

## 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






























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





























































\_\_\_\_\_  
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).

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

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