Supporting ‘Learning to Sing’

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This Project ...

Started with the idea of helping aspirants.

Aspirants:

People who like to sing but do not end up joining a class where classical singing is taught.

Various reasons why people do not join classes.

Reasons for not joining ...

Motivation & Appreciation

Practical reasons

Academic pressure

Hectic work schedules

Finding a Guru

Travelling

Money

Regularity

Inhibitions (Age, Shyness etc.)

{ *Based on contextual inquiry of 2 aspirants and 2 drop-outs.* }

Basic Idea

Traditional media

Textbooks, Audio CDs, YouTube etc.

Tell you how to sing.

What happens in a class …

Guru teaches > student sings > feedback > correction.

Can we introduce feedback ?!

Technical Study

Is giving feedback possible ?

Processing sound.

Pitch contour.

Mapping against time.

Energy (intensity) contour.

Vibrations.

Voice quality (timbre).

Voice calibration.

Software

Tansen, UltraStar, KaraokeParty, Music Theory, WinSingAD

Background Studies

Indian Classical music

Carnatic

Hindustani

Comparison with Western Classical singing

Contextual inquiry

Aspirants

Learners

Teachers

Contextual Inquiry

Aspirants

Why do people not join / drop-out from classes ?

Individual objectives and expectations.

What are the motivators; inhibitions?

Learners

General idea of starting age and its effects.

Learning curve.

Important areas.
Problems faced.

How would you teach?

Riyaz.

Teachers

Pedagogy.

Teaching methods.
Alternative approaches.
Basics and essentials.

Class dynamics.
Communication gaps?

Media.
Home-work / Riyaz.

Findings

General Problems

Lack of appreciation and knowledge of the concept model and structure of classical music.

Fun element and instant gratification missing.

Long learning curve.

Practice away from classroom.

Many other problems as mentioned in report.

Relooking at the problems...

Constraints

There are limitations to how much one can learn from a system.

Fuzzy parameters like emotions, voice quality, throw, etc.

The feel, knowledge and warmth of a Guru cannot be recreated.

Evaluating and verifying the user’s progress.

Social acceptance.

Redefining...

Design brief

Help bridge the gaps between the Guru and students - an offline link.

Facilitating creation of personalized tutorials (by the Guru) and a consequent review (of the student) .

Provide feedback to beginners in an easy to understand way and point out fundamental mistakes in singing by comparison with a reference (audio or notations).

Cater to the self-study and practice regimes of advanced learners and facilitate creative improvisation experiments, trials and practice.

Induce appreciation and understanding.

Have minimum hardware requirements and be installable on existing devices so as to be affordable to all individuals.

Classroom Teaching

Observations

Frequency - one or two days a week, learning curve rises slowly

Recalling the way things sound is very important - Recording !

Strict regimen (various styles of teaching);
seldom serious and mechanical

Moment of error is lost in a group; no consistency in errors

Singing popular songs was more enjoyable

Problem Scenario

Problem Scenario

Users

The Guru

Designing tutorials

Reviewing students

Students

Novices - learning the basics, understanding what they are doing

Advanced beginners - explorations, free practice, compositions

Design Ideas

Visualisation

Seeing a swar, seeing what one sings

An additional sensory appeal - visuals

A sitting similar to a classroom

Animated character of a Guru

Notations getting filled by one’s singing

Visual grid

Design Ideas

Exploring sounds

Manipulating tempo, scales etc. on audio files to understand concepts.

Networking

Sharing files and creating trivia

Performance reviews

Design Decisions

Screen + audio based interface

Comparison and practice

No additional hardware

Interface Demo

Interface Elements

Activities - listening, teaching, singing, practice, play

Grid for visualising information + notations

Facilitating correction

Accompaniments - tabla, tanpura, harmonium

Abstraction in the grid for advanced beginners

Interface Elements

Based on Indicators

Scenarios	Methods / Tricks	Interface and Interactivity
• Guru - Shishya model. • Use cases • Listening • Revision • Riyaz • Progress report • Quiz • Communication • Tutorials for advanced beginners.	• Visualisation of sound. • Examples and analogies. • Daily life examples. • Taal. • Accompaniment. • Hand gestures. • Special exercises (e.g. 30 sec test). • Inducing competition. • Exploiting one's inherent capability to listen and imitate and the temporal sense.	• Visualisation methods. • Metaphors. • Intuitiveness. • Simplicity. • FEEDBACK Stop Suggest Correct Practice Continue • Fun elements. • Quiz, Play, Stories, etc. • Sensitivity of the system. • Run-time depiction of user's actions.

Interface Elements

Interaction strategy

Objective comparison

Humane signal curves against modified curves

A Guru’s teaching strategy blends with the software capabilities

Usability features

Comparison with karaoke

Standard interaction paradigms

Features to meet user goals

Play

Scenario with product

Scenario with product

Future Prospects

Software engineering and development

Standardising formats for public participation on the internet

Versions for mobile and other handheld devices

Social acceptance

Acknowledgements

My guide: Prof. Ravi Poovaiah

Prof. Anirudha Joshi & Mr. Keyur Sorathia for feedback during the stage presentations

Prof. C. P. Narayan, Prof. Preeti Rao, Prof. Milind Malshe

My Guru: Miss. Shweta Jog

Mr. Kiran Vyas, Vyas Sangit Vidyalay, Vile Parel (E), Mumbai

All the artists and learners interviewed

The scenario actors

Saurabh Tewari
Aniket Sarangdhar
Aniruddha Kadam
Shashank Khanna

Guest Appearance :
SRK - ‘Saurabh Srivastava’

Thank You.

Thank You. ☺

Comments & Feedback...