**eTopic:** iOS App Development, Teaching Cello

**Project Title:** *Music Lessons For Everybody!*

**Mentor:** Rajan Krishnaswami, cello teacher

**Individual Goals:** My main goal is to create a User-friendly mobile app that connects at least 10 students to teachers, either student volunteers or music teachers in the area.

**Learning Goal:**

1. **Current State of Knowledge**: basic mobile app programming skills (I created a game with swift over the summer), experience playing cello but none teaching it.
2. **What I will learn:** I will learn how to program a user-friendly mobile app that has the proper infrastructure to support a large number of users. The second is learning how to teach cello to complete beginners.
3. **How I Will Measure That Learning:** number of people who have found success with my app, whether the students I teach are still interested in cello after the project is over.
4. **How I will approach learning:** Most of my learning will come from watching video tutorials on app programming with Swift (program to make iOS) apps. I will also implement each feature on the app separately before combining it, asking questions to robotics programming mentors or on stack overflow (programming website) if I run into any issues.

**Project Achievement:**

1. **Current state of the project:** no phases begun. I am both excited and nervous to undertake such an extensive project.
2. **What I hope to Accomplish**: Personally teach 2-5 students how to play the cello, connect at least 15 students interested in learning music to high school musicians in the area with my app.
3. **I will measure success** by number of users on my app who managed to be matched with high school musicians.

**For my closure event**, I want to share recordings of my students’ cello playing and students who studied with other high school musicians using my app. I also want to showcase how my app works and a couple reviews of it

**Phases & Timeline:** A

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**Community Engagement:** I will be connecting with local elementary school music teachers to share my app, and potentially officials in the Seattle Youth Symphony Orchestra.

**Presentation:** For my final presentation, I will invite my mentor(cello teacher), teacher advisor, orchestra teachers I have shared the app with, parents of students who used my app/I taught to tell them about my app, analytics(users reached, users who found teachers through it), and share recordings of students who I taught or who learned cello through the app. In total, the presentation should take about 30 minutes to 1 hour.

**Feasibility:**

* **Previous knowledge:** For teaching beginners’ cello, I have 8 years of experience playing the cello and taking weekly lessons from cello teachers. I have 2 years of experience mentoring 5th and 6th graders at the UW Robinson Center(educational program at UW) how to program and build Vex robots at 3 week long course Introduction to Robotics. For programming the mobile app, I took a beginner Swift(programming language used for iOS apps) class this past summer, and afterwards created popular tile matching game 2048 for iOS mobile phones.
* **Scope:** I will be teaching 1-5 students how to play the cello for 30 minutes a week depending on how busy I am. I will attempt to share my app with as many students as possible, hoping to have at least 10 users.
* **Risks & Back-up Plans:**
* If my mentor, for whatever reason, is unavailable to mentor my project, I can ask my old cello teacher who is a family friend if she can be my mentor
* **Risks**: Coding the App will present difficulties as it is advanced, and I do not have extensive experience in programming with iOS. I also do not know how many students are interested in taking cello lessons, especially from a non-professional like myself. Additionally, it is possible that students I am teaching may lose interest and drop out. I can respond to these risks by creating a waiting list for students that want to study with me, so if a student drops out their place can be filled. I will also do my best to make lessons as enjoyable, low-stress, and rewarding as possible. As for programming troubles, I can create a very simple version of the app in case the more advanced, user-friendly version presents problems I can’t solve.
* **Costs:** 100 dollars to enroll in the Apple Developer Plan

**Deliverables:**

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| **Project Management**  Communication, Professionalism, Problem Mitigation / Solving, Time Management, etc**.** | **Learning Stretch** | **Project Achievement** |
| Creation of separate app by following tutorial | Rough mockup of the App, features | Released app on the app store |
| Email to orchestra teachers about meeting up | Document with info of number of students who signed up | Recordings of students who have used my app playing cello |
| Notes of challenges from each Cello lesson | Lesson notes with Rajan about how to tackle those challenges | Final Draft of lesson plans that I can showcase in the App |
| Email with Rajan, orchestra teachers, to set time for final presentation |  | Final Presentation Recording |
| Email to orchestra teachers about my app, potentially meeting up or discussing over zoom | Document with info of number of students who signed up | Parent permission forms of students who consent to be recorded |
| Feedback on the presentation |  |  |

**Academic Honesty**:

Throughout my Senior Project, I promise to reject plagiarism, and pledge to honesty and accurately communicate all elements of my project.