Assignment Overview
In your project groups, you will create an outline of your project plan. The assignment has a presentation and a written component. Note that the presentation will be due BEFORE the written assignment, to allow students to take into account feedback from the instructor and their peers before settling on the final project plan. The instructor will need to approve your plan prior to you starting your projects. Approvals will be returned by 02/20/2017. See the end of this document for the list of approved project topics.

Assignment Detail

Presentation Component: ******* DUE 01/23/2017 *******
You will be required to present the key details of your project outline to the class. Due to the large class size, presentations will be no more than 4 minutes (plus 1 minute for discussion). In the presentation, I will expect you to cover the following topics (see the written component descriptions for more detail on each section):

- Introduce the group members, the project idea you have chosen, and briefly describe the most relevant expertise that each member of the group brings to the project (90 seconds).
- Describe technical considerations you have identified that will make this project challenging, interesting, or complex (60 seconds).
- Describe the evaluation plan you will pursue for the project (60 seconds).
- Questions or concerns you would like feedback on (30 seconds).

Written Component: ******* DUE 01/27/2017 *******
You will create a 2-page write-up (Times New Roman, 12-point font, 1.5 spacing) of your group’s project outline. Please use the assignment template which will be posted on Canvas under ‘Files’. Submit your project outline in .doc, .docx, or .pdf format to the instructor via the Canvas site. Required sections of the paper include the following:

- Introductions (1/2 page):
  - Group Members – list the names, major, and year of the members of your group. Groups should be comprised of 3 students¹. You may only form groups within your section (undergraduate students and graduate students may not be in the same group).
  - Project Idea – identify the project idea your group has chosen to do. See the list of approved topics at the end of this document. If you and all your group members have significant experience with a specific platform, or you have an idea for a project related to your outside research interests, you may see the instructor during office hours the week of 09/03 to discuss this.

¹ Group size can vary, but must be within the same section.
Group Expertise – list relevant experience that your group members have that you will draw on to complete this project. This can include technical experience with the language, the platform, the devices; project management experience; user studies experience; etc.

- Technical Considerations (1/2 page) – discuss 3-5 considerations you have identified that will make this project challenging, interesting, or complex. For example, how large of an input space must this application support (number of commands, complexity of commands, etc.); are there any particular commands or features you already know or suspect will be difficult to design or difficult for users to learn; or, which APIs / SDKs will you use or consider using for your project and what integration effort will be necessary. You should include at least 2 considerations not given as a sample in this document.

- Evaluation Plan (1/2 page) – describe your plan for evaluating your first prototype, including the functionality you plan to develop for the first prototype, what tasks you will ask your users to do in the evaluation, how you plan to recruit users to participate, and where you will conduct the evaluation sessions. **Note:** Undergraduate section user study requirements are 10 users per project. Graduate section user study requirements are 20 users per project.

- Concerns or Questions (1/2 page) – include a bulleted list of questions or concerns you have for the project. This could include contingency planning if a milestone is missed or not met according to plan; technical concerns about learning the platform; etc. You should include at least 2 additional concerns or questions not given as a sample in this document.

***Note:* Although you will be expected to mostly follow your proposal through the rest of the course project, there may be times when deviations are necessary (for example, if you plan to use a specific library or API but find that it does not support what you need). In these cases, you should make a note of any deviations from the original plan (with concrete reasons) in follow-on documents / assignments.

**Assignment Grading**

1. Presentation Component: 20%
2. Written Component: 80%
   
   i. Group Members (10%)
   ii. Project Idea (10%)
   iii. Group Expertise (10%)
   iv. Technical Considerations (20%)
   v. Evaluation Plan (20%)
   vi. Concerns or Questions (10%)

The goal of this assignment is to get you thinking and planning your project. Each component of this assignment will be evaluated based on the level of evidence that you and your team have spent time planning and have come to reasonable conclusions.
Project Topics

**Kinect Whole Body Interaction Projects:**
1. Exercise Assistant/Tracker for Kinect (e.g., Jumping Jacks, Squats, etc.)
2. Full Body Version of a Classic Game (e.g., Pong, Pacman, etc.)
3. Full Body Gesture-Controlled Music Maker
4. Kick-boxing Game on the Kinect
5. Full-Body Controlled Flight Simulation Game on the Kinect
6. Full Body Gesture-Controlled At-Home Media Center

**Android Touch + Gesture Interaction Projects:**
1. Chorded Touchscreen Keyboard for Text Input with Gestures for Text Editing
2. To Do List App with Gestures + Handwriting Recognition
3. Targeting Game for Android with Gestures (e.g., Bejeweled, Angry Birds)
4. Painting Application for Android with Shape Recognition
5. Circuit Diagram Sketch Tool for Android
6. Math Expression Editor with Handwriting Recognition

**Speech Interaction Projects:**
1. Voice-Controlled Music Player
2. Voice-Controlled Web Browser
3. Voice-Controlled Version of a Classic Game (e.g., Pong, Pacman, etc.)
4. Voice-Controlled Dictation System for Note-Taking
5. Voice-Controlled Circuit Diagram Creation Tool
6. Voice-Controlled Social Media Client (e.g., Facebook, Twitter, etc.)

*** Note: Undergraduates and graduates may choose from the same list of projects; however, expectations for prototypes developed by graduate students will be higher.

*** Note: Projects may also use mouse and keyboard input (or other native input methods) as long as the NUI is central to the experience. Projects should include a justification for why keyboard or mouse (or other) are necessary (e.g., data from your user study, technical limitations of the framework, etc.), or will lose points.