Milestone 6 Progress Evaluation (Apr. 20)

The Music Assistant

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2. Faculty Sponsor: Dr. Thomas Eskridge, teskridge@fit.edu

3. Client: Professor Elizabeth Dopira, Director of Choral and String Studies at FIT

4. Progress of current Milestone (progress matrix)

Task	Completion %	Daniel Griessler	Dan Levy	Javier Muñoz	Todo
Create Poster	100%	0%	0%	100%	None.
Create E-Book Page	100%	100%	0%	0%	None.
Create Demo Video	100%	100%	0%	0%	None.
Create End-User Manual	100%	0%	100%	0%	None.
Release 2nd round of testing	80%	40%	40%	0%	Client stopped responding. No extra testing completed.
Fine-Tune performance grader	0%	0%	0%	0%	Without more data didn't fine-tune grader.
Add sheet music notation guide	0%	0%	0%	0%	Delayed to prioritize documentation.
Integrated Communication Tool	0%	0%	0%	0%	Delayed to prioritize documentation.
Clean up Website Code and Fix Remaining Bugs	90%	5%	85%	0%	Gracefully handle certain errors.
Write Documentation for the Web App	100%	5%	95%	0%	None.
Write Documentation for the Server	100%	95%	0%	5%	None.
Come up With Ideas for Statistics	100%	33%	33%	33%	None.
Detect Similarities in Sheet Music	0%	0%	0%	0%	Delayed to prioritize documentation.

5. Discussion (at least a few sentences, ie a paragraph) of each accomplished task (and obstacles) for the current Milestone:

- Create Poster
    - Poster was created to give a quick at a glance overview of the project.
- Create E-Book Page
    - E-Book page was created including a few screenshots using a basic scale in C to avoid copyrighted material.
- Create Demo Video
    - Demo video is little over 1 minute in length. It includes a simple demo showing off the major features of our web app.
- Create End-User Manual
    - We went through the entire website and explained what each page does. We geared the manual towards new users. The manual guides the user through the sign up process, adding a choir, and practicing the sheet music.
- Release 2nd round of testing
    - We finalized and released a working test version for our users. We had plans to give some users feedback, but our client with most of the students didn't respond to multiple follow up emails. We were unable to continue testing.
- Fine-Tune performance grader
    - Without more accurate data, we weren't able to fine-tune the performance grader. We focused instead on polishing the code and writing documentation.
- Add sheet music notation guide
    - Without a 2nd round of testing, this task was put in backlog.
- Integrated Communication Tool

- Most of our time was spent on polishing the code and writing documentation so no progress was made on the integrated communication tool.
- Clean up Website Code and Fix Remaining Bugs
    - As we went through the website to document the code according to JSDoc conventions and standards, we cleaned up as much of the code as we could. Along the way, we discovered some remaining bugs and fixed them. We still need to handle certain errors in a more graceful way (e.g. show an error page when the server is down).
- Write Documentation for the Web App
    - This task took quite a bit longer than originally anticipated. Because we are using a UI framework (React), we had to install some plugins for JSDoc to properly parse the UI code. Our code counting tool reported that we had 94 JavaScript files, and we created elaborate documentation for every file. We also had 48 files of CSS styling, but CSS is notoriously difficult to document, so we chose not to comment those files.
- Write Documentation for the Server
    - We also used JSDoc for documenting the server code. There is not too much to talk about other than the fact that this task is complete.
- Come up With Ideas for Statistics
    - We brainstormed the types of statistics the students and their teachers would like to see. We came up with highlighting not only the measure numbers that a student or group of students were finding challenging but also highlighting any similar rhythm patterns, intervals, or pitch sequences in those measures where students are having the most difficulty. We would likely use the scroll able sheet music with highlighted measures to draw the user's attention. A drop down would allow the teacher to customize what user data is being used such as a single student, a whole musical part, or the whole choir. Additional filters could be applied to isolate the similarities that we identify between the measures that need work.
- Detect Similarities in Sheet Music
    - This was low priority in order to focus on documentation and code clean up.

6. Discussion (at least a few sentences, ie a paragraph) of contribution of each team member to the current Milestone:

- Daniel Griessler: I created the E-Book Page and Demo Video. I also did almost all of the JSDoc on the back end server and worked with Javier to finalize it. I worked on some of the documentation on the front end with Dan mainly in the bodies of logic for AlphaTab, P5, and ML5. I helped brainstorm statistics for teachers and students to view.
- Dan Levy: I focused on getting the documentation for the web app done. Although I had written most of the documentation as a coded each file, I was not using the proper JSDoc standard. I went through most of the 94 JavaScript files that are present in the web app, and Daniel Griessler commented the rest. Daniel had written most of the code that renders the sheet music and feedback drawings, so it made sense for him to comment those files. As I went through and updated/added comments, I refactored and cleaned up a fair amount of code. There are still some bugs that are non-fatal, but should be fixed…and I'm sure I didn't catch all of the bugs. I also wrote the end-user manual.
- Javier Muñoz: I worked on the Poster and commented my parts of the back end for JSDoc. Unfortunately, I couldn't contribute as much as I wanted to and ended up putting off the Sheet Music Similarities.

8. Lessons Learned

- A lot of the software that you want to write already exists in one form or another. One trade-off you have to consider is how much work will it be to write it yourself versus finding it online, adapting it to your purposes, and integrating it into your project. We couldn't have completed as much work as we did without using AlphaTab, P5, and ML5 but they were more difficult than expected to integrate together since we didn't write them ourselves.
- People are not as excited about your project as you are. We assumed we could have a large, devoted user base, but that assumption proved false and resulted in less satisfactory data collection.
- Keeping functionality separate from the tools themselves is important. Our design weaves together the specific tools of AlphaTab, P5, and ML5. Replacing any of those tools in the future (if they stop being supported or we find another tool we like better) will be difficult. We should have come up with a design earlier that kept the functionalities more separate and the specific tool that was used less integral to the execution of the logic so it could be easily replaced.
- Most of the programming languages and tools that we used were brand-new to us. We spent a significant amount of time the first month or two learning how to use everything. We had initially planned to squeeze in a plethora of features into the final product, but we lost time at the beginning of the project due to the steep learning curve. There is nothing we could have done do to fix this issue, and it was a great experience, but it is important to note that this was a factor in our final product.

9. Date(s) of meeting(s) with Client during the current milestone:

None. Client stopped responding to email despite several follow ups.

10. Client feedback on the current milestone

- N/A

11. Date(s) of meeting(s) with Faculty Sponsor during the current milestone:

4/17/2020 - Showed final project products including E-Book page, Demo Video, final web app, and discussed lessons learned.

12. Faculty Sponsor feedback on each task for the current Milestone

- Create Poster

- Create E-Book Page
- Create Demo Video
- Release 2nd round of testing
- Fine-Tune performance grader
- Add sheet music notation guide
- Integrated Communication Tool
- Clean up Website Code and Fix Remaining Bugs
- Come up With Ideas for Statistics
- Detect Similarities in Sheet Music

Faculty Sponsor Signature: _____ Date: _____