background-color: green; color: white; padding: 2px;">Request</span>  | #24 |
| <small>Opened by susanmhes a year ago <span style="font-size: 0.8em;">🗨️ 1 comment</span></small>   |     |
| <input type="checkbox"/> <span style="color: green;">i</span> <b>Field for Musical Passages</b> <span style="background-color: purple; color: white; padding: 2px;">Question</span> <span style="background-color: green; color: white; padding: 2px;">Request</span>                             | #23 |
| <small>Opened by susanmhes a year ago <span style="font-size: 0.8em;">🗨️ 2 comments</span></small>  |     |