

**VA401 | Project Proposal**  
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### Project name:

Fine Musicians

### Project definition:

The project is about making electronically augmented printed book based on an illustration of a song for children.

### Objectives and Goals:

- The project will rise 4-6 years old children's interest in printed books instead of e-books.
- With the aid of the song, a story will become easy to follow for children even if they do not know literacy.
- Content of the book will teach musical instruments to children.
- The project makes me learn use Arduino and some sensing technologies in addition to improve myself in illustration field.

### Target Audience/ User:

In this project, children whose ages are between 4 and 6 are my target audience. I choose these ages because of two reasons. According to pedagogie, preschool children's learning modes require paper

books instead of e-books because of cognitive issue and tactile learning. I choose this age range because, according to pedagogue Sena Avaz, children whose ages are between 4 and 6 is the most appropriate preschool children to use this kind of book because in these ages, they can understand the relation between sound and image and also their concentration time is about 15 minutes which is enough for this book.

### Background information:

I like my books to be made of paper but nowadays they are not in demand due to electronic books. Especially children do not want to read them because of the attractiveness of electronic books. I asked my 5 years old nephew whether he likes printed books or not and he answered not at all; then when I asked how would you like them he answered if I can get into the book I would like them. Then I decided to make my graduation project on that problem because as I said above, according to Joanne Ficbot, young children's learning modes require paper books instead of e-books because of cognitive issue and tactile learning. If I summarize these two concepts, children learn in stages so learning to read happens in stages too. The child must first understand that the printed thing they are being shown contains words, which represent

language. Apart of that, children like and need to explore and learn through touch, which means tactile learning and they should learn reading as interacting with the book as a physical object. So for the younger child, there will always be a market for paper books and to raise their interest to printed book, I thought to make it as much as interesting as e-books. Then I started to investigate the ways in which conventional books could be enriched so that they can provide different forms of interactivity.

Firstly, I started to do some researches about illustrative books and I came across with some illustrations which integrated with songs and I found them very enjoyable and dynamic then I realized that I can also access children who do not know literacy by using a song and they can easily follow the story by listening the song. So I decided to make my story based on a song lyric. Then to make my book interactive, I decided to make it by using touch-user interface to provide a child continuous control mechanism. After I decided to my project, I started to search a child song that is appropriate for my target audience and the dynamic illustrations. Then, I found Sesame Street's 'I am a fine musician'. Also, I talked about my book to pedagogue Sena Avaz and she said that the book

can attract 4-6 years old children attention for only 15 minutes so the song should not be too long therefore number of pages should not be too much. She said that, in these ages children started to realize sexuality so if the lyrics of the song will be too girlish, boys do not want to read it. Similarly girls do not want to read it if it was too mannish. So the song that I will chose should be stand between them. She found my song choice appropriate for this issue. Apart from that, she said that I should write the lyrics in a big pt. size for giving a feeling that this book is belong for them but the lyrics should not dominate the illustrations.

This project can be seen as a solution to mainly two problems. The first one is to make printed books as much as interesting as e-books for children and the second one is to make a story easy to follow without an adult for a group of age who do not know literacy.

For this project my challenge is to be required to eliminate all other mediums that can be used with printed electronics and limited myself with only paper as a medium because of my aim and target user.

During the process, I will use vector based programs especially Illustrator to make illustrations

and Arduino to make them synchronized with song. In this way my gain out of this project will be to improve myself in illustration field while developing myself in using Arduino.

I had help from many websites when I was trying to come up with my project and trying to solve the problems especially about electronically ones, I found a similar project by Maribeth Back, Jonathan Cohen, Rich Gold, Steve Harrison and Scott Minneman which is 'Listen Reader'. I commonly inspired by their work, also while I was trying to find characters for the story I was inspired by whimsical illustrations because in child books generally this style have been used by professional designers and I also like this style because of its colorfulness and being expander of imagination for being not totally realistic. I also made illustrations in a flowing look on a nine meters of paper. Because I wanted to make them unite and I did not want to disrupt the connection of illustrations with continuity of the song. By this way I made an illusion as turning the static look through dynamic look.

### Detailed Project Description:

My book consists the look and feel of a real book (a binding, paper pages, printed images and text) but it is electronically augmented with the touch sen-

sitive sensor. Touch sensor, which is invisible to user that is located in the cover of the book, will sense the reader's touch and controls audio parameters according to page identification.

In this project, static illustrations are turning into dynamic illustrations for a child while he or she touch the sensor under the pages which plays the song according to action order. To the end of the book, I put all the instrument illustrations side by side. so they can make their own music by pressing on them.

Also i used amigurumi technic to make my book look more and more traditional oppositely its electronically augmented interface and I prepared its cover and a teddy bear for it which is a one of my characters in the book from amigurumi. I hide my arduino in the teddy bear and when child wires the cable of it with the book, book becomes active.

### Required know-how and resources:

- Sensing technologies/ sensors
- Arduino
- Object making
- Manual skill
- Sound editing
- Adobe illustrator

### Difficulties & risks:

-I have never learned anything about coding and Arduino until this year so the most difficult part of this project for me is to learn software and hardware.

-I am familiar with illustration and book design but the difficulty of this project is making an illusion as illustrations move. For that illusion, I should make them dynamic and totally appropriate for the lyrics, which means painting a song and I have never done this before.

-Another risky point is to make touchpad synchronized with the song. It seems hard to regulate the coding to make page recognition.

### Phases of the project:

My phases of the project will be composed of six parts. First one is, to find a suitable song and story that is appropriate for energetic illustrations and my target audience. Second one is, to make pedagogical research on child books and illustrations. Third one is, sound editing. Fourth one is, finish the illustrations. Fifth one is to learn the software, hardware (sensory techniques, electronics, programming) and make the book. Final one is testing.

### Criteria of success:

-If I can finish the project within the time limit.  
-If this project makes a printed book as interesting as e-books and raise a child interest to the printed book.

-If this project makes a story easy to follow for a child without an adult even if she or he does not know literacy.

-If the song and illustrations are suitable for the target audience.

-If illustrations can make an illusion as they move.

-If song continues synchronized with pages and illustrations with the appropriate use of sensory techniques.

### References:

**Young children's learning modes require paper books; ebooks for older children**

<http://www.teleread.com/ebooks/young-childrens-learning--modes-require-paper-books-ebooks-for-older-children/>

**E-Readers For Parents; Regular Books For Children**

<http://softsupplier.com/e-readers-for-parents-regular-books-for-children-115002/>

**For Their Children, Many E-Book Fans Insist on Paper**

<http://www.nytimes.com/2011/11/21/business/for-their--children-many-e-book-readers-insist-on-paper.html>

**Illustration of a song**

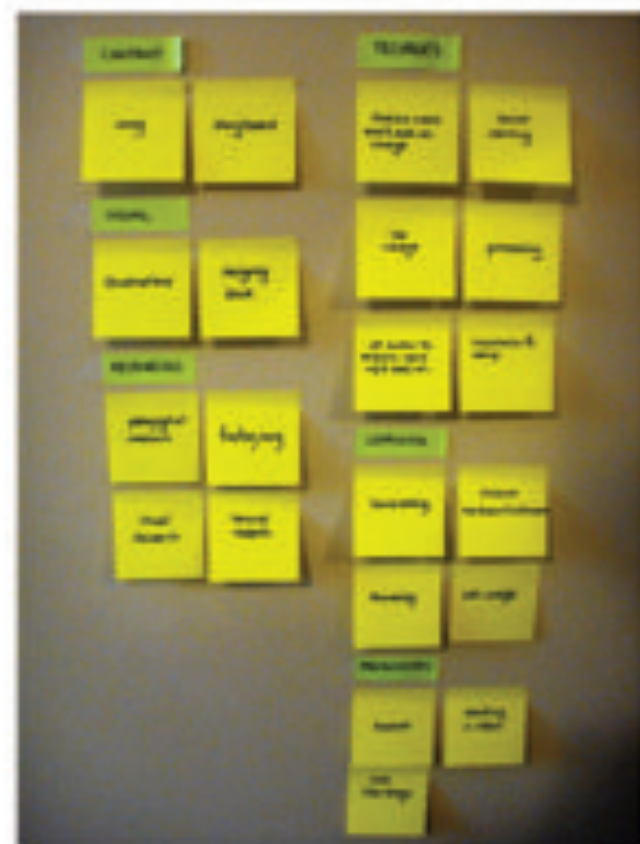
<http://vimeo.com/2354261>

**Listen Reader**

Maribeth Back, Jonathan Cohen, Rich Gold, Steve Harrison, Scott Minneman, Listen Reader: an electronically augmented paper-based book

Project Schedule:

Work Breakdown Structure & Pert Chart:







Project Schedule:

Flow Chart:

