

# SugarCube Scanner

*Scanner User Experience Design Document*

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## **Document Approval**

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# **1. Introduction**

The SugarCube(TM) Scanner from SoundFit is intended to enable an audiologist, or staff member in an audiologist office to scan physical ear impressions and transmit their 3D geometries to a distant Audiology Laboratory who will receive that 3D geometry, and produce custom fit eartips for hearing aids, communications devices, hearing protection, or swim plugs, instead of shipping the physical impressions as they currently do.

For this alpha release we will only support sending impressions to our alpha test partner lab, Pacific Coast Laboratories (PCL), although we envision the ability to send models to other audiology laboratories, hearing aid, communications and other eartip manufacturers in a future release.

This document is a supplement to the GUI mockup at <http://sc6921.wix.com/sugarcube>. Both this document and the GUI are living documents, expected to change throughout the alpha and beta programs. Where there are versioning differences between the two, the online demo shall be presumed to be the more accurate.

## **1.1 Context of Use and Terminology**

This section describes the context in which our service is used, including the affected stakeholders (of which the users are a subset), real and virtual objects handled or transmitted, and software and systems that do the processing. Here we also define the terminology we will use throughout this document to describe those components in the context

For this service to achieve this objective, there will be two “users” of two different pieces of software:

“Scanner user”      The audiologist or their staff member who operates the scanner software.

“Modeler”      The laboratory staff member who receives a 3D model using the model capture software and prepares an eartip model for manufacturing using CAD eartip modeling software. For the purposes of this release we plan support only Secret Ear Designer(TM) from Cyfex as modeling software.

The scanner software, including the scanner user interface, is all written by SoundFit, and will be described in the first version of this document.

The model capture software will initially consist of components written by SoundFit, as well as 3rd party software written by other companies including 123D Catch from Autodesk, and NetFabb (free version).

Future releases will automate several of the steps that the modeler will initially have to perform, eliminating the need for the modeler to use NetFabb, and potentially at some time to replace 123D Catch with our own photogrammetry solution.

Using this scanner takes place in a larger context, shown in Figure 1, the Context Diagram. As can be seen from the figure, in addition to the scanner user and modeler, there will typically be an “audiologist” (or audiological technician) who takes the physical impression, and the “patient”, who will ultimately wear the eartips, manufactured by audiology lab (“manufacturer”). In some cases the audiologist and scanner user will be the same person, and in some cases the modeler and the manufacturer will be the same person.

In addition to the physical ear impressions, and the finished eartips delivered to the patient, our context diagram shows two 3D models.

The first 3D model is the unprocessed 3D ear impression model that we get from converting 2D images captured by the scanner into a 3D model produced using a photogrammetry cloud server (in our current version using 123D Catch). This ear impression model is used as input to a CAD program (Secret Ear Designer in our current version) which produces as output a final 3D eartip model that can be sent to a 3D printer for manufacturing the finished eartips, either directly or by creating a casting mold.

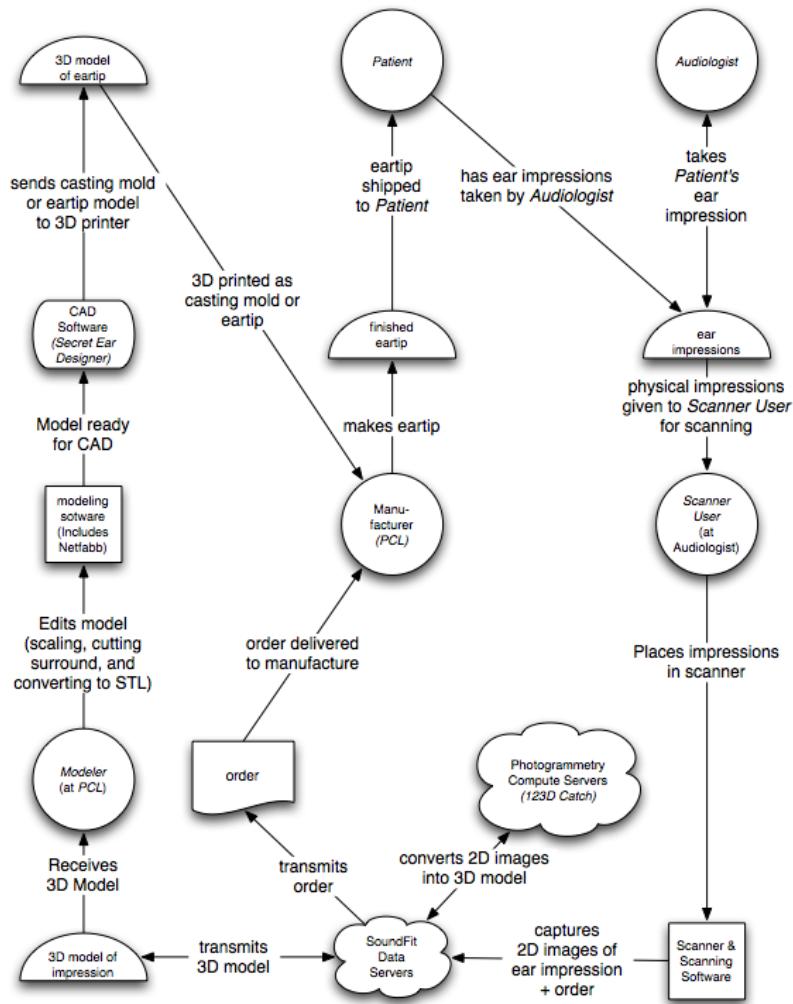


Figure 1: Context Diagram

## 1.2 Scope

There are envisioned to be multiple versions of this document and of the software, hardware and services described herein.

This initial version is focused solely on the scanner user experience.

A related document will describe the modeler user experience.

This document focuses primarily on the user interface by which the scanner user (and in future versions the modeler) interact with computers connected directly to the scanner, or to the

modeler's computer (which may be connected directly or indirectly to a 3D printer). However, the scope of this design also includes the entire user experience, and that is described here as well.

### **1.2.1 Design Notes:**

Because there may be limitations that affect our design, which may be subject to change in the future, we may also include design notes that can alert readers to possible future areas of change. These are indicated by indented “sidebar” passages that look like this:

- In the initial design of the hardware, we expect the user to manually operate the drawer. A future design may allow the drawer to be opened or closed under programmatic control.

## **1.5 Overview**

Section 2 of this document describes overall guiding principles, design goals and other considerations.

Section 3 contains specific GUI design specifications.

## **2. General Description**

This section covers overall guiding principles. UI specifications are in section 3.

### **2.1 Product Perspective**

A potential follow on to the ear impression scanner is an ear scanner. Since the end purpose of the ear impression scanner is identical to the purpose of the ear scanner - to rapidly transmit an ear geometry to the manufacturer, much of the user interface can and should be the same, allowing us to treat the impression scanner and ear scanners as simply swappable components that support the same scanning and order processing service.

### **2.2 Product Functionality and Design Goals**

For the service to be considered successful, it must achieve the following goals:

For the scanner user (audiologist) :

#### **FUNCTIONALITY:**

**Scanning:** It must be able to scan and transmit 99% of all impressions. It should only be necessary to ship physical impressions instead of scanning in the most exceptional cases.

**Ordering:** In addition to sending scans, the scanner software has a window that encapsulates an order form. Every manufacturer has their own online ordering form / order processing system. SugarCube does not require the scanner user to learn yet another form – it just allows them encapsulated access to the existing online order systems already operated by their target lab or manufacturer. Some of these manufacturer's order systems provide submission through delivery package tracking. This tracking functionality is provided by the manufacturer, not by Sugar Cube.

Today, all manufacturer's order processing systems assume online connection at time of order, and rely on that connection to validate credit cards, etc. Since ordering initiates scanning, this would effectively require the user to be connected to the Internet at the time scanning. Some communications dealers and audiologists have use cases where scanning when disconnected is desirable. This will not work until manufacturers enable their order processing systems for offline usage. We hope to work with manufacturers to get their order forms enabled for offline processing, but to the best of our knowledge, none of the manufacturers support online ordering today. When they do, we envision enabling disconnected operation for our scanner, and will attempt to design this version with that possibility in mind.

#### **Mobility / disconnected operation:**

While scanning requires the scanner to be physically connected to the controlling computer during the scan, and while sending the completed scan requires the computer to be connected to the Internet during transmission, a common use case would be for the scanner to be used in a setting where Internet connectivity is not possible.

Thus we want to allow the user to do scanning and have the scans queued up for later delivery when Internet service is restored.

Similarly, if Internet service is restored at some future time, we should transmit scans captured earlier, even if the scanner is not currently connected.

**Account maintenance:** Since the scanner service is provided on a monthly subscription, we will want to provide the scanner user information concerning whether their subscription is current or past due, or whether they have exceeded the maximum free scans for their tier. We will attempt to check this every time we connect to the server, and we will provide the user a notification anytime they attempt to scan and the most recent connection tells us their subscription is expired.

Note however, that SugarCube is expected to be marketed as a white box service through channel partners who are manufacturers. Thus SoundFit will not be directly billing the scanner user, nor directly collecting rent from any users initially, the manufacturers will be doing the billing, and SoundFit will merely bill the manufacturers for the aggregate rental costs.

At some time, if SoundFit starts selling SugarCubes directly instead of through the channel, we may need to provide more robust payment processing, and alerts to scanner user's emails and/or SMS messages texts to their phones whenever payment status changes. This is envisioned, but not expected to be implemented in the first release.

Whether their subscription is expired or not, or over or under the free maximum, we will always allow scans to be captured and uploaded. The marginal cost of transmission and storage of a new scan is less than a penny, yet the value of the scan to a manufacturer can be ten dollars or more. Therefore SoundFit is best served by capturing the data and owning it. What we can do to encourage payment is either have the manufacturer withhold the final eartips until the account is current (if we are going through a channel partner) or we can withhold the scan from the manufacturer (if we own the customer account). This enables the customer to continue with their scanning (which creates a valuable asset for us), even if they are scanning after accounting is closed. They can resolve account issues later, and the scan can be released to manufacturing instants after the accounting problem is solved, ensuring the fastest possible turnaround and best customer experience.

Our Earchive account maintenance will keep a history log of every scan uploaded from each scanner, which can be consulted by the audiologist who has the scanner. The order is in one of the following states:

Order In Progress  
Queued for transmission  
Transmitting  
Received in Earchives

For each order there is zero, one or two attached scans. Each scan will be in one of the following states:

Scan In Progress  
Queued for transmission  
Transmitting

Received in Earchives.

In future versions of our service, we envision adding additional functionality and tighter integration with manufacturer's tracking systems. That will allow scanner user to track orders in progress including packages that are in the transit.

Another future enhancement envisioned will allow the scanner user to share a 3D model with a manufacturer using skype or a similar sevice. The scanner user and manufacturer can then have a dialog where they simultaneouslyview and mark up a 3D model to better communicate adjustments to ear impression (for example, about wax, hair, bubbles, ear canal depth, etc.). Alternatively, we may provide an annotation tool the audiologist can use independently to mark up a model and send it asynchronously to the manufacturer.

Note that if there is a problem with the finished earpiece that the scanner user who receives it can actually mark it up and put it back in the scanner. Since our scanner can capture the earpiece in color, these markups are easy to transmit back to the manufacturer who can then use them to adjust the model in the remake!

At an even later time, we may allow them to mark up a post CAD model of an eartip to more speedily resolve fit problems.

These possible future functions are intentionally NOT included in the first release, in order for the first user experiences to be as simple as possible.

#### USABILITY:

**Minimum operational steps:** Once installed and in regular operation, the scanner user should be able to easily scan and send impressions along with filled out order forms with a minimum of operational steps. The user should place an impression in the scanner, initiate the scan, remove the impression and, if connected, transmit the scan with a minimum number of keystrokes, mouse moves, button presses, physical actions, and mental processing.

Ideally we would get down to one button: scan.

At this time it is impractical for us to build a system that would automatically control the drawer and sense the presence of a new impression, so we know that there will also be some physical interaction with the drawer.

**Minimal Learning Effort:** The service should have a minimum amount of functionality and operational idioms to learn.

It should be learnable in 15 minutes, with no manual, and most users should find they can learn it just by watching it being used once.

**Minimal Set up Effort:** The system should have minimal effort to set-up, configure, and place into operation.

Ideally, all that would be necessary is for the scanner to be connected to a power source (wall current or USB) and to wirelessly access any available Internet connection, however, this level of automation is not considered viable at this time. What does seem practical is that the scanner user connects a power cable, connects a USB Cable, and runs a simple installer program that installs the software

**Robust Error Handling:** The system should sense its operational state as much as possible so that the user does not have to diagnose problems that prevent operation. This includes diagnosing the following conditions:

- no power to scanner,
- no USB connection to scanner,
- scanner motor failure,
- scanner camera failure,
- scanner lighting failure,
- data transmission problems
- transient (intermittent connection),
- permanent (never able to access),
- missing camera driver, and
- missing arduino driver.

**Order handling:** Order processing will be custom to each manufacturer, and will use order forms or processing that they currently support. At some future date, we hope that some manufacturers will enable offline order processing, that doesn't require a live Internet connection, though today all manufacturers do all their processing over the web -- in which case a live connection would be required.

Because order handling may be lab dependent, and because ultimately a scanner operator may wish to send scans to multiple manufacturers, we would like to isolate the scanning from the ordering handling as much as possible. At the same time, we do want to make it easy to initiate a scan, or initiate transmission of a scan as part of the scanning process.

#### **Reliability:**

During our alpha test, we want the scanner to successfully capture and transmit a scan without need for a rescan in 95% of all scans sent.

During Beta test, we want reliability to reach 99% of all scans without a rescan.

#### **Performance:**

Each scan should be completely captured in not more than 1.5 minutes (3 minutes for a pair).

Each scan package should be transmittable to our cloud server via a 1 Mbps connection in under 5 minutes.

#### **Security:**

The data captured by the scanner and transmitted via the cloud servers to the modeler should be stored and transmitted in a secure manner.

- Secure data should be protected from inappropriate:
- alteration, including loss and destruction, and
- access by unauthorized persons.

Specifically: user identifiable information should be stored and transmitted separately from image or model data, so that if an image or model is stolen it cannot be tied to an individual without also having access to a user record containing personal identification information.

Conversely, having access to the personal data record does not include the model or images associated with scans for that individual.

#### **Accuracy:**

Scanner users will judge accuracy based on the resulting eartips -- they have no way to meaningfully assess the accuracy of the scans themselves. From the patient and audiologist standpoint, if the resulting eartips are equally acceptable compared to those made with the physical impressions today the scan will be considered accurate.

Therefore, scanner accuracy is actually determined by the requirements of the manufacturer.

Competing products cite a resolution (which is not the same as accuracy in any case) of 50 microns. But in the process of modeling using Secret Ear Designer adding or removing 100 microns during smoothing processes are common. and most printers can't resolve more than 50 microns anyway. So we are targeting a resolution between 50-100 microns.

#### **Robustness to Computer Platform:**

In this release we plan to support only Intel PC architecture computers for controlling the scanner. At some future date, we might also want to consider supporting tablets or smart phones as controllers, but this is not being designed now.

Ideally the scanner software would work on both Windows and Macintosh OS computers based on the Intel platform. The system MUST work with Windows 7 and Windows 8, and it is highly desirable that it work on Windows Vista and XP OS as well.

#### **Supportability and Maintainability:**

The scanner should not require any user servicing over its entire expected lifetime.

Each scanner should identify itself in operation so that we can monitor both its frequency of use and its frequency of failure.

The scanner software should provide operational and preventative maintenance information to SoundFit that enables us to determine the reliability of the scanner hardware and its software in the field.

Should a customer report a problem, the scanner state should be query-able or capable of running self-diagnostics that can assist in the diagnosis and repair of the unit.

Customers should have a way to report problems about the scanner during working hours and to get prompt customer support response when they call.

If a unit is malfunctioning, the user should be able to swap out their unit for a new unit.

Auto update: SoundFit should be able to push software updates out to scanners each time they connect to our servers.

### **Marketability:**

Because our target scanner user is an audiologist and a substantial majority of audiologists are women, especially young women the product should be visually appealing to them.

The product should be recognizably different from our competitor's scanner, both in external appearance, and in the GUI screens. Competitors GUIs are based on very conservative "Windows Gray Boxes" type designs. To distinguish ourselves from the competition we want our GUI to be bold and colorful.

Some of our channel partners (that is, the manufacturers in the context diagram, e.g. hearing aid companies and audiology labs) may desire to dedicate space not only to their own logo and branding, but also potentially to advertising a new product on the scanning control pages.

### **Availability:**

The Scanner User software is expected to be available 24x7x365. It is expected to have 99.95% uptime. Swap out units delivered next business day should restore a user with a malfunctioning scanner to operational status within 2 business days.

The Scanner software must interact with SoundFit's cloud data and cloud computing services. These are expected to have 99% uptime, and no outage is expected to last beyond one business day.

As we gain more experience we expect Availability times to increase further.

Mean Time Between Failures for the hardware should be > 30 days, and system outages should also be greater than 30 days.

### **3.5.6 Portability**

The scanner unit is small enough (9"x9"x9") and light weight enough that it is easy to move it from location to location. However, it is designed for use in an audiologist office and is not ruggedized for regularly moving from place to place, and the case may break if dropped. Dust in industrial or construction settings might cause the unit to fail.

Future units may be redesigned in a way that is more rugged.

## **2.3 User and Scanner state diagrams**

The user should be kept apprised of the state of the scanner system whenever they are operating it. There are three sub-systems which operate independently for the most part, each with its own set of states, therefore the total state of the system is best thought of as a triplet containing

each of the current states for each subsystem. Indeed, for computer users with large displays, we anticipate that each of these subsystem's will have its own window, and the user could see all 3 states simultaneously by laying out all 3 windows to be visible simultaneously. However, for computers with small displays users may wish to have each window occupy the full display. In this case, the best metaphor would be to think of each of the 3 windows as being a separate tab. In this model, instead of moving between windows, the user is just moving tabbed panes to the top.

A mechanism to support this model is shown in the Illustration 1:

**Earpiece Style**

- Left  Right
- With Helix Lock  No Helix Lock
- Shell
- Custom Silhouette/Skeleton
- 3/4 Shell
- Partial Silhouette
- 1/2 Shell
- Canal Lock
- Invisible
- Canal Only
- Regular  Metal Ring  Vinyl Ring
- ITE
- ITC
- CIC

**Color**

- PolySheer II
- PolySheer Super Soft
- Lucite
- Flex Plastic
- 
- Solid
- Flesh Tone (Color: B)
- Hypoallergenic, Clear NO dye
- w/ Glitter
  - Silver  Gold
- Starburst w/ Base Color:
  - A (Clear) or  X (White) and up
- to 4 letters color: 1:  2:  3:  4:
- Ripples w/ Base Color (#'s, R or X):

**SCANS:** **LEFT** **RIGHT** **SUBMIT**

*Illustration 1*

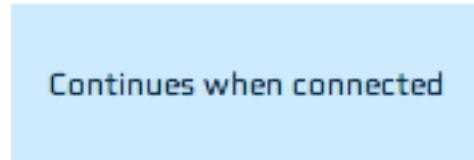
At the top of each page is a header (above the first blue bar). There you can see 3 blue buttons, labeled ORDER, SCAN and SEND, 3 status lights, and a major and minor branding area. The current page on top of the stack is indicated with a yellow border. For instance, in Illustration 1, ORDER is the currently selected page. Clicking the currently selected page does nothing, but clicking one of the other two pages, will make that the currently selected page and move it to the top of the window stack.

Beneath each of the 3 blue buttons you will see 3 status lights. Status lights have a color indicating the condition of that state: Green (operations occurring normally), Yellow (operator wish to intervene, or has intervened, in normal operation) or Red (operation stopped due to error). Additionally, each light is labeled with the phase name indicating what specifically is happening.

By placing this header on EVERY page, the user can keep tabs on what is happening in the other two processes, and quickly switch between processes when desired.

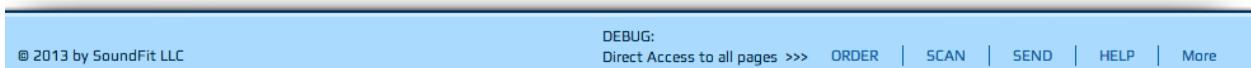
Each state is reflected in the GUI design with its own page (except Not Launched). The user experience moves between states automatically, e.g. if a camera fails, or a drawer opens or a scan finishes, or it changes when the operator clicks a button in the GUI.

In the Wix mockup, automatic transitions that occur between pages that do not require a user to click a box are indicated with pale blue boxes, such as this one:



*Illustration 2*

These boxes will not actually appear in the final interface but are only added to the mockup to facilitate testing of the normal flow between pages. Additionally, there are pages that in the final GUI can only be accessed if error conditions occur. To enable review and GUI testing of these pages they are visible through a DEBUG menu in the footer, as shown in Illustration 3.



*Illustration 3*

### **SCANNER STATES:**

The major states of the scanner are shown in Figure 2. This state diagram always begins, and ends, at the Not Launched state – which is the one state that has no window.

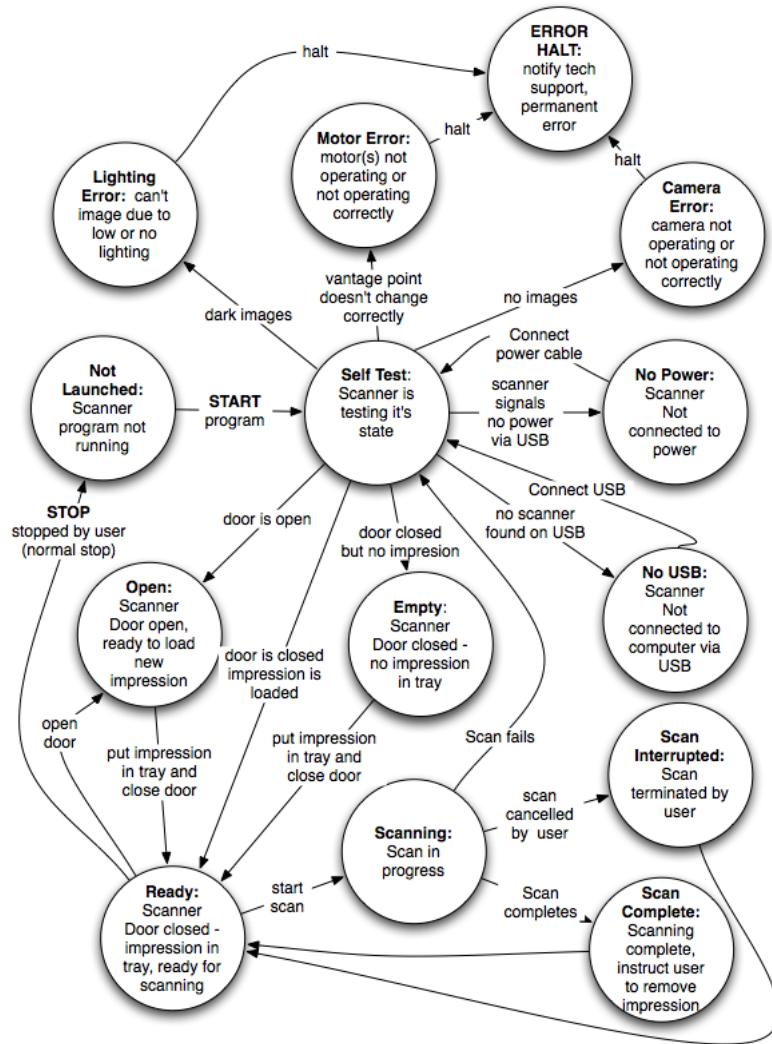


Figure 2: Scanner State diagram

### TRANSMISSION (SENDING) STATES:

The major transmission states are shown in Figure 3. This state diagram always begins, and ends, at the Checking Queue state. Not all transmission states have corresponding windows. For instance there is a Checking Queue / Wait loop, and neither of these states have – and the wait state has no window. The corresponding window for the Checking Queue / Wait loop is SEND state (also known as Idle).

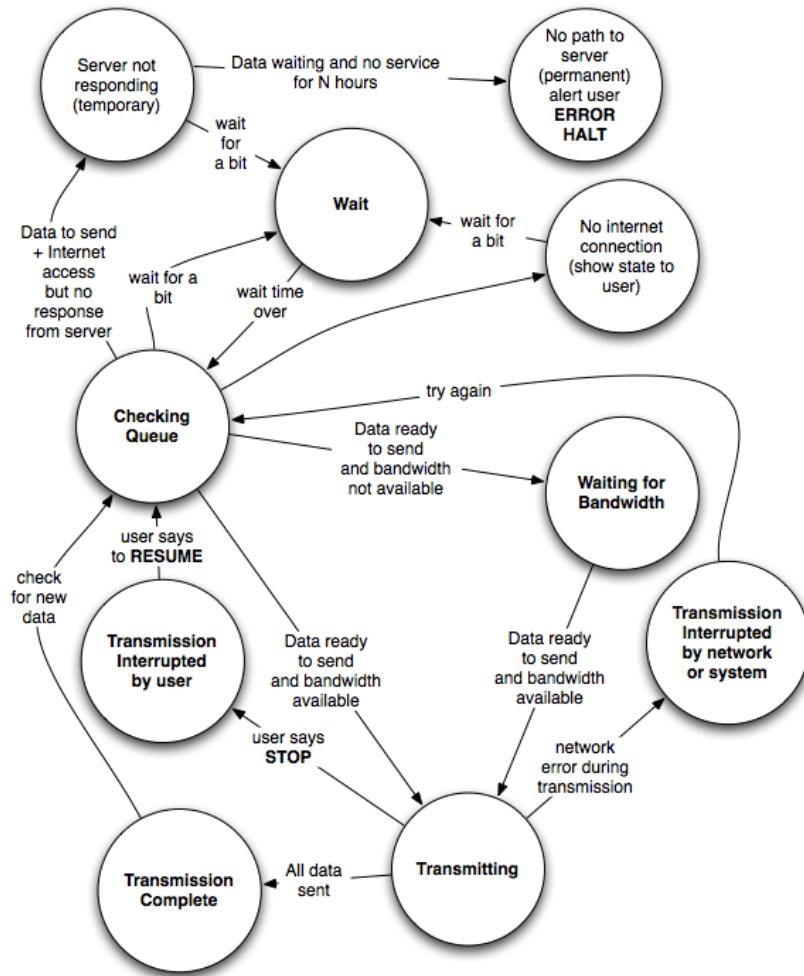


Figure 3: Transmission State diagram

### TRANSMISSION (SENDING) STATES:

The major order processing states are shown in Figure 4. This state diagram always begins, and ends, at the New Order form.

Order processing is encapsulated within Sugar Cube. Once the user selects a destination manufacturer for an order, we display that manufacturer's online order form within the center panel as seen in Illustration 1. Note that we have no control over, nor direct interaction with, the contents of this pane, and this leaves the manufacturer free to change their product offerings at any time, without the need to coordinate their changes with SoundFit, or vice versa.

Beneath the order processing panel is the scan footer. The user is able to launch scans of a left ear impression, and a right ear impression from this bar. Such scans take place asynchronously in the Scan window, so the scanner user is able to continue filling out the order form while the scans run. This minimizes their wait time and increases their efficiency.

Once a scan is started by clicking either the LEFT or RIGHT buttons, the button changes to gray and the label changes to ReScan. This arrangement allows the user know at a glance whether they have run any scans yet, and if so which impressions have been scanned. Since the buttons are still active, it is easy for a user to ReScan an impression if they had the wrong one in by mistake.

The scan footer also has a SUBMIT button which causes the order file, and any attached scans to be queued for transmission.

For our first release there is only one manufacturer, PCL, so for ease of use in our first version, we do not plan to require scanner users to select that manufacturer, but a selection page is included in the Wix mockup indicating how this flow will work in the future.

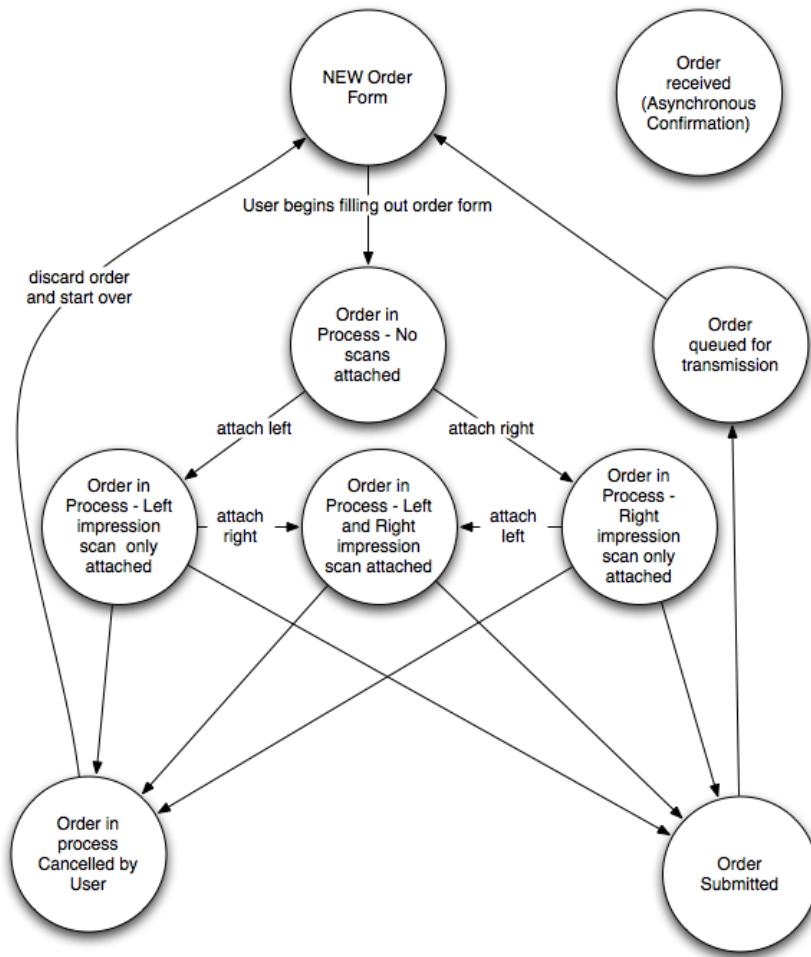


Figure 4: Order Processing State diagram

## **2.4 General Constraints**

*This subsection of the UXDD should provide a general description of any other items that will limit the developer's options for designing the system. (See the IEEE Guide to SRS for a partial list of possible general constraints).*

## **2.5 Assumptions and Dependencies**

This subsection of the UXDD should list each of the factors that affect the requirements stated in the UXDD. These factors are not design constraints on the software but are, rather, any changes to them that can affect the requirements in the UXDD. For example, an assumption might be that a specific operating system will be available on the hardware designated for the software product. If, in fact, the operating system is not available, the UXDD would then have to change accordingly.

### **3. Specific Requirements**

This will be the largest and most important section of the UXDD. The customer requirements will be embodied within Section 2, but this section will give the D-requirements that are used to guide the project's software design, implementation, and testing.

Each requirement in this section should be:

- Correct
- Traceable (both forward and backward to prior/future artifacts)
- Unambiguous
- Verifiable (i.e., testable)
- Prioritized (with respect to importance and/or stability)
- Complete
- Consistent
- Uniquely identifiable (usually via numbering like 3.4.5.6)

Attention should be paid to the carefully organize the requirements presented in this section so that they may easily accessed and understood. Furthermore, this UXDD is not the software design document, therefore one should avoid the tendency to over-constrain the implementation of the software project within this UXDD.

#### **3.1 External Interface Requirements**

##### **3.1.1 Hardware Interfaces**

The Scanner hardware consists of the

1. scanner unit,
2. scanner tray (which slides open and closed),
3. removable impression holder (made from 2 thumbtacks)
  1. The impression holder is made from a piece of ferro-magnetic metal.
  2. There is an indentation in the base of the scanner tray that has the same shape as the impression holder.
  3. There is a magnet in the base of the scanner immediately below the indentation where the impression scanner goes.
  4. This enables the user to quickly and safely place impressions on holders, and to ensure that the impression holder is properly held in the correct place.
4. USB cable,
5. 110V power cable with transformer.

##### **3.1.2 Scanner User Interface components**

The GUI defined below is designed for a target use with a desktop computer capable of displaying windows at least 768x1024 in size without a scroll bar.

In the initial design, all windows are presumed to be that size. Future versions of our GUI may allow for different layouts for computers, tablets, and mobile devices of various form factors.

The Scanner GUI consists of the following windows:

*1. Launch icon*

1. This is the icon that appears when you put the SugarCube application on the desktop or in a folder opened in icon view. Double clicking this icon launches the application.

*2. Splash page window (first page shown while launching)*

1. This page should be a single image that can be quickly displayed while the rest of the software is loading. It lets the user know that they successfully launched the SugarCube application (in case they weren't sure if they had launched the correct application, or if they were not sure that their launch command (typically a double click on a desktop icon or single menu item had been successfully processed. This helps avoid people attempting to launch the software multiple times.
2. When the software launches, it should verify that another version isn't already running. If another copy is running, an error message should alert the user, and when the message is dismissed the program should close to avoid conflicts over who controls the USB port.
3. Once the software has loaded enough to bring up the *Order Processing Page*, the splash page is closed automatically
4. If launching the *Order Processing Window* will take more than 2 seconds, an animated *processing indicator*, such as a spinning wheel or grow bar shall be displayed until the new page has loaded.

*3. Order Processing Window*

1. The Order Processing Window consists of 3 frames:

*1. The Header Frame*

1. Main branding area (by default, SugarCube, powered by SoundFit logo)
  1. When scanner has web access, Image is hot linked (by default to SugarCube.co)
  2. Clicking on this hot link brings up the destination page in a separate window
2. Secondary branding area (by default, PCL)
  1. When scanner has web access, Image is hot linked (by defaults to ShopPCL.com)
  2. Clicking on this hot link brings up the destination page in a separate window
3. The ORDER Button in its selected state.
4. The SCAN and SEND buttons in their unselected state
5. The three corresponding status indicators beneath each of the 3 buttons.
6. The Help / Info button
7. The Close / Quit button if required (not currently planned).

*2. The Order Form Frame*

1. When the SugarCube supports sending to multiple manufacturers, this frame will also house the controls for selecting among the different manufacturers so that the scanner user can chose the manufacturer that they want their scans to go to, and that selection will cause different Order Forms to be loaded in the Order Form Frame.
2. The Order Form is determined by the manufacturer who will receive the molds.

3. Because the specifics of these forms vary from manufacturer to manufacturer, the precise layout of the manufacturer form is not covered in this document, and where we need to implement the form that will be the subject of a separate document.
  1. To the degree we control the order form, we should remember most information from scan to scan to minimize the need to retype information from order to order. An exception is that the patient information should be presumed to change with each order and should therefore be blanked if possible.
4. Some manufacturers handle all their ordering through the web.
  1. For these manufacturers, the Order Form Frame will hold a live web page from their web site.
  2. For scanner users who want to send scans to that site, the user can only place orders while the computer is connected to the web.
  3. *Error Handling:* If the computer is not connected to the web, an error condition occurs and an error is displayed in the error window that explain that operation with this manufacturer requires web access
5. *Order Submission Message Area:*
  1. Immediately after we submit an order, we provide a confirmation message in the Order Form Frame area.
  2. After the
3. *The Footer Frame*
  1. The footer contains the following buttons that allow the scanner user to launch a scan directly from the order processing window.
  2. The buttons are:
    1. Scan Left / Rescan
    2. Scan Right / Rescan
    3. Submit order
    4. Cancel order
  2. The Scan buttons toggle between Scan and Rescan and also have a color change so that scanner users know at a glance whether they have already completed and attached a left or right scan to this order.
  3. The footer may contain an optional advertising area.
2. Note that users can also use this form to place orders for supplies, or for re-orders -- without scanning, simply by entering the proper SCANID that they want to use in manufacturing.
3. To the extent possible (which may depend on the order processing system of the manufacturer) every time you create a new scan, the orderIS and scanID should be AUTOMATICALLY entered into the appropriate field in the order form as soon as the scan request begins.
3. Where the manufacturers order processing system won't allow us to directly update the ScanIDs automatically, we will display the scan IDs in the footer immediately beneath the Scan Left and Scan Right buttons. This will make it easier for the user to copy and paste the data into the form if doing so automatically isn't allowed.
4. *Scanner Controls window:*

2. *The Header Frame*
  2. Main branding area (by default, SugarCube, powered by SoundFit logo)
    5. When scanner has web access, Image is hot linked (by default to SugarCube.co)
    6. Clicking on this hot link brings up the destination page in a separate window
  3. Secondary branding area (by default, PCL)
    1. When scanner has web access, Image is hot linked (by defaults to ShopPCL.com)
    2. Clicking on this hot link brings up the destination page in a separate window
  4. The ORDER Button in its unselected state.
  5. The SCAN button in its selected state.
  6. The SEND Button in its unselected state.
  7. The three corresponding status indicators beneath each of the 3 buttons.
  8. The Help / Info button
  9. The Close / Quit button if required (not currently planned).
1. *Scan Frame:*
  3. Scan image area
  4. Information area
    2. Information Title area
      6. Place Impression in Tray
      7. Scan in Progress
      8. Scan Complete
    3. Information Detail
  5. Thumbnails area / Progress bar
  6. Advertising area
    2. When connected to the web, these can be rotating web ads with hot links to landing pages specified by the channel partner (manufacturer) or by SoundFit.
    6. Clicking on this hot link brings up the destination page in a separate window
    3. When disconnected these are just images rotated from a library which can be updated any time the scanner is operating in network connected mode.
7. *Footer Frame:*
  2. The footer may contain an optional advertising area.
5. *Transmissions Management window:*
  1. The Transmissions window appears whenever there are order+scan packages waiting for transmission.
  3. *The Header Frame*
    3. Main branding area (by default, SugarCube, powered by SoundFit logo)
      1. When scanner has web access, Image is hot linked (by default to SugarCube.co)
      2. Clicking on this hot link brings up the destination page in a separate window
    10. Secondary branding area (by default, PCL)

1. When scanner has web access, Image is hot linked (by defaults to ShopPCL.com)
    2. Clicking on this hot link brings up the destination page in a separate window
  11. The ORDER and SCAN buttons in their unselected state.
  12. The SEND button in their unselected state
  13. The three corresponding status indicators beneath each of the 3 buttons.
  14. The Help / Info button
  15. The Close / Quit button if required (not currently planned).
2. *Transmissions Frame:*
    3. We list the OrderIDs awaiting transmission or in transmission, including their attached ScanIDs, and date/times submitted, in a scrolling list, so users can see what is pending.
    4. When a transmission is completed successfully, we mark a “sent” indicator next to the order line.
    5. The transmissions frame is rebuilt from scratch each time the application starts up, so it will only have scans that weren’t sent prior to start-up and what has been scanned in the current session.
    6. Users can select waiting orders, and the current order being transmitted and cancel them. If they do this the order and scan data is discarded without transmitting.
    7. In future versions we may allow users to “open” a pending order and re-load it into the order processing window for further editing. This is not planned for the first release.
  8. *Footer Frame:*
    2. The footer may contain an optional advertising area.
6. *Error Dialogs window:*
    1. Because processes such as scanning and transmitting can proceed in an unattended manner, we want to allow users to minimize their wait time by working on tasks such as filling out order forms while those other processes go on in the background.
    2. We can use status indicators in the Header sections so that users will always be able to see the status of any scans or transmissions in process, at a glance.
    3. However, when errors occur in these asynchronous processes, users might not notice the subtle changes in the status indicators since their attention will be elsewhere (e.g. to filling out an order form).
    4. To ensure that scanner users see important error, warning, and status messages that SHOULD interrupt their other work, we may use Error Dialog windows that will be displayed on top of all other windows to ensure they are visible.
    5. No errors of such significance as to need such boxes have currently been identified, but we may discover in testing that these more alarming boxes may be necessary for some situations if users don’t notice these errors in a timely manner.

...

## **3.2 Graphical Design Guidelines**

We are waiting for a style guide from our artist. It isn't present at this time, so for now the design appearance in the Wix demo is our style guide.

When the style guide is complete it should include the following definitions.

*Appearance:*

1. Text Fonts, Styles and Colors for:
  1. SoundFit Logo:
  2. SugarCube Logo:
  3. PCL Logo:
  4. Titles:
  5. Headings:
  6. Body text:
  7. Buttons:
  8. Labels:
  9. Text Fields
  10. Hot links (clickable text)
2. Graphic objects: Colors, line styles, line widths, margins, borders, backgrounds, foregrounds, gradients, shadows for:
  1. SoundFit Logo
  2. SugarCube Logo
  3. PCL Logo
  4. Photo and Video Image Displays
  5. Status Information areas
  6. Error Information areas
  7. Warning Message areas
  8. Window backgrounds and styles
  9. Scroll bars
  10. Buttons
    1. Disabled
    2. Default selection
    3. hover actions
    4. corner styles
    5. gradients
  11. status icons
    1. corner styles
    2. gradients
  12. thumbnail images
  13. progress indicators (spinners and grow bars)
  14. tables and grids

*Layouts, Location and Sizes:*

Header

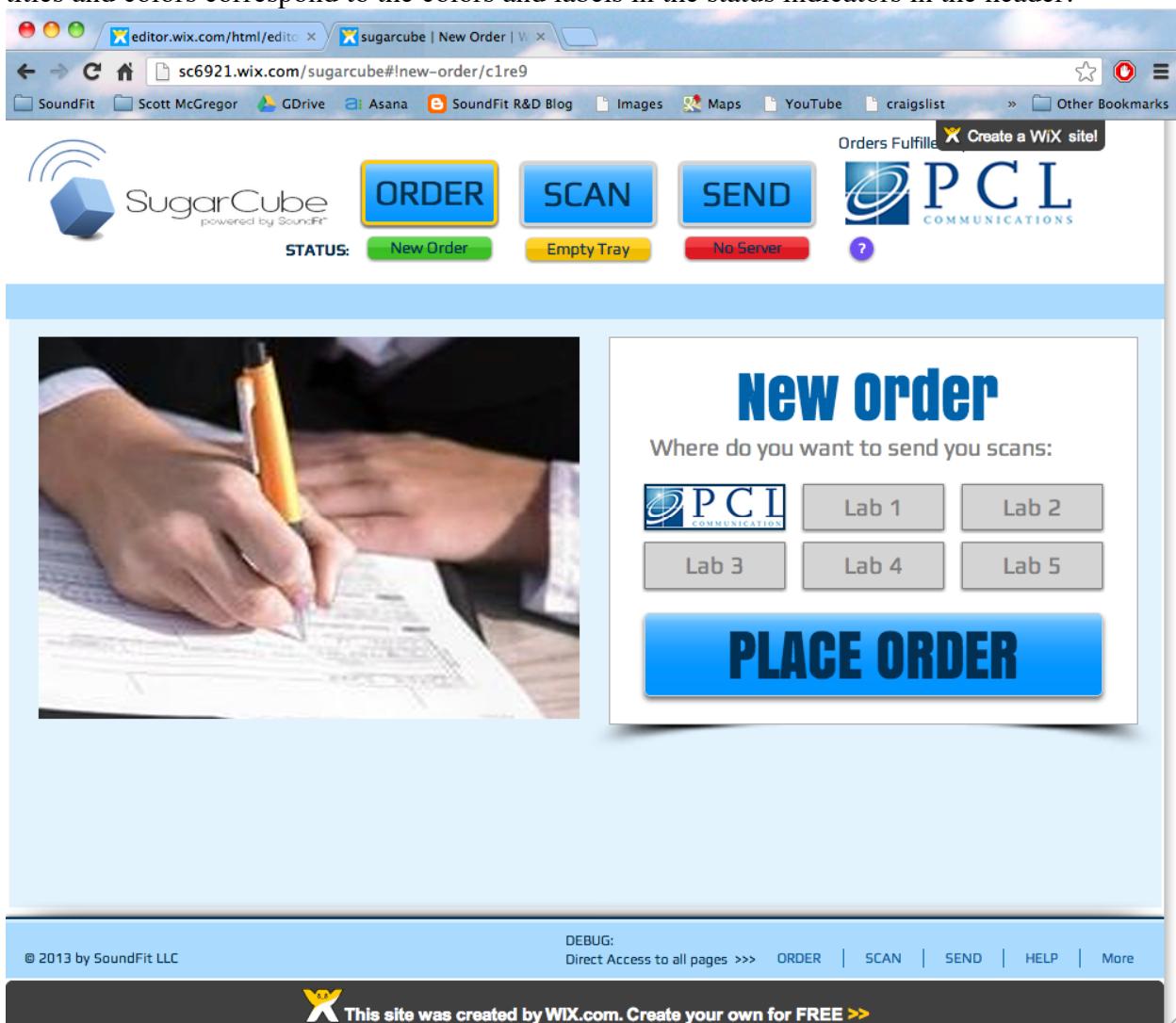
Footer

Image Area  
Information Area  
Status icons  
thumbnails  
Control buttons  
Close, Maximize and Minimize buttons  
Menus  
Form elements

#### 4. Screen shots:

These screen shots show the different pages in the GUI, and current images, font, colors, layouts, etc. These are subject to change after our artist writes the style guide and selects images.

Note that each page has a title that is in bold. The title is either Green, Yellow, or Red. These titles and colors correspond to the colors and labels in the status indicators in the header.



SugarCube powered by SoundFit®

**ORDER**   **SCAN**   **SEND**

**STATUS:** Ordering   Empty Tray   No Server

**PCL** COMMUNICATIONS

**PCL** PACIFIC COAST LABORATORIES

1031 San Leandro Blvd  
San Leandro, CA 94577  
T: 866.777.1133 • F: 510.351.6905

Order #  Acct #  PO#   
Users/Patients name:   
Contact Name:   
Email:  Phone #:  Date:

**RED ITEMS = DEFAULT**

Impressions	Material
<input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> With Helix Lock <input type="checkbox"/> No Helix Lock	<input type="checkbox"/> PolySheer II <input type="checkbox"/> PolySheer Super Soft <input type="checkbox"/> Lucite <input type="checkbox"/> Flex Plastic <input type="checkbox"/> <input type="text"/>

**Earpiece Style**

Shell  
 Custom Silhouette/Skeleton

**SCANS:** **LEFT** **RIGHT** **SUBMIT** **CANCEL**

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit®

**ORDER**   **SCAN**   **SEND**

**STATUS:** Ordered Left   Empty Tray   No Server

**PCL** COMMUNICATIONS

**PCL** PACIFIC COAST LABORATORIES  
1031 San Leandro Blvd  
San Leandro, CA 94577  
T: 866.777.1133 • F: 510.351.6905

Order #  Acct #  PO#   
 Users/Patients name:   
 Contact Name:   
 Email:  Phone #:  Date:

**RED ITEMS = DEFAULT**

Impressions	Material
<input type="checkbox"/> Left <input type="checkbox"/> Right	<input type="checkbox"/> PolySheer II
<input type="checkbox"/> With Helix Lock <input type="checkbox"/> No Helix Lock	<input type="checkbox"/> PolySheer Super Soft
<input type="checkbox"/> Shell	<input type="checkbox"/> Lucite
<input type="checkbox"/> Custom Silhouette/Skeleton	<input type="checkbox"/> Flex Plastic
<input type="checkbox"/> <input type="text"/>	

**Earpiece Style**

**SCANS:**  **RIGHT**

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit®

**ORDER**    **SCAN**    **SEND**

**STATUS:** Ordered Right    Empty Tray    No Server

**PCL** COMMUNICATIONS

**PCL** PACIFIC COAST LABORATORIES  
1031 San Leandro Blvd  
San Leandro, CA 94577  
T: 866.777.1133 • F: 510.351.6905

Order #  Acct #  PO#   
 Users/Patients name:   
 Contact Name:   
 Email:  Phone #:  Date:

**RED ITEMS = DEFAULT**

Impressions	Material
<input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> With Helix Lock <input type="checkbox"/> No Helix Lock	<input type="checkbox"/> PolySheer II <input type="checkbox"/> PolySheer Super Soft <input type="checkbox"/> Lucite <input type="checkbox"/> Flex Plastic <input type="checkbox"/> <input type="text"/>

**Earpiece Style**

Shell  
 Custom Silhouette/Skeleton

**SCANS:** **LEFT** **ReScan** **SUBMIT** **CANCEL**

DEBUG:  
 Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

**SugarCube** powered by SoundFit®

**ORDER**   **SCAN**   **SEND**

**STATUS:** Ordered Both   Empty Tray   No Server

**PCL** COMMUNICATIONS

**1031 San Leandro Blvd  
San Leandro, CA 94577  
T: 866.777.1133 • F: 510.351.6905**

Order #  Acct #  PO#   
Users/Patients name:   
Contact Name:   
Email:  Phone #:  Date:

**RED ITEMS = DEFAULT**

Impressions	Material
<input type="checkbox"/> Left <input type="checkbox"/> Right	<input type="checkbox"/> PolySheer II
<input type="checkbox"/> With Helix Lock <input type="checkbox"/> No Helix Lock	<input type="checkbox"/> PolySheer Super Soft
<b>Earpiece Style</b>	
<input type="checkbox"/> Shell	<input type="checkbox"/> Lucite
<input type="checkbox"/> Custom Silhouette/Skeleton	<input type="checkbox"/> Flex Plastic
<input type="text"/>	

**SCANS:** **LEFT** **RIGHT** **SUBMIT** **CANCEL**

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

The screenshot shows a web-based application window titled "sugarcube | Order Cancelled". The URL in the address bar is "sc6921.wix.com/sugarcube#order-cancelled-by-user/c1iaa". The top navigation bar includes links to SoundFit, Scott McGregor, GDrive, Asana, SoundFit R&D Blog, Images, Maps, YouTube, craigslist, and Other Bookmarks. A "Create a WIX site!" button is also present.

The main interface features the "SugarCube" logo with "powered by SoundFit®" and four large blue buttons: "ORDER", "SCAN", "SEND", and "PCL COMMUNICATIONS". Below these buttons are status indicators: "STATUS: Cancelled", "Empty Tray", "No Server", and a question mark icon.

A table on the left displays a list of orders:

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Paused	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

The right side of the interface features a large red "order cancelled" message. Below it, smaller text states: "You requested that the selected order be cancelled. It has been removed from the transmission queue and all data deleted." It also provides links to "To return to an order in progress or to place another order, ORDER."

At the bottom, there is a "DEBUG:" section with a link to "Direct Access to all pages >>>". Navigation links include ORDER, SCAN, SEND, HELP, and More. A footer bar at the bottom contains the WIX logo and the text "This site was created by WIX.com. Create your own for FREE >>".

The screenshot shows the SugarCube software interface running in a web browser. The title bar indicates the site is [sc6921.wix.com/sugarcube#lorder-submitted/c6pe](http://sc6921.wix.com/sugarcube#lorder-submitted/c6pe). The main header features the SugarCube logo with a blue hexagonal icon and the text "SugarCube powered by SoundFit®". Below the logo are three large blue buttons labeled "ORDER", "SCAN", and "SEND". A status bar below these buttons shows "STATUS: Submitted" (green), "Empty Tray" (yellow), and "No Server" (red). To the right of the buttons is the PCL Communications logo. The central area contains a table titled "order submitted" with columns: Date, Time, OrderID, Left, Right, Status, and Delete?. The table lists three rows of data:

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Paused	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

To the right of the table is a large green "order submitted" message. Below it is a smaller text block stating: "Your order has been submitted and added to the transmission queue. It will be sent in the order submitted, whenever there is network bandwidth." At the bottom of this section is a large blue "ORDER" button. The footer of the page includes copyright information ("© 2013 by SoundFit LLC"), navigation links ("DEBUG", "Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More"), and a WIX.com promotional banner.

The screenshot shows a web browser window for the SugarCube application. The title bar reads "sc6921.wix.com/sugarcube#lorder-queued/cfua". The main interface includes a logo for "SugarCube powered by SoundFit", a navigation bar with buttons for "ORDER", "SCAN", "SEND", and "STATUS" (showing "Queued", "Empty Tray", and "No Server"), and a "PCL COMMUNICATIONS" logo. A table on the left lists orders with columns: Date, Time, OrderID, Left, Right, Status, and Delete?. The table data is as follows:

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Paused	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

The right side of the interface features a large green "order queued" message, a smaller "Your order has been added to the transmission queue. It will be sent in the order submitted, whenever there is network bandwidth.", and a prominent blue "ORDER" button.

At the bottom, there's a footer with links: "DEBUG:", "Direct Access to all pages >>>", and buttons for "ORDER", "SCAN", "SEND", "HELP", and "More". A WIX.com promotional banner at the bottom states "This site was created by WIX.com. Create your own for FREE >>".

The screenshot shows a web-based application for managing order transmission. At the top, there's a header bar with browser controls, a tab for 'sugarcube | Order Transm...', and a URL 'sc6921.wix.com/sugarcube#lorder-transmitting/c1h09'. Below the header are several navigation links and a 'Create a WIX site!' button.

The main interface features a logo for 'SugarCube powered by SoundFit' with a blue hexagonal icon. To its right are three large blue buttons labeled 'ORDER', 'SCAN', and 'SEND'. Below these buttons are two smaller status indicators: 'STATUS: Transmitting' (green) and 'Empty Tray' (yellow). A red button labeled 'No Server' is also present. On the far right, there's a 'PCL COMMUNICATIONS' logo with a globe icon.

On the left side, there's a table with columns: Date, Time, OrderID, Left, Right, Status, and Delete?. The table contains three rows of data:

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Sending	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

To the right of the table, a large green 'Transmitting' button is displayed. Below it, a message states: 'The following order has begun transmission: OrderID: 1001-041513-113510'. It also provides instructions: 'To return to an order in progress or to place another order, ORDER.' Below this message is a large blue 'ORDER' button.

At the bottom of the page, there's a footer with copyright information: '© 2013 by SoundFit LLC', a 'DEBUG:' link, and a 'More' link. A dark banner at the very bottom contains the text: 'This site was created by WIX.com. Create your own for FREE >>' with a yellow 'WIX' logo.

The screenshot shows a web browser window for the SugarCube Order Receiver application. The URL is [sc6921.wix.com/sugarcube#lorder-received/c1lu8](http://sc6921.wix.com/sugarcube#lorder-received/c1lu8). The interface includes a header with the SugarCube logo, navigation icons, and links to SoundFit, Scott McGregor, GDrive, Asana, SoundFit R&D Blog, Images, Maps, YouTube, Craigslist, and Other Bookmarks. A WIX site creation link is also present.

The main area features a control panel with four large buttons: ORDER (blue), SCAN (blue), SEND (blue), and a red button labeled "No Server". Below these buttons are two status indicators: "STATUS: Received" (green) and "Empty Tray" (yellow). The PCL Communications logo is visible in the top right corner.

On the left, there is a table showing order history:

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Received	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

On the right, a large green "order Received" message is displayed, followed by a smaller text message: "Your order has been received. To check on the progress of your order, visit your manufacturer's website and enter your order number." Below this is the Order ID: "OrderID: 1001-041513-120110". A blue "ORDER" button is centered below the message.

The footer contains copyright information ("© 2013 by SoundFit LLC"), a DEBUG link, and navigation links for ORDER, SCAN, SEND, HELP, and More. A WIX advertisement at the bottom states: "This site was created by WIX.com. Create your own for FREE >>".

SugarCube powered by SoundFit™

READY TO SCAN | Wix.com

sc6921.wix.com/sugarcube#!ready-to-scan/cvbt

SoundFit Scott McGregor GDrive Asana SoundFit R&D Blog Images Maps YouTube craigslist Other Bookmarks

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS

STATUS: Ordering Ready No Server ?

ORDER SCAN SEND

Ready

The SugarCube is ready to scan.

Check the image on the left is of the impression you want to scan, and then press the BEGIN button to begin scanning.

BEGIN

DEBUG: Direct Access to all pages >>> ORDER SCAN SEND HELP More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit

ORDER SCAN SEND

STATUS: Ordering Open No Server

Create a WIX site!

PCL COMMUNICATIONS

open

The SugarCube drawer is currently open.  
Please put an impression in the drawer and close the drawer to begin scanning.

Continues when door closes

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit

ORDER SCAN SEND

STATUS: Ordering Scanning No Server

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS

sc6921.wix.com/sugarcube#!scanning/c368

The SugarCube is currently scanning.

Click on the BACK button to return to the order form. Scanning will continue in the background until complete.

To stop the scan in process click STOP.

scanning...

BACK STOP

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

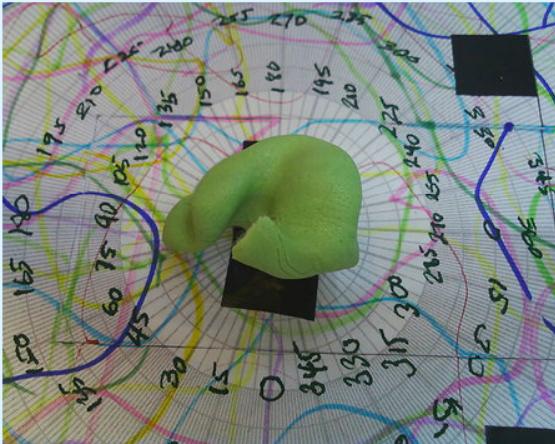
editor.wix.com/html/edito X Error 7002 | Wix HTML5 X Ready to Scan | Wix.com X

sc6921.wix.com/sugarcube#!scan-complete/c1zqf

SoundFit Scott McGregor GDrive Asana SoundFit R&D Blog Images Maps YouTube craigslist Other Bookmarks

SugarCube powered by SoundFit® ORDER SCAN SEND No Server ? Orders Fulfill Create a WIX site!

STATUS: Ordering Scan Complete



**Scan complete**

The SugarCube has successfully completed its scan.  
Open the drawer and remove the impression.  
Place another impression in the drawer and you are ready to begin your next scan.

Continues when opened

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit™

SC6921.wix.com/sugarcube#!scan-interrupted/c1lr3

ORDER SCAN SEND

STATUS: Ordering Interrupted No Server

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS

Scan Interrupted

You told the SugarCube to stop scanning. To continue the scan that was in progress, press RESUME.

To discard the scan in progress and start a new scan, click DISCARD.

RESUME DISCARD

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit

SC6921.wix.com/sugarcube#!no-usb/cdye

ORDER SCAN SEND

STATUS: Ordering No USB No Server ?

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS

Power -> USB ->

Connect Computer to SugarCube

**No USB Connection**

The SugarCube software has not detected a connected scanner.

Please make sure that your SugarCube is connected to a power source, and that your computer is connected to the SugarCube by a USB Cable.

Try disconnecting and reconnecting the USB cable. If that doesn't resolve the error, try a different cable and USB port.

If your scanner has power and is connected to your computer using the USB cable, and this error persists contact [SugarCube Technical Support](#).

Continues when connected

© 2013 by SoundFit LLC

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit

ORDER SCAN SEND

STATUS: Ordering No Power No Server ?

Power -> USB -> Connect SugarCube to power

The SugarCube is currently not receiving sufficient power.

Please ensure that the power cord to the scanner is receiving power. Try disconnecting and reconnecting the power cord, then disconnect and reconnect the USB cable.

If the power cable to the SugarCube is connected, but this error persists, notify [SugarCube Technical Support](#).

Continues when powered

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

This site was created by WIX.com. Create your own for FREE >>

The screenshot shows a Mac OS X desktop with three browser tabs open: "editor.wix.com/html/edito", "Ready to Scan | Wix.com", and "Error 7002 | Wix HTML5". The main window is titled "sc6921.wix.com/sugarcube#lcamera-failure/c1nym".

The interface includes:

- SugarCube logo:** A blue hexagonal icon with a signal pattern.
- Status Bar:** Shows "powered by SoundFit®".
- Buttons:** ORDER (blue), SCAN (blue), SEND (blue). Below them are two status indicators: "STATUS: Ordering" (green) and "Camera Failure" (red).
- PCL Communications Logo:** A globe icon with "PCL COMMUNICATIONS" text.
- Header Links:** Orders Fulfill, Create a WIX site!, SoundFit, Scott McGregor, GDrive, Asana, SoundFit R&D Blog, Images, Maps, YouTube, craigslist, Other Bookmarks.

The main content area features a large red "Prohibited" sign over a camera icon. To the right, a box displays:

## camera Failure

The SugarCube experienced a failure in the camera system.  
Try removing and reconnecting first the power cord, and then  
the USB cable going to the SugarCube and retry your scan.  
If this problem persists notify [SugarCube Technical Support](#).

[Power Cycle to Retry](#)

At the bottom:

- © 2013 by SoundFit LLC
- DEBUG: Direct Access to all pages >>>
- LINKS: ORDER | SCAN | SEND | HELP | More
- WIX.COM FOOTER: This site was created by WIX.com. Create your own for FREE >>

SugarCube powered by SoundFit

ORDER SCAN SEND

STATUS: Ordering Motor Failure No Server ?

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS



# Motor Failure

The SugarCube detected an error in its motor control system.

Try removing and reconnecting first the power cord, and then the USB cable going to the SugarCube and retry your scan.

If this problem persists, please notify [SugarCube Technical Support](#).

Power Cycle to Retry

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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SugarCube powered by SoundFit

ORDER SCAN SEND

STATUS: Ordering Lighting Failure No Server ?

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS



# Lighting Failure

The SugarCube is detected a failure in the lighting system.

Try removing and reconnecting first the power cord, and then the USB cable going to the SugarCube and retry your scan.

If this problem persists, please notify [SugarCube Technical Support](#).

Power Cycle to Retry

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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ORDER    SCAN    SEND

STATUS: Ordering    Self Test    No Server

PCL COMMUNICATIONS

**self Test**

Please wait.

The SugarCube is currently running a self test to verify it is working properly. It should be ready for scanning momentarily.

If the self test does not complete within 60 seconds, please remove and reconnect first the power cable and then the USB cable.

If the problem persists, please notify [SugarCube Technical Support](#).

Continues Momentarily

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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SugarCube powered by SoundFit®

ORDER SCAN SEND

STATUS: Ordering Camera Driver No Server ?

Orders Fulfilled Create a WIX site!

PCL COMMUNICATIONS



# camera Driver

Your SugarCube Software Installation was not successful; the camera driver was not found. You need to re-install your SugarCube software.

Please notify [SugarCube Technical Support](#).

Reinstall to Continue

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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The screenshot shows a web browser window with three tabs open: "editor.wix.com/html/edito", "Arduino Driver Failure | Wix", and "Error 7002 | Wix HTML5". The main content area displays the SugarCube software interface. At the top left is the SugarCube logo with a blue hexagonal icon and the text "SugarCube powered by SoundFit®". To the right are four large blue buttons labeled "ORDER", "SCAN", "SEND", and "CREATE". Below these buttons is a status bar with the word "STATUS:" followed by two smaller buttons: "Ordering" (green) and "Missing Driver" (red). To the right of the status bar is the PCL Communications logo. The central part of the interface features a large image of an Arduino Uno microcontroller board with a large red question mark overlaid on it. To the right of the image is a white box containing the bold red text "Missing Driver". Below this text is a message: "Your SugarCube Software Installation was not successful; the SugarCube driver was not found. You need to re-install your SugarCube software." It also says "Please notify [SugarCube Technical Support](#)". At the bottom right of this box is a blue button labeled "Reinstall to Continue". At the very bottom of the page, there is footer text: "© 2013 by SoundFit LLC", "DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More", and a Wix.com promotional banner: "This site was created by WIX.com. Create your own for FREE >>".

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ORDER SCAN SEND

STATUS: Ordering Empty Tray Idle

PCL COMMUNICATIONS

Idle

The SugarCube is ready to transmit scans, but there are no unsent orders or scans.

If you submit an order, sending will begin immediately.

ORDER

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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**ORDER**    **SCAN**    **SEND**

**STATUS:** Ordering    Empty Tray    Transmitting

**PCL COMMUNICATIONS**

Date	Time	OrderID	Left	Right	Status	Delete?
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Sending	<input type="checkbox"/>
04-15-2013	12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input checked="" type="checkbox"/>
04-15-2013	11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

**Transmitting**

The SugarCube is transmitting your order.

To pause the transmission in progress, click PAUSE.

To Cancel your order click CANCEL.

**Pause**    **Cancel**

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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ORDER    SCAN    SEND

STATUS: Ordering    Empty Tray    Order Sent

PCL COMMUNICATIONS

SENT

order sent

SugarCube has completed transmission of your Order:  
If you have more orders or scans to send, they will begin transmission shortly.

Continues with next order

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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SCANTOOL

ORDER SCAN SEND

STATUS: Ordering Empty Tray Paused

PCL COMMUNICATIONS

Date Time OrderID Left Right Status Delete?

04-15-2013 11:55:01	1001-1132	1001-1135	1001-1145	Paused	<input type="checkbox"/>
04-15-2013 12:05:01	1001-1201	1001-1202	1001-1204	Waiting	<input type="checkbox"/>
04-15-2013 11:55:01	1001-1132	1001-1135	1001-1145	Cancelled	<input checked="" type="checkbox"/>

Paused

You told the SugarCube to pause transmitting data.

Click RESUME to continue sending the transmission in progress,  
or click DISCARD to delete all orders that are waiting.

RESUME DISCARD

PAUSE

DEBUG:  
Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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The screenshot shows the SugarCube software interface running in a web browser. The title bar indicates the site is [sc6921.wix.com/sugarcube#ltransmission-cancelled/ci4d](http://sc6921.wix.com/sugarcube#ltransmission-cancelled/ci4d). The main interface features a large blue trash can icon on the left. To its right, the word "cancelled" is displayed in large yellow letters. Below this, a message states: "All pending orders were deleted at your request. If you submit a new order, sending will begin immediately." A blue button labeled "Continues after next order submitted" is visible. At the top of the interface, there are four main buttons: ORDER, SCAN, SEND, and a fourth button whose status is shown as "Cancelled". Below these buttons, the status is listed as "Empty Tray". The SugarCube logo is on the left, and the PCL Communications logo is on the right. The bottom of the screen includes standard browser navigation buttons and a Wix.com footer.

SugarCube powered by SoundFit®

SC6921.wix.com/sugarcube#!no-internet-connection/c2td

ORDER SCAN SEND

STATUS: Ordering Empty Tray No Internet

PCL COMMUNICATIONS

No Internet

The SugarCube is ready to transmit scans, but it does not seem to have a connection to the Internet at present.

If you connect using wifi, please check that your wifi connection is operating. If you use a physical cable, please disconnect and reconnect your cable.

Try opening a web browser and try to access [www.SugarCube.co](http://www.SugarCube.co). If you can reach our website, and this error persists, please notify [SugarCube Technical Support](#).

Continues when connected

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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The screenshot shows a Mac OS X desktop with a browser window open to [sc6921.wix.com/sugarcube#!server-not-responding/cwed](http://sc6921.wix.com/sugarcube#!server-not-responding/cwed). The browser tabs include "editor.wix.com/html/edito", "sugarcube | Server not Res...", and "Error 7002 | Wix HTML5". The SugarCube application window is the active tab.

The SugarCube interface features a blue hexagonal logo with a signal icon, followed by the text "SugarCube powered by SoundFit®". Below the logo are three large blue buttons labeled "ORDER", "SCAN", and "SEND". Underneath these buttons is a status bar with the word "STATUS:" followed by three colored buttons: green ("Ordering"), yellow ("Empty Tray"), and red ("No Server"). To the right of the status bar is a "PCL COMMUNICATIONS" logo.

The main content area contains a yellow sticky note with the text "We'll be back soon." In the center, there is a large red "No Server" error message. Below the error message, a text block states: "The SugarCube is ready to transmit scans, but there is no response from the SugarCube Server. The SugarCube Service may be down temporarily. Please try again later." It also says: "If service is not restored with 24 hours, please contact [SugarCube Technical Support](#)." A blue button below the text says "Continues when connected".

At the bottom of the SugarCube window, there is a footer with links: "DEBUG:", "Direct Access to all pages >>>", and buttons for "ORDER", "SCAN", "SEND", "HELP", and "More".

A black banner at the very bottom of the screen displays the Wix logo and the text "This site was created by WIX.com. Create your own for FREE >>".

editor.wix.com/html/edito x sugarcube | Server Not Found x Error 7002 | Wix HTML5 x

sc6921.wix.com/sugarcube#!server-not-found-persistent/cywz

SoundFit Scott McGregor GDrive Asana SoundFit R&D Blog Images Maps YouTube craigslist Other Bookmarks

SugarCube powered by SoundFit® ORDER SCAN SEND Orders Fulfilled Create a WIX site! PCL COMMUNICATIONS STATUS: Ordering Empty Tray Server Not Found ?



# Server Not Found

The SugarCube has data to send, but it has been unable to send your orders for 24 or more hours. Please notify [SugarCube Technical Support](#).

When a connection to the server is re-established, sending will resume immediately.

Continues when connected

DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More

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The screenshot shows a web browser window with three tabs open: "editor.wix.com/html/edito", "Help and FAQ | Wix.com", and "Error 7002 | Wix HTML5". The main content area displays the SugarCube application. At the top left is the SugarCube logo with the tagline "powered by SoundFit®". To the right are three large blue buttons labeled "ORDER", "SCAN", and "SEND". Below these buttons is a status bar with the text "STATUS: In Progress" next to a green button, "Empty Tray" next to a yellow button, and "No Server" next to a red button. To the right of the buttons is the Pacific Coast Laboratories (PCL) logo. The main content area is divided into two sections. The left section contains the heading "What labs can I send my scans and orders to?" followed by a note: "For our Beta testing we are only allowing scans and orders to Pacific Coast Laboratories (PCL). We anticipate adding other labs, hearing aids, communications and noise protection manufacturers in the future." Below this is the question "What other questions should we answer?". The right section contains the heading "Help and FAQ" in large blue letters. Below it is a note: "We are always striving to make SugarCube as simple and easy to use as possible. When you submit questions to us, you help us improve, and we'll share the answers here with everyone." At the bottom of the page, there is a footer with links for "DEBUG", "Direct Access to all pages >>>", and "ORDER", "SCAN", "SEND", "HELP", and "More". A Wix logo and the text "This site was created by WIX.com. Create your own for FREE >>" are also present.

The screenshot shows a web browser window with three tabs open: "editor.wix.com/html/edito", "sugarcube | Start SugarCub", and "Error 7002 | Wix HTML5". The main content area displays the SugarCube login page. On the left, there is a photograph of a desk setup featuring a computer monitor, keyboard, mouse, and a SugarCube scanner unit. To the right of the photo is a large blue "welcome" heading. Below it is a text block: "Welcome to SugarCube, the fast, easy and inexpensive impression scanner that lets you send impressions around the world at the speed of light. Please Login." Underneath this text are two input fields for "Login ID / Email:" and "Password:", each with a corresponding blue input box. Below the password field is a link "New? Click to [Register](#)". A large blue "Login" button is centered below the password field. At the bottom of the page, there is footer text: "© 2013 by SoundFit LLC", "DEBUG: Direct Access to all pages >>> ORDER | SCAN | SEND | HELP | More", and a Wix.com advertisement: "This site was created by WIX.com. Create your own for FREE >>".

SugarCube powered by SoundFit

**ORDER**    **SCAN**    **SEND**

**STATUS:** In Progress    Empty Tray    No Server

**PCL** COMMUNICATIONS

## CONTACT



**SugarCube Scanners by SoundFit**

SugarCube Scanners are built by SoundFit, and SugarCube Scanning Services are operated by SoundFit on behalf of various manufacturers of custom ear tips, noise protection, communications devices, and hearing aids.

If you are having problems with your scanner we want to know!

**SoundFit**  
 1031 San Leandro Blvd.  
 San Leandro, CA 94577  
 Tel: 123-456-7890

Mail: SugarCube.Support@SoundFit.Me

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**Name**

**Email**

**Subject**

Tell us what you want from SoundFit in the future.

For the fastest response, be sure to include your SugarCube UserID.

**Send message**

How are we doing? We want to know!

Send us a message and tell us what you like about the SugarCube, or what you don't like, or to report any problems with your SugarCube.

DEBUG:  
[Direct Access to all pages >>](#)    [ORDER](#) | [SCAN](#) | [SEND](#) | [HELP](#) | [More](#)

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