**SugarCube *Data Transmission Error* Use cases**

1. User completes scan successfully. Cicks Send. Client Software displays an error.
   1. Result: No data received at server.
   2. User knows there is an error thanks to the error message.
   3. ***User can initiate a call to PCL*** for help.
   4. **Now both sides know there is a problem and can resolve it.**
2. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software fails (silently) before sending any data.
   1. Result: User believes order was sent, but it wasn’t.
   2. PCL has no idea that an user wanted to send an order.
   3. User only discovers there is a problem when they don’t receive what they ordered -- days later.
   4. **Neither side knows there is a problem, so it doesn’t get resolved in a timely manner**
      1. **Better alternatives:** 
         1. 2nd Client side process watches file queue and notifies user if files are waiting there for transmission for more than an hour.
         2. If user should expect a confirmation in a timely manner if they send a scan.
         3. If she doesn’t get a confirmation in a timely manner, she should worry that there is a transmission problem and contact PCL.
      2. ***New Result: one hour lost time at most.***
3. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software is waiting (silently) for a connection to our server but isn’t getting one (e.g. ethernet cable disconnected, wifi turned off, router connectivity problem).
   1. Result: User believes order was sent, but it wasn’t.
   2. PCL has no idea that an user wanted to send an order.
   3. User only senses there is a problem when they don’t receive what they ordered -- days later.
   4. **Neither side knows there is a problem, so it doesn’t get resolved in a timely manner.**
      1. **Better alternatives:** 
         1. 2nd Client side process watches file queue and notifies user if files are waiting there for transmission for more than an hour.
         2. If user should expect a confirmation in a timely manner if they send a scan.
         3. If she doesn’t get a confirmation in a timely manner, she should worry that there is a transmission problem and contact PCL.
      2. ***New Result: one hour lost time at most.***
4. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software sends some of the data, but loses connectivity before sending the order file or the manifest file.
   1. Result: Server receives some files and is waiting for others.
   2. If the order file and manifest file are not received in a timely manner after the first file is received, an automated program on the Server can determine this and notify PCL User to contact owner of the scanner.
   3. ***PCL can initiate a call to the user*** to let them know that there is a transmission problem.
   4. **Now both sides know there is a problem and can resolve it.**
5. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software sends files. Server receives the manifest file, but not the order file.
   1. Result: Server receives some files and is waiting for others (same as case 4).
   2. If the order file is not received in a timely manner after the first file is received, an automated program on the Server can determine this and notify PCL User to contact owner of the scanner, to get the order.
   3. ***PCL can initiate a call to the Audiologist user*** to let them know that there is a transmission problem.
   4. **Now both sides know there is a problem and can resolve it.**
6. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software sends files. Server receives the order file but not the manifest file.
   1. Result: Server program sends order to PCL user for processing, but when PCL user tries to access the scan files to start Autodesk, they can’t because the manifest file which lists what files to send to Autodesk is missing.
   2. PCL User assigned to order knows there is a transmission problem immediately.
   3. **PCL User initiates contact to Audiologist User** to resolve.
   4. **Now both sides know there is a problem and can resolve it.**
7. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software sends files. Server receives the order file and the manifest file, but not all the files listed in the manifest.
   1. Result: Server program sends order to PCL user for processing, but when PCL user tries to access the scan files to start Autodesk, they can’t because the manifest file which lists what files to send to Autodesk specifies files that are missing.
   2. PCL User assigned to order knows there is a transmission problem immediately.
   3. **PCL User initiates contact to Audiologist User** to resolve.
   4. **Now both sides know there is a problem and can resolve it.**
8. User completes scan successfully. Clicks Send. Client software successfully launches transmission software. Transmission software sends files. Server receives the order file and the manifest file, and all the files listed in the manifest. (No ERRORS!)
   1. Result: Timely processing of the order.
   2. PCL User who receives the order can send the user a confirmation that the order was received.