IPRO 343

IMPROVING COMMUNICATION IN NOISY AND DISTRACTING ENVIRONMENTS

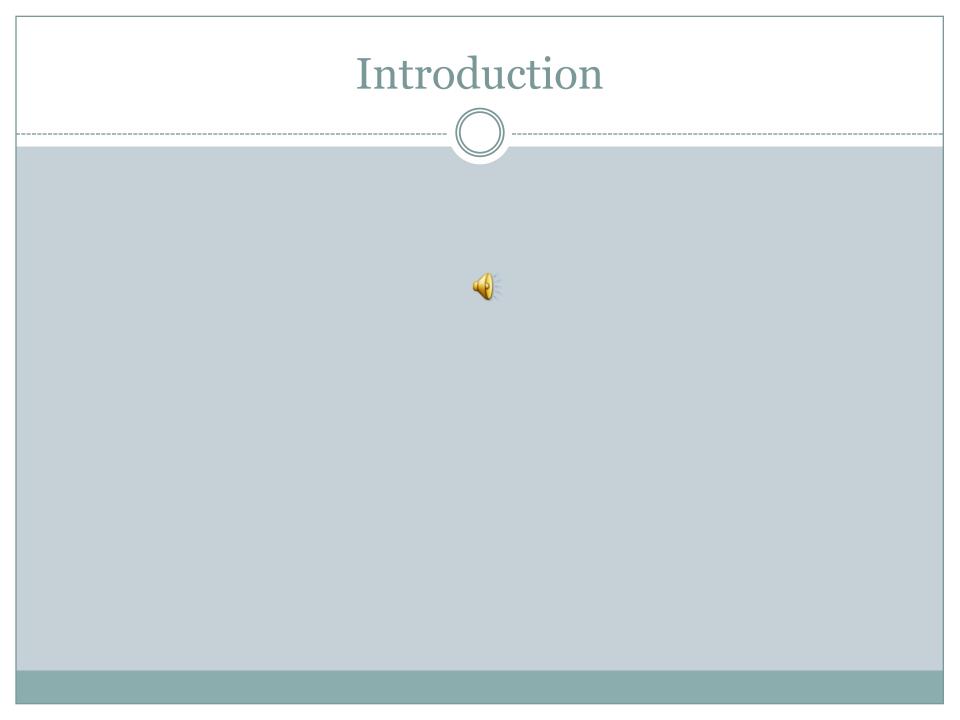
Introduction

• Previous Work

- Worked to improve communications in a drive-thru environment.
- Developed white noise filter to improve order accuracy
 Recorded order accuracy increase of ~10%

Today

- Broadening research opportunities
- Aim to improve communication in public, open environments



Introduction

• Should you become aware of any suspicious items or parcels, on or about our facilities or trains; please alert an Amtrak or Metra employee immediately.

Statement of the Problem

• There are no standards for talker characteristics in Public Announcement Systems.

• Consequently common Public Announcement systems can often be difficult to understand

• Low Speech Intelligibility

- - What is speech intelligibility?
- o What factors can degrade intelligibility?
 - × Focus: words/minute, pitch, duration
- - How can we maximize speech intelligibility?

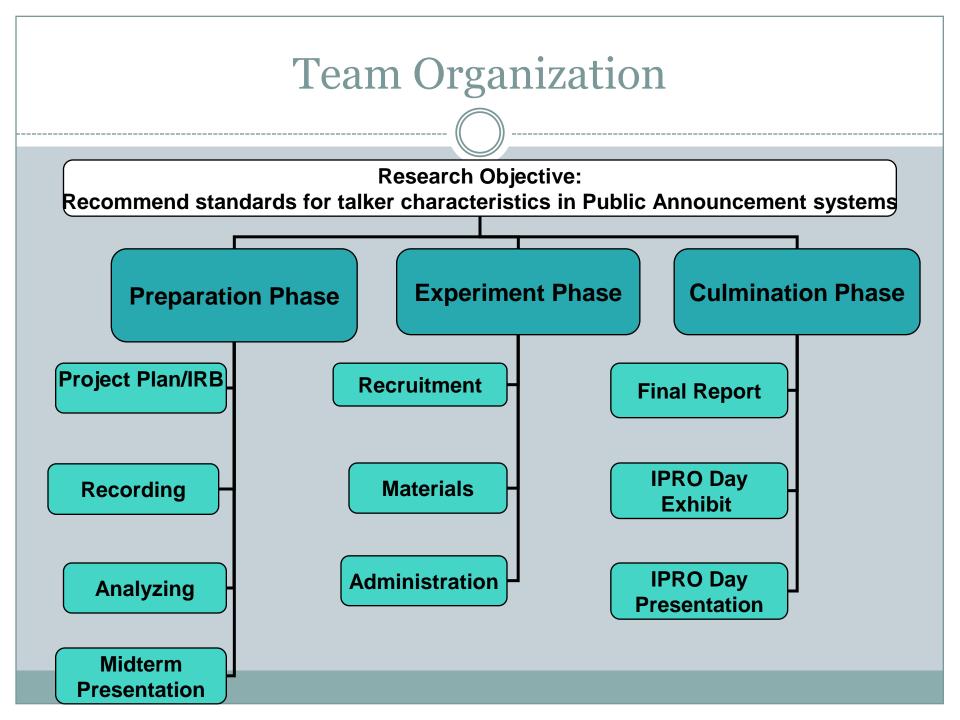
Goals

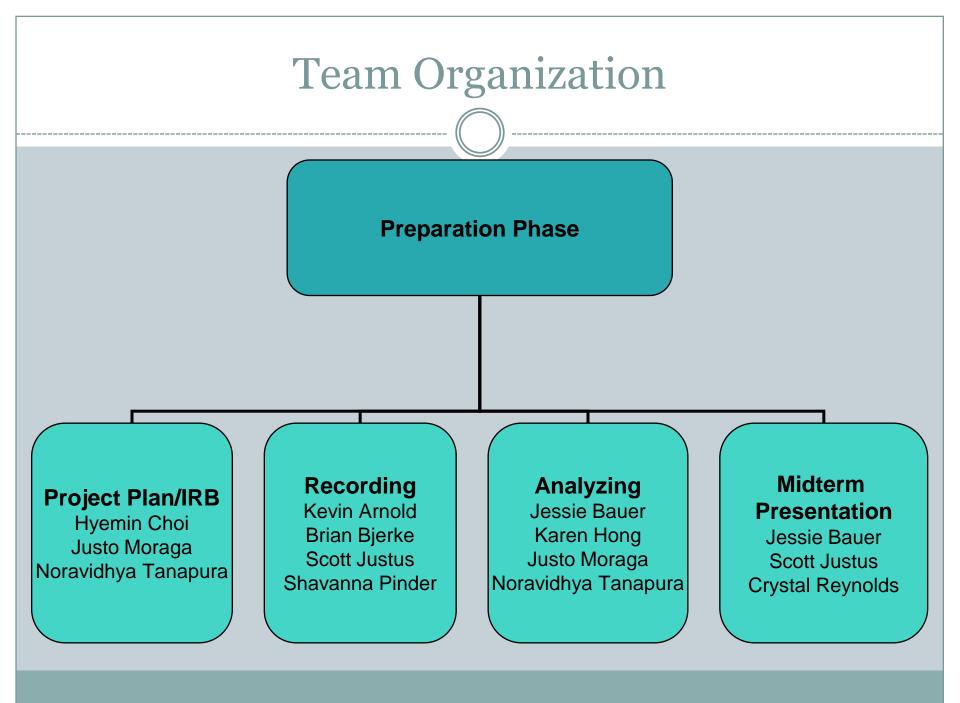
• Research Objective:

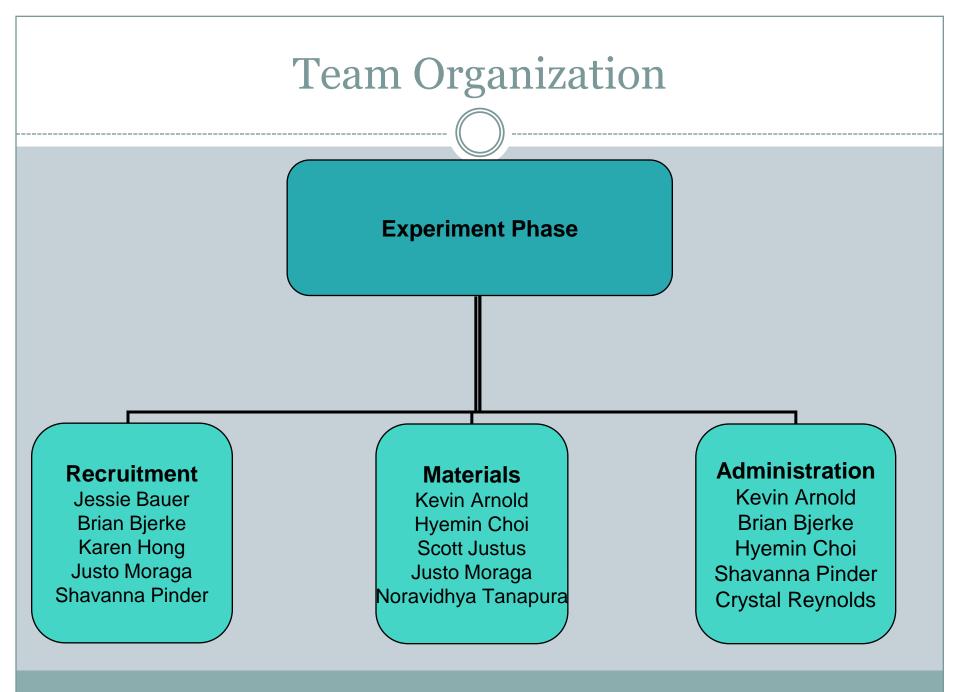
 Recommend standards for talker characteristics in Public Announcement systems

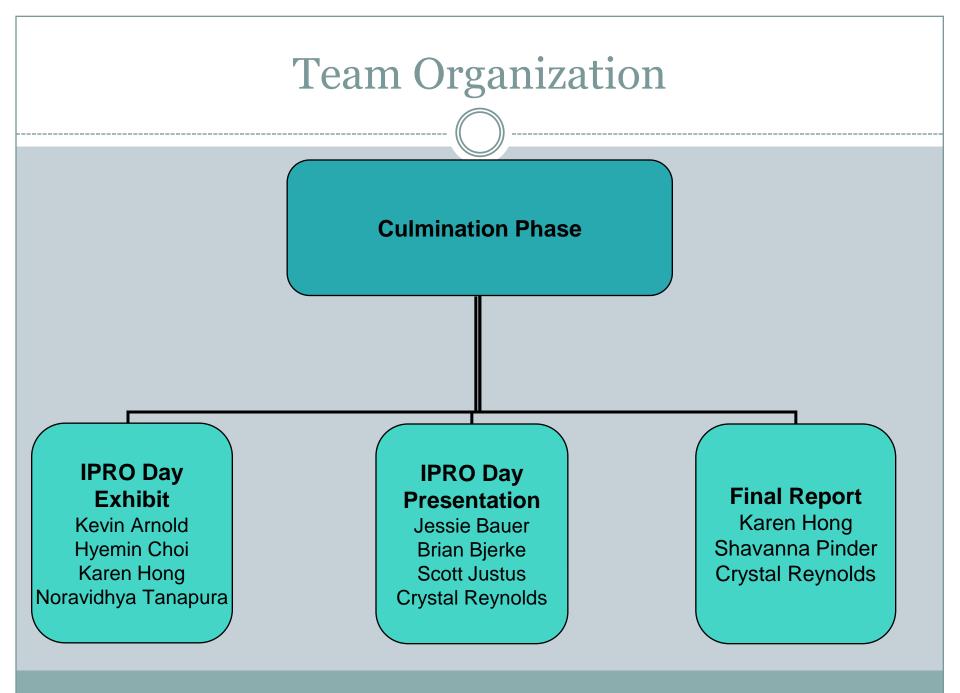
• Project Goals:

- Record
- o Analyze
- o Design
- Administer
- o Compile









Progress

- Created sub teams and a working timeline
- 12 Recordings
- Analysis
- Literature review
- Draft of experiment
- NIH Ethics training and IRB clearance



Major Obstacles To-Date

- Low quality PA recordings
- Equipment has weapon-like appearance
- Lack of linguistic training

Anticipated Major Challenges

- Recruitment
- Experimental design
- Interface development

Impact

Public Address systems Disability services Consumer Products





Questions

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