# VIP Team Info Sheet

<table>
<thead>
<tr>
<th>Team Name</th>
<th>Mixed Reality Engineering Laboratory</th>
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</thead>
<tbody>
<tr>
<td>Research, Design or Technical Issues Involved or Addressed</td>
<td>Engineering students are required to perform a series of laboratory experiments over several years of the undergraduate experience. These experiments traditionally require devices to be physically connected to the test instrumentation in a typical laboratory environment. Unfortunately, this type of experience is not conducive to online education as the test instrumentation is often too costly, large and/or delicate to be located outside the lab. It is the goal of this VIP to investigate how Augmented Reality (AR) technology can be used to substitute for the test instrumentation while still providing the student with a similar laboratory experience to that of a physical lab.</td>
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<td>Goals</td>
<td>Simulation of laboratory test equipment and connection to physical devices using Mixed Reality technologies. It is anticipated that we will start with simulating the basic equipment used in an electrical engineering lab but other lab disciplines will also be investigated.</td>
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| Methods/Technology                                                       | • Microsoft Hololens  
• Unity engine  
• Matlab and/or Labview  
• PSpice simulation tool or equivalent engineering tool  
• Test equipment  
• Electronics  |
| Subteams                                                                 | • Equipment simulation in AR  
• Physical testing platform  
• Remote control of physical instrumentation  
• Voice control of test instrumentation  
• AI-assisted design of electronic devices  |
| Majors and Areas of Interest                                             | Computer Engineering  
Computer Science  
Electrical Engineering  
Other disciplines are also invited  |
| Partners                                                                 | NYU Tandon School of Engineering  
NYU Tandon MakerSpace  |
| Contact                                                                  | Michael Knox (mikeknox@nyu.edu)  |
| Start Date                                                               | Fall 2017  |