Survey the Communication Channels Encountered in Practice

**Introduction:**
In this project you are going to survey at least two types of communication channels and find out their challenges, advantages, and mathematical models. Your team has to go out of the classroom and interview the users of the communication systems and ask them about the characteristics of the channels. A couple of places that you may arrange the interview are as follows:

1. *Missouri S&T Student radio club (meeting every Tuesday in 102 EECH 5 pm)*
2. *Missouri S&T Mr. and Mrs. Sat team or Mars Rover team*
3. *Underwater Robotics Team (meeting every Tuesday and Thursday in the Student Design Center)*
4. *Missouri S&T IT department (Ethernet, WiFi)*
5. *Missouri S&T research support service: http://itrss.mst.edu/*
6. *Companies at S&T Career Fair Tuesday Feb. 20, 2018.*

By the end of the module, your team shall submit a PowerPoint presentation and give the presentation to the class. The presentation will be in class on Thursday March 1st. Presentation slides due on Canvas by 12 noon that day. Evidence of at least one interview shall be shown to the instructor on Thursday Feb. 22nd, 2018. Your team presentation will be evaluated by the instructor and members from other teams. See presentation rubric for details.

**Instructions:**

1. The interviews have to be face to face with the customer, and all members of your team have to be present at the interview.
2. Assign each member a different role in the interview: one lead, one recorder, one assistant. Take recordings (photos, voice, notes, etc) to demonstrate your interviews. Your interview log shall contain the following:
   a. Information about the customer interviewed: name, affiliation, contact info,
   b. Information about the interview: location, time
   c. Information about what you learned: Before the interview, we would like to learn xxx, or we thought xxx. During the interview, we learned yyy which is a surprise to us (or which verified what we learned in class/reference). After the interview, we checked zzz and find out about xxx and yyy.
3. Arrange your interview early. Read the book *Talking to Humans* available online at http://www.talkingtohumans.com/ and get some tips on how to conduct good interviews.
4. Try to dig into the technical aspects of the communication channels when ask questions and try to find out, for example:
   a. What is the physical means of communication?
   b. What are the available bandwidth, achieved data rate, range, and power?
   c. What are some of the impairments and dispersion?
   d. Is the customer happy with the existing system? What are the things that the customer wish to improve?