

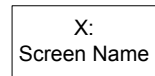
User Interface Specification

MiSeq Control Software (MCS)

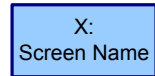
Filename/Version: MCS UI Specification v0.11.vsd
Release Date: 24-Jan-12
Human Factors Reviewed By: AA

Contents	1
Legends	2
Templates	3
Default Operation	4
Main (Workflow)	5
Main	6
Set-up Options (Workflow)	7
Set-up Options	8
Sequence Set-up (Workflow)	9
Sequence Set-up	10
Sequence (Workflow)	11
Sequence	12
Maintenance Wash (Workflow)	13
Maintenance Wash	14
Errors	15
Errors pg.2	16

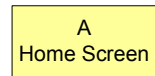
Legends:



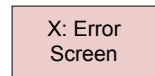
Screen:
A screen that appears in the workflow. "X" represents on-page reference ID of the screen other references.



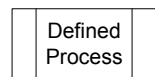
Off-page Screen :
"X" represents off-page reference ID of the screen to the mockup or other references. The color of the box is Blue



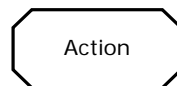
Home Screen:
"A" is a reserved ID for home screen. The color of the box is Yellow.



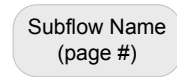
Error Screen:
"X" represents reference ID of the screen to the mockup or other references. The color of the box is red.



Defined Process:
Refers to a standard process (mostly defined by SW Arch or System Engineering).



Action:
Defined actions taken by the system or the user in order to produce a event or response.



Sub-flow:
A sub-workflow usually defined as a main workflow else in the document.



Navigation reference:
Returns the flow to the screen referring the "X" ID.



Template Reference:
Refer to the "X" template for the given screen mockup in template section.

Layers and Colors

are used to show status of the document.

Revisions (RED): Highlighting of changes added since last rev of spec.

Deleted (dashed lines and MURKY GREEN-BROWN): Highlighting of items removed since last rev of spec.

Future (PURPLE): Hooks left in design to accommodate desired future enhancements.

Page Description

Product Name & Code	
Deliverable Name	
Name of the Spec Sheet	
DEXX RelXX RevXX	Page: XX
Author Name	Date

How to read the Specification:

Audience: System Developers

The initial section of this documents is general specification, which specifies common, reusable and repetitive design style, actions and elements. System developers should use these guidelines and specification as building blocks and architectural elements.

Audience: All

In the screen design section that follows the general specification section, each 'UI Spec' page specifies a flow chart (a.k.a workflow), which provides a logical view of the screens flows (represented by rectangle boxes) and the events or decision points that trigger navigation between screens or that causes changes in states. Each workflow diagram is then accompanied by actual screens wireframes on the same or consecutive pages. For system development, each screen references a particular template as specified in the general specification.

MISeq User Interface Specification		
Status	Legends	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 2
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

TBD

MiSeq User Interface Specification		
Status	Templates	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 3
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

Default Operation

Back key

Goes back to most recently displayed screen unless otherwise spec'd. User selections are retained.

UIC_2

Exit key

After the user confirms an Exit press, the current user selections for the run will be cleared and the device will return to the Main Menu

UIC_1

Help key

Go to help screen associated with the current screen.

UIC_3

Clear key

On a text entry page, the clear key clears the entire entry field with one keypress.

UIC_4

Note to developers: In some cases, touch targets may be larger than a given image.

Pause key

Temporarily suspends a run. Can be resumed immediately.

UIC_5

Stop key

Gives the user 2 sub-options: Normal Stop and Immediate Stop.

-Normal Stop: similar to pause, but introduces preservative into flow cell so run can be resumed at a later time.

UIC_6

-Immediate Stop: stops run immediately, run cannot be resumed.

Text Entry

-Cursor for text boxes, excluding formatted numeric entry, should be on left side of box

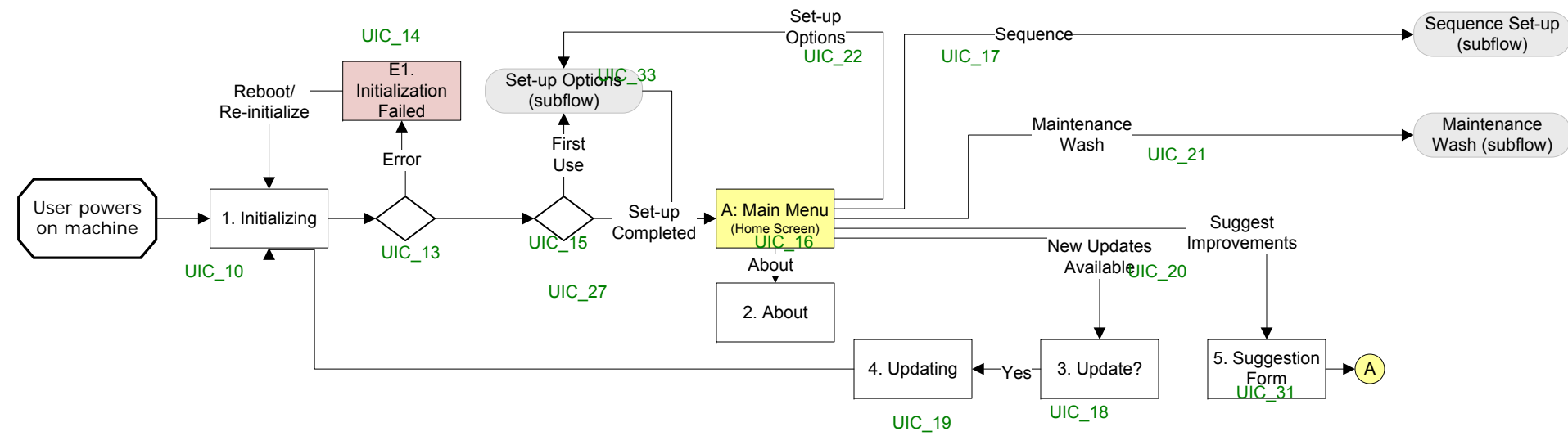
-Limit entry to field size

-If returning to a text entry screen with an existing entry (either through invalid entry or user selections), the previously entered text should be highlighted so it can be overwritten by first subsequent keypress.

UIC_7

MiSeq User Interface Specification		
Status	Default Operation	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 4
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

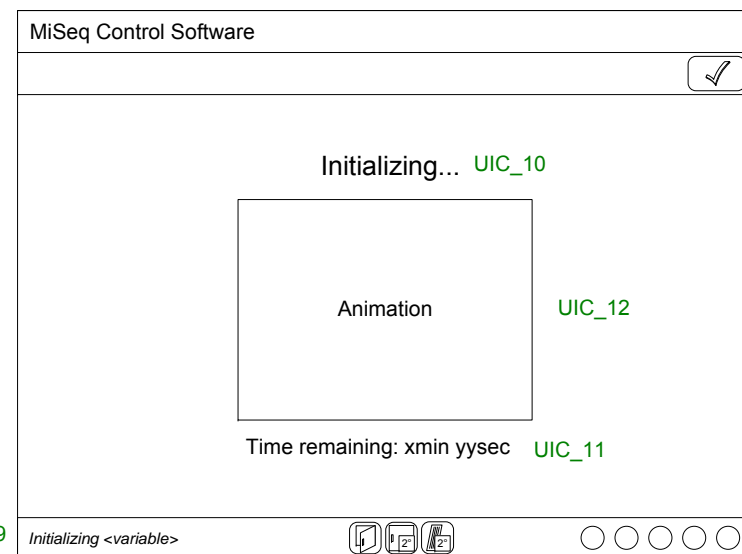
Main (Workflow)



MiSeq User Interface Specification		
Main (Workflow)		
Status	Rev: 0.11	Page: 5
<input checked="" type="checkbox"/> In Review	AA – SW Services	24-Jan-12
<input type="checkbox"/> SW Accepts		

Main

1. Initializing

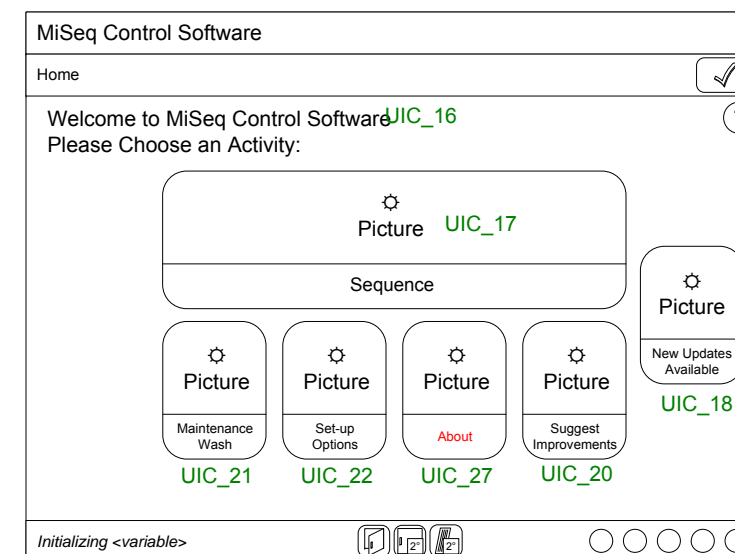


UIC_9

2. About

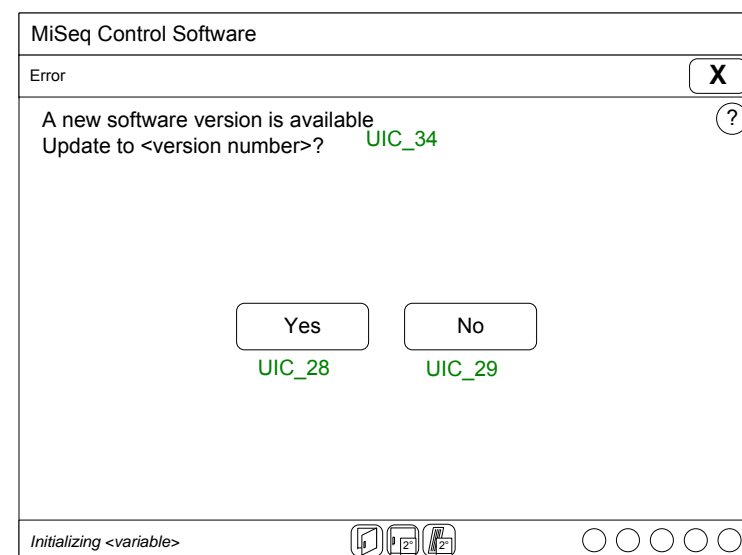


A. Main Menu

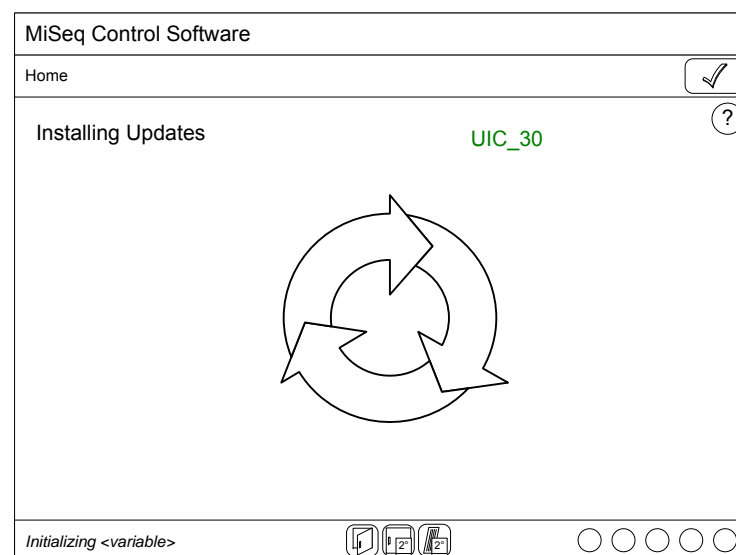


This button is not present unless there are new updates available

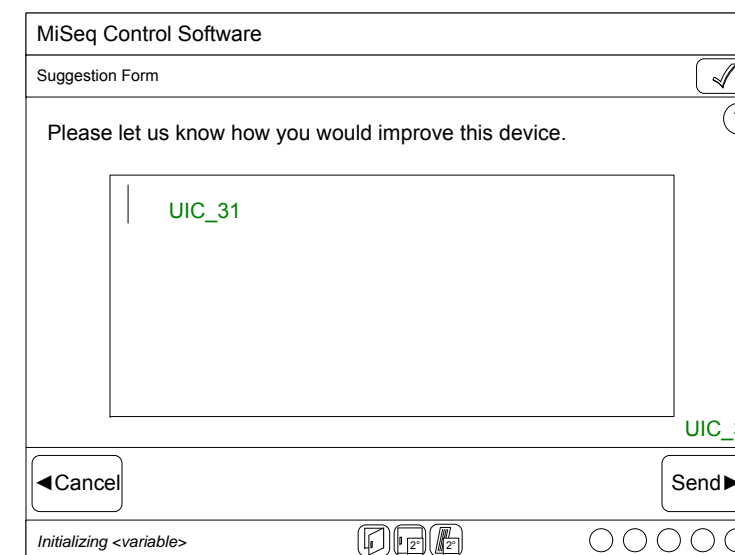
3. Update?



4. Updating

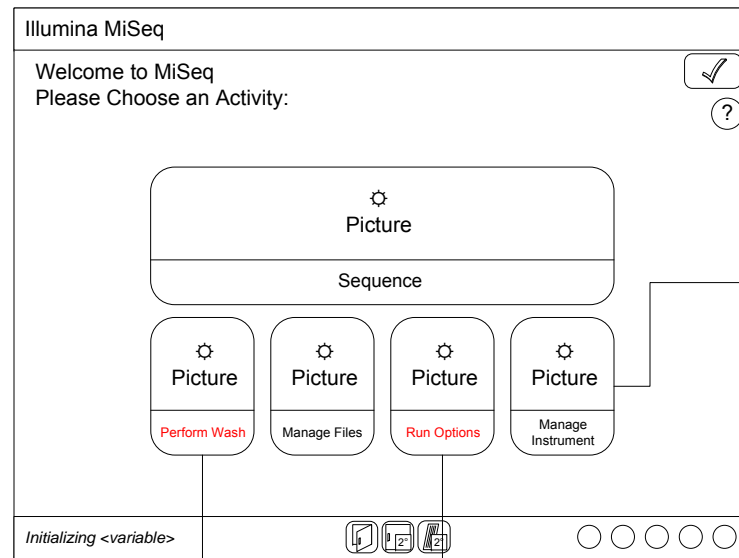


5. Suggestion Form

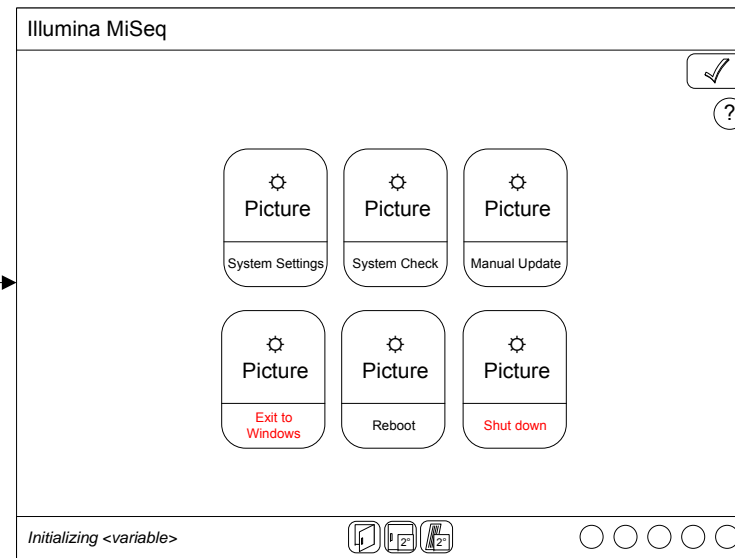


MiSeq User Interface Specification		
Status	Main	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 6
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

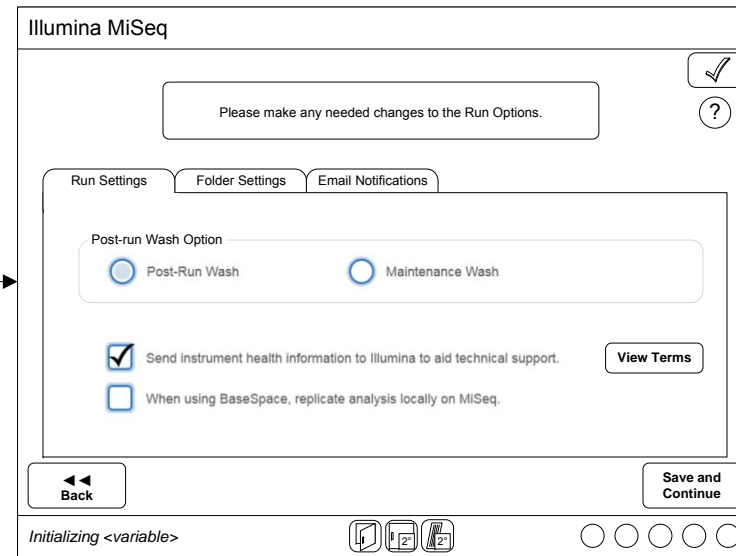
A. Main Menu



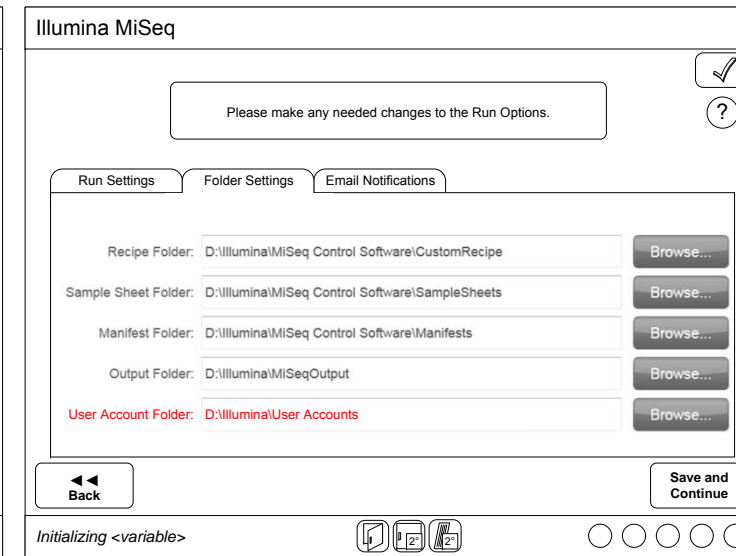
3. Manage Instrument



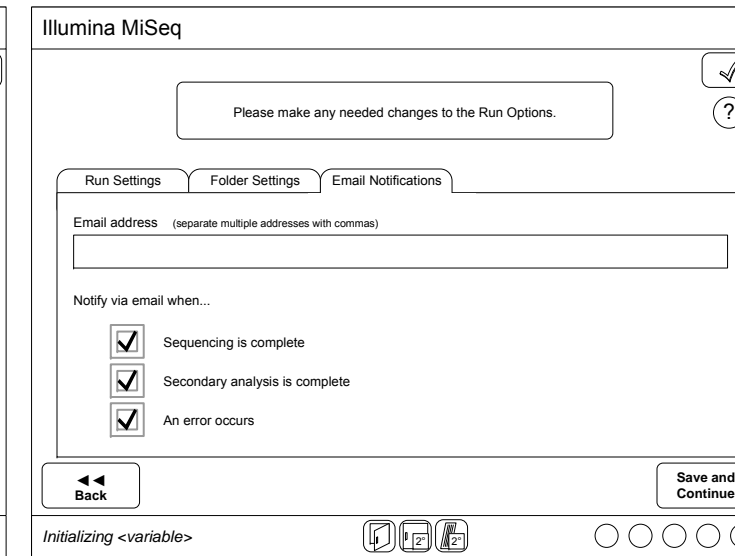
2a. Run Options (Run Settings)



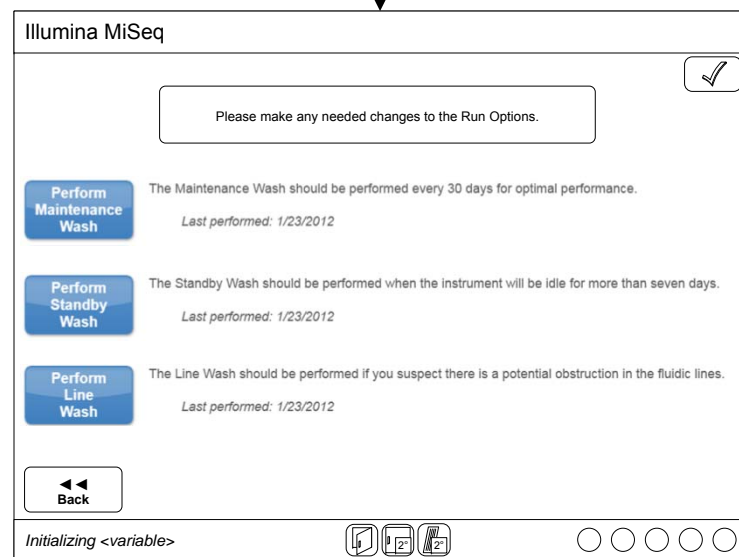
2b. Run Options (Folder Settings)



2c. Run Options (Email Notifications)

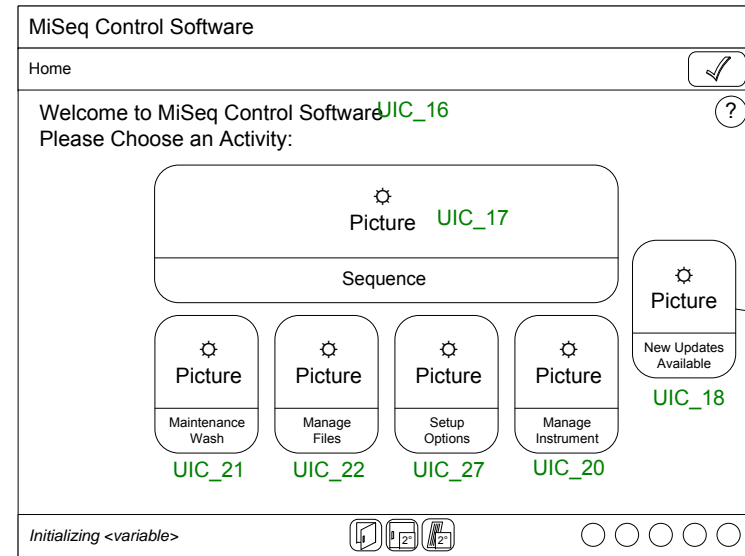


1. Perform Wash



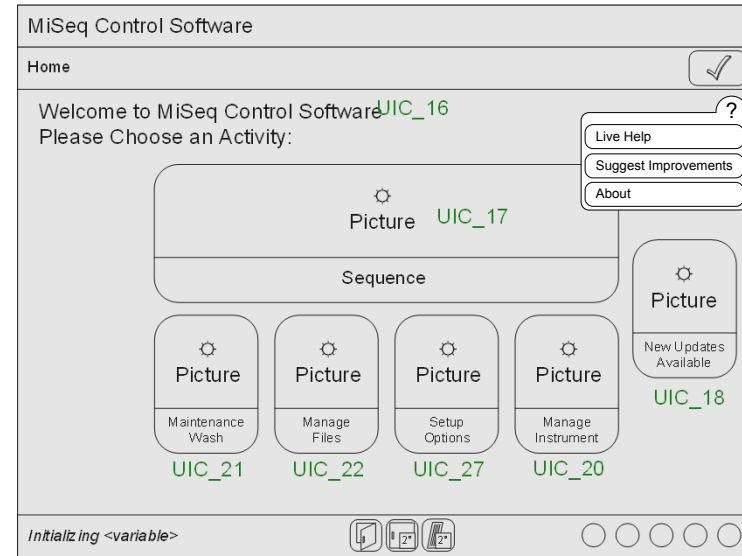
MiSeq User Interface Specification		
Status	Page-18	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 7
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

A. Main Menu

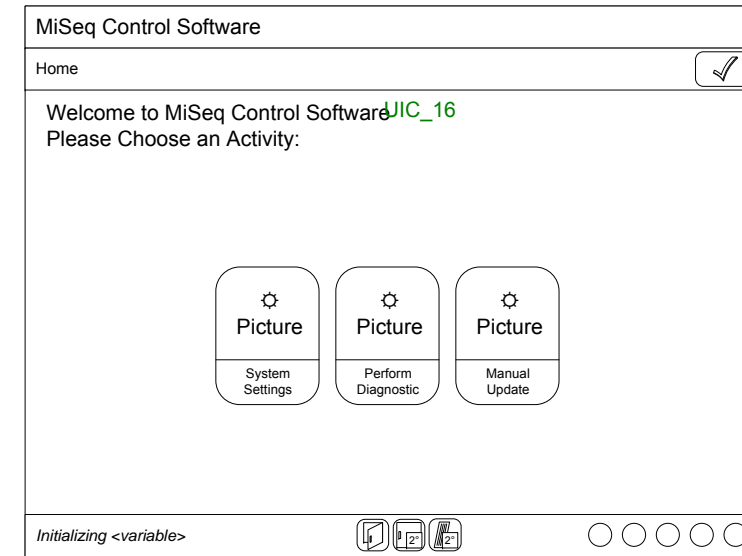


This button is not present unless there are new updates available

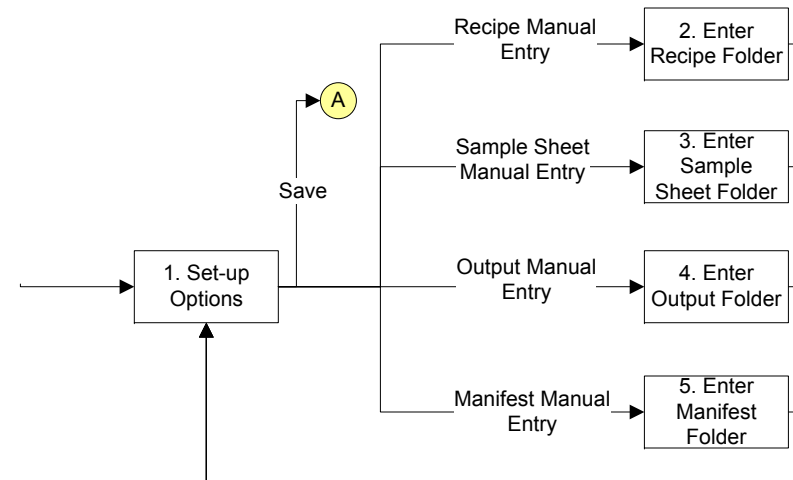
1. Main Menu Help



B. Manage Instrument



Set-up Options (Workflow)



MiSeq User Interface Specification		
Status	Set-up Options (Workflow)	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 9
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

Set-up Options

1. Set-up Options

MiSeq Control Software

Set-up Options

Instructions... UIC_33

Recipe Folder: UIC_29:\\Illumina\Recipes

Default Sample Sheets Folder: D:\\Illumina\SampleSheets UIC_24

Default Output Folder: D:\\Illumina\Output

Default Manifest Folder: UIC_25 D:\\Illumina\Manifests

UIC_26

Initializing <variable>

2. Enter Recipe Folder

MiSeq Control Software

Enter the folder path where recipes are stored.

Initializing <variable>

3. Enter Sample Sheet Folder

MiSeq Control Software

Enter the folder path where sample sheets are stored.

Initializing <variable>

4. Enter Output Folder

MiSeq Control Software

Enter the folder path where output files are stored.

Initializing <variable>

5. Enter Manifest Folder

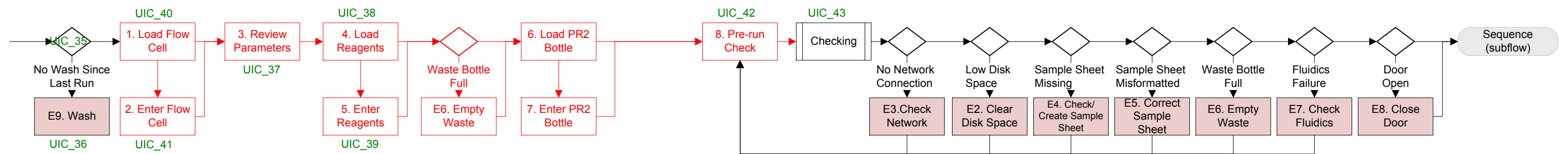
MiSeq Control Software

Enter the folder path where amplicon sequencing manifests are stored.

Initializing <variable>

MiSeq User Interface Specification		
Status	Set-up Options	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 10
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

Sequence Set-up (Workflow)



Sequence Set-up

1. Load Flow Cell

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Load Flow Cell. UIC_57

Animation

Reagents ID: XXXXX UIC_52

◀ Back Exit Next ▶

Initializing <variable>

UIC_53
This button is disabled when the RFID is detected, the screen auto-advances to the next step.

2. Enter Flow Cell

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Enter Flow Cell barcode. UIC_54

Animation

◀ Back Exit Next ▶

Initializing <variable>

3. Run Parameters

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Please review the run parameters.

Sample Sheet: SampleSheet.csv
 Experiment Name: KRAS/BRAF Cases
 Analysis Workflow: Amplicon UIC_44

Read Length: Read 1 Index 1 Read 2 Index 2 UIC_45
 100 7 100 7

Recipe Folder: D:\Illumina\Recipes
 Sample Sheet Folder: D:\Illumina\SampleSheets
 Output Folder: D:\Illumina\Output
 Manifest Folder: D:\Illumina\Manifests

Change Folders

◀ Back Exit Next ▶

Initializing <variable>

UIC_46 UIC_47
Manifest Folder info only appears when amplicon sequencing is selected from the dropdown

4. Load Reagents

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Load Reagent tray. UIC_49

Animation

◀ Back Exit Next ▶ UIC_50

Initializing <variable>

This button is disabled when the RFID is detected, the screen auto-advances to the next step.

5. Enter Reagents

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Enter Reagent tray barcode. UIC_51

Animation

◀ Back Exit Next ▶

Initializing <variable>

6. Load PR2 Bottle

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Load PR2 bottle. UIC_52

Animation

◀ Back Exit Next ▶

Initializing <variable>

This button is disabled when the RFID is detected, the screen auto-advances to the next step.

7. Enter PR2 Bottle

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Enter PR2 bottle barcode. UIC_53

Animation

◀ Back Exit Next ▶

Initializing <variable>

8. Pre-run Check

MiSeq Control Software

Load Flow Cell | Review | Load Reagents | Pre-run Check | Sequence | Complete | Post-run Wash

Checking disk space... UIC_43

✓ Flow
 ✓ Disk Space
 ...
 ...
 etc.

UIC_55 Time remaining: xxmin yysec

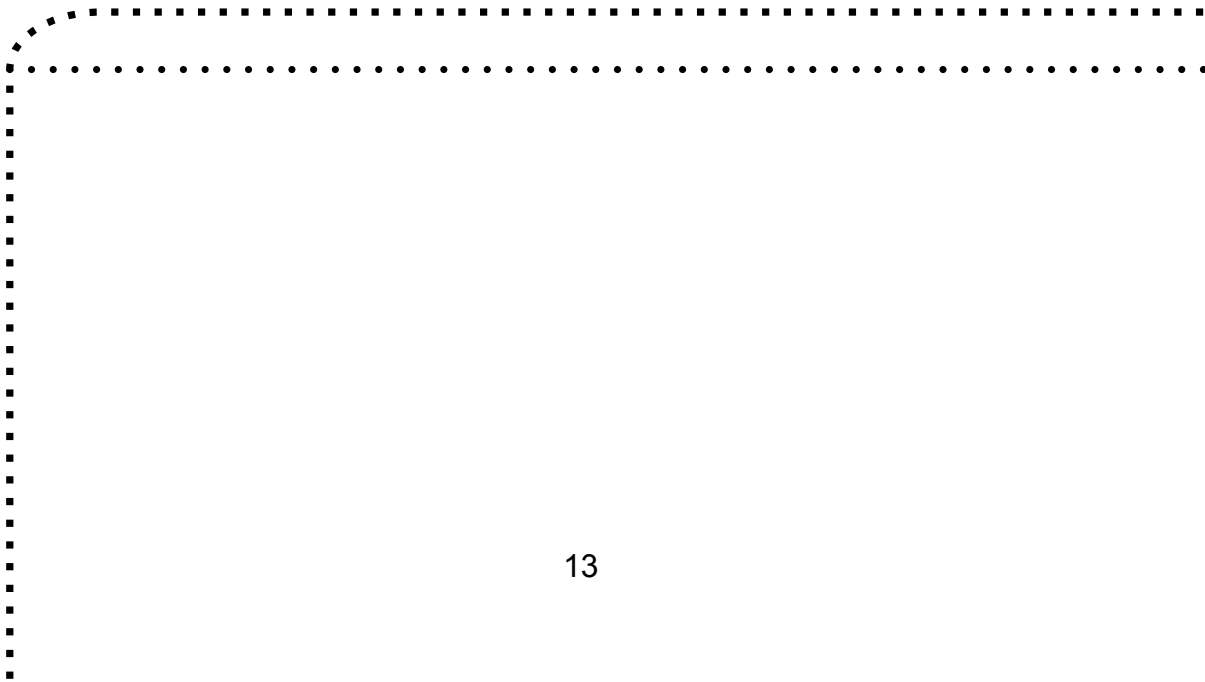
Reagents barcode: YYYYY
 Flow Cell barcode: XXXXX

◀ Back Exit Start Run

Initializing <variable>

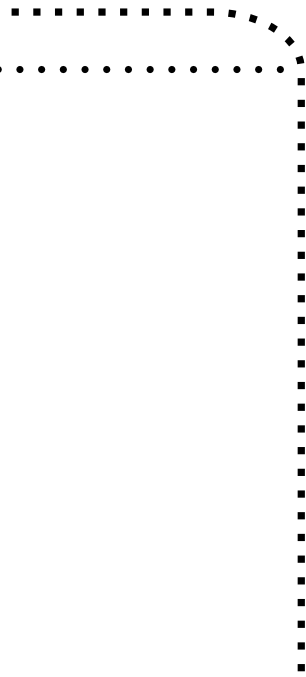
UIC_56
Button is disabled until all Pre-run Checks pass.

MiSeq User Interface Specification		
Status	Sequence Set-up	
✓ In Review	Rev: 0.11	Page: 12
SW Accepts	AA – SW Services	24-Jan-12

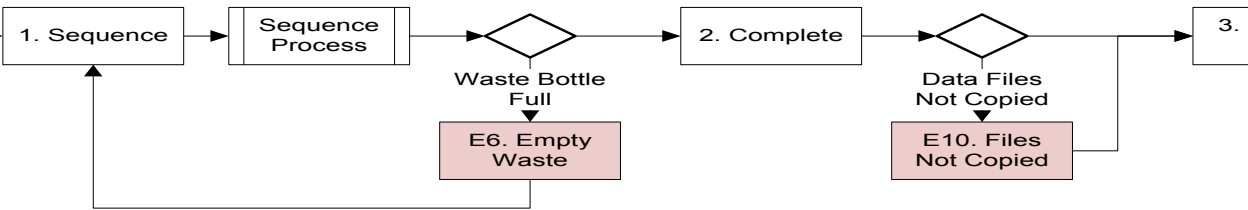


Sequence (Workflow)





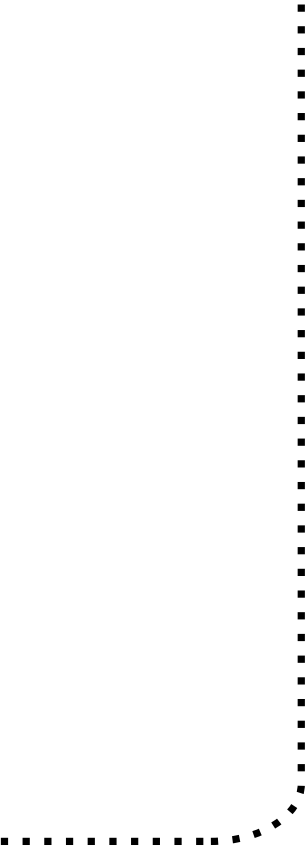




Post-run Wash



19		MiSeq User Interface Sp
Status		Sequence (Workfl
<input checked="" type="checkbox"/>	In Review	Rev: 0.11
<input type="checkbox"/>	SW Accepts	AA – SW Services



Specification	
OW)	
Page: 13	
24-Jan-12	

Sequence

11. Sequence

Dashed lines represent upper and lower thresholds for each metric. If the metric crosses the threshold, the metric will turn red and the notification button will indicate a fatal error.

12. Complete

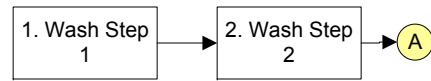
Variable text will be <with some warnings> and <with some errors> where applicable with easily identified Green/Yellow/Red graphical treatment

If Post-run was selected by user, this button is labeled "Start Wash" and leads to the Post-run Wash screen.

13. Post-run Wash

MiSeq User Interface Specification		
Status	Sequence	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 14
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

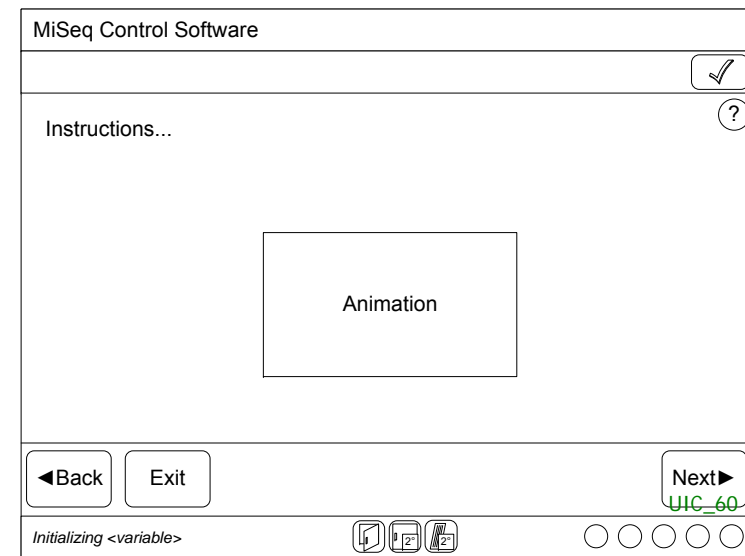
Maintenance Wash (Workflow)



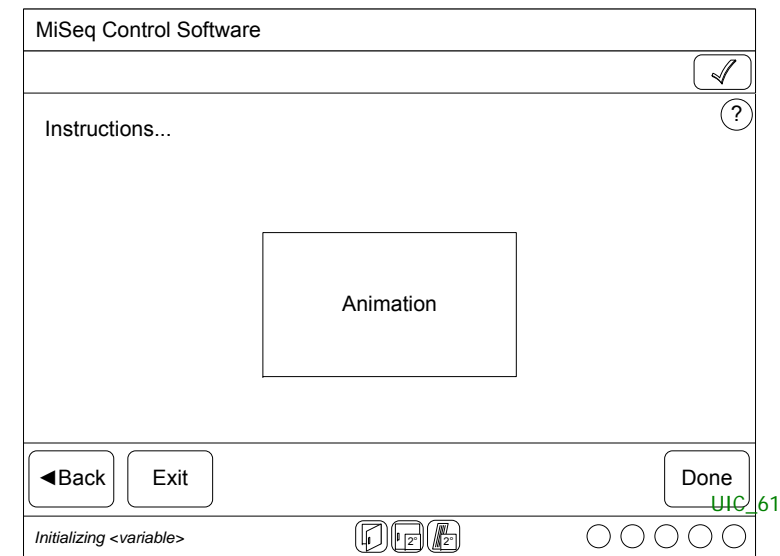
MiSeq User Interface Specification		
Status	Maintenance Wash (Workflow)	
<input checked="" type="checkbox"/> In Review	Rev: 0.11	Page: 15
<input type="checkbox"/> SW Accepts	AA – SW Services	24-Jan-12

Maintenance Wash

1. Wash Step 1



2. Wash Step 2



Errors

E1. Initialization Failed

MiSeq Control Software

Error ✕

Initialization Failed. ?

Blah blah blah

Initializing <variable> ○ ○ ○ ○ ○

E2. Clear Disk Space

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Disk Space Low. ?

Sequencing requires at least XXGB of free space on the server. Please clear at least YYGB of additional space.

Initializing <variable> ○ ○ ○ ○ ○

E3. Check Network

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Network Disconnected. ?

No network connection was detected. Please check that your network cable is plugged in. If the cable is plugged in, try rebooting the system or contacting your local system administrator.

Initializing <variable> ○ ○ ○ ○ ○

E4. Check/Create Sample Sheet

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Sample Sheet Not Found. ?

<Flow Cell ID>.csv was not found in the target folder. Please select the sample sheet to be used for this run.

Sample Sheets Folder:

Initializing <variable> ○ ○ ○ ○ ○

E3. Correct Sample Sheet

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Improperly Formatted Sample Sheet. ?

The following errors were discovered in your Sample Sheet. Please correct them and touch Restart Check to continue

Initializing <variable> ○ ○ ○ ○ ○

E6. Empty Waste

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

The waste bottle is full. Please empty the waste bottle to continue. ?

Animation

Initializing <variable> ○ ○ ○ ○ ○

Button is disabled. When device detects that a non-full waste bottle is present, the device automatically advances. Button text is "Continue Sequencing" when bottle becomes full during sequencing

E7. Check Fluidics

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Please check the fluidics and press Restart Check to continue. ?

Solution: ▾

Volume:

Aspirate Rate:

Dispense Rate:

Initializing <variable> ○ ○ ○ ○ ○

This button is disabled until fluids have been pumped.

E8. Close Door

MiSeq Control Software

Setup	Pre-run Wash	Load Reagents	Load Flow Cell	Pre-run Check	Sequence	Complete	Post-run Wash	✓
-------	--------------	---------------	----------------	---------------	----------	----------	---------------	---

Flow Cell Door Open. ?

Please close the Flow Cell door to continue.

Initializing <variable> ○ ○ ○ ○ ○

Button is disabled until sensor detects door is closed. -When the door is opened during Initialization, the button text is "Re-initialize" -When the door is opened during Sequencing, the button text is "Resume"

E9. Wash

MiSeq Control Software

Error ✓

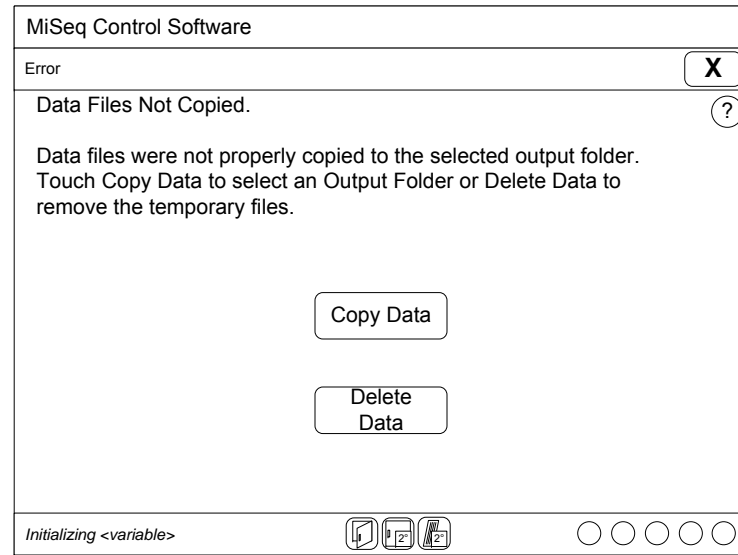
A wash was not completed after the most recent sequencing run. Please conduct a was to ensure contaminants are removed. ?

Animation

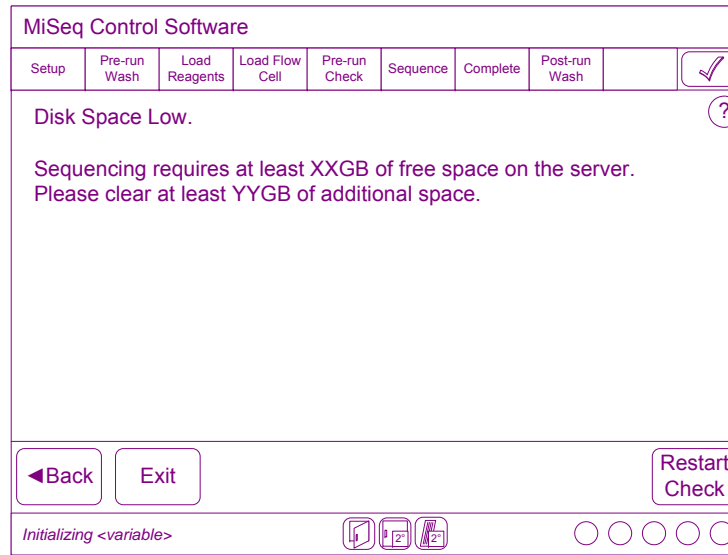
Initializing <variable> ○ ○ ○ ○ ○

MiSeq User Interface Specification		
Status	Errors	
✓ In Review	Rev: 0.11	Page: 17
⋮ SW Accepts	AA – SW Services	24-Jan-12

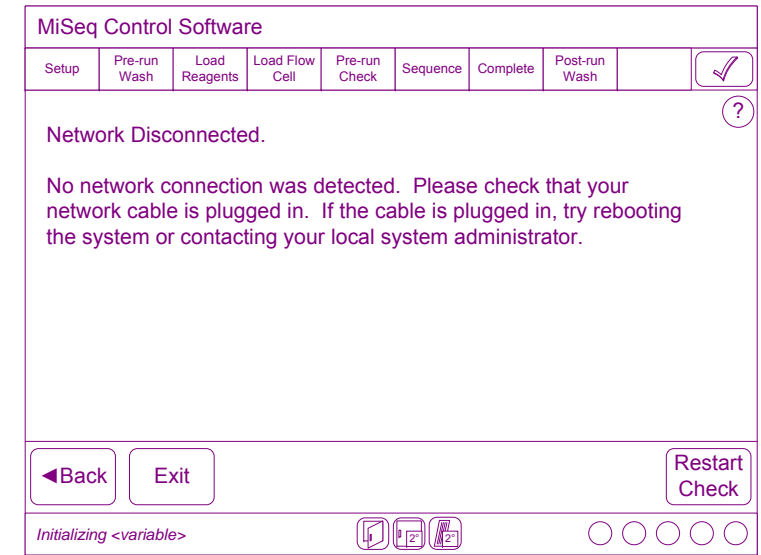
E10. Files Not Copied



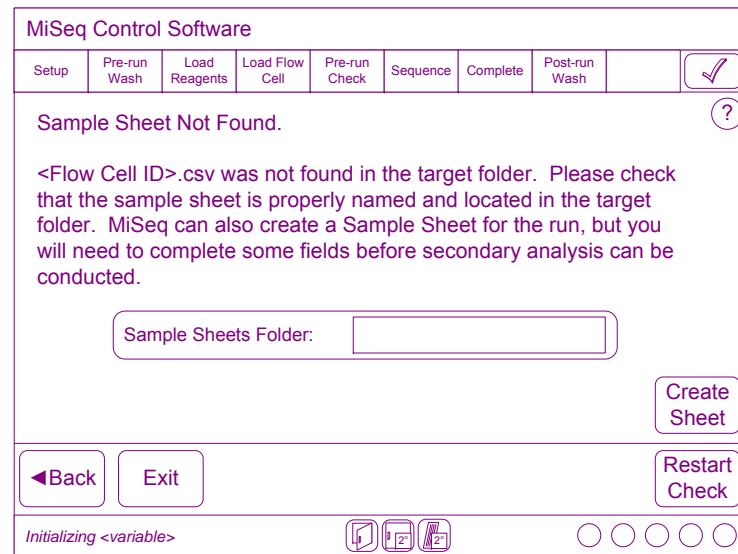
E2. Clear Disk Space



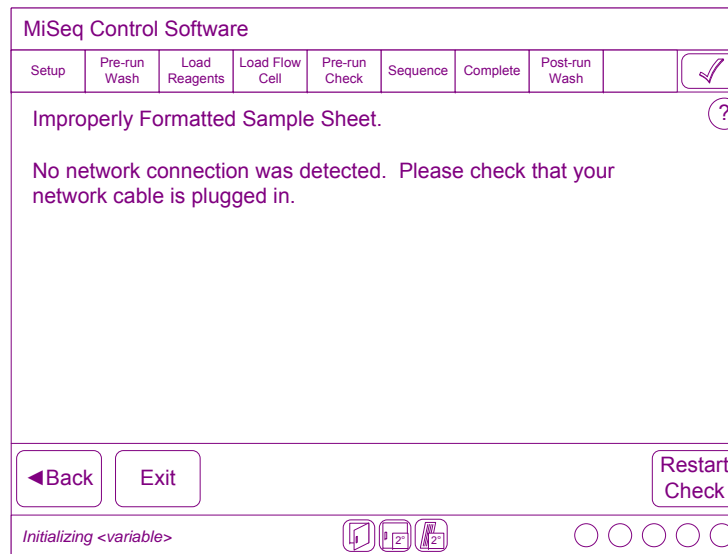
E3. Check Network



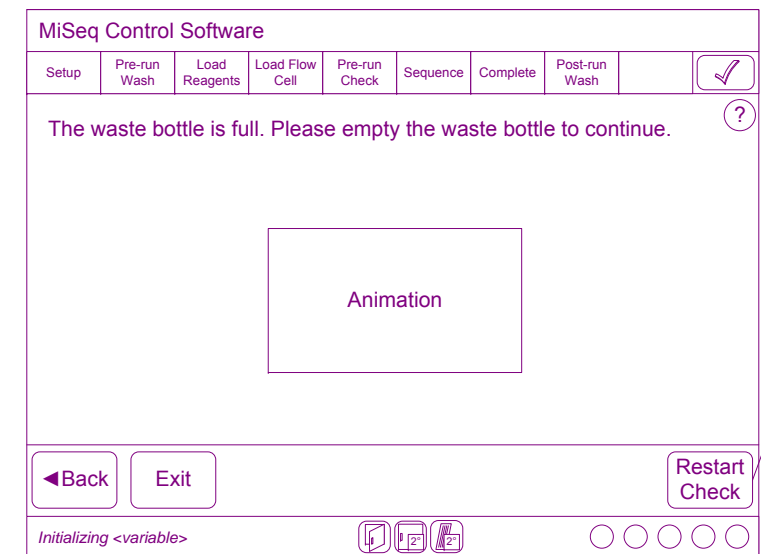
E4. Check/Create Sample Sheet



E3. Correct Sample Sheet

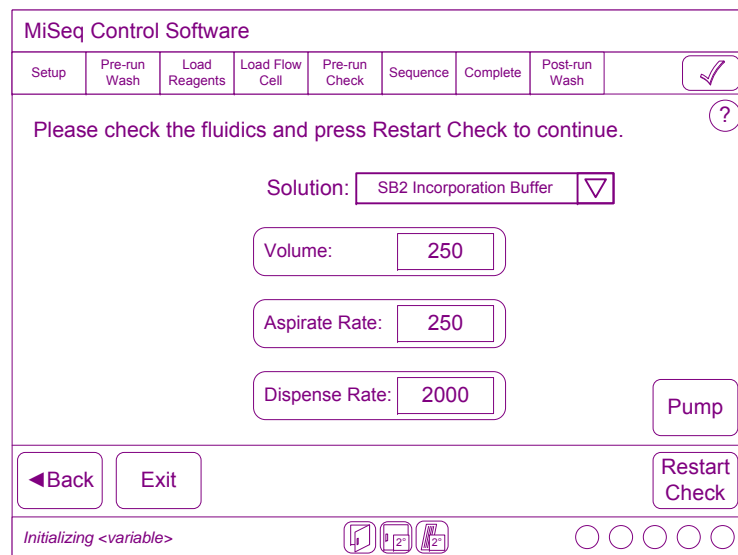


E6. Empty Waste



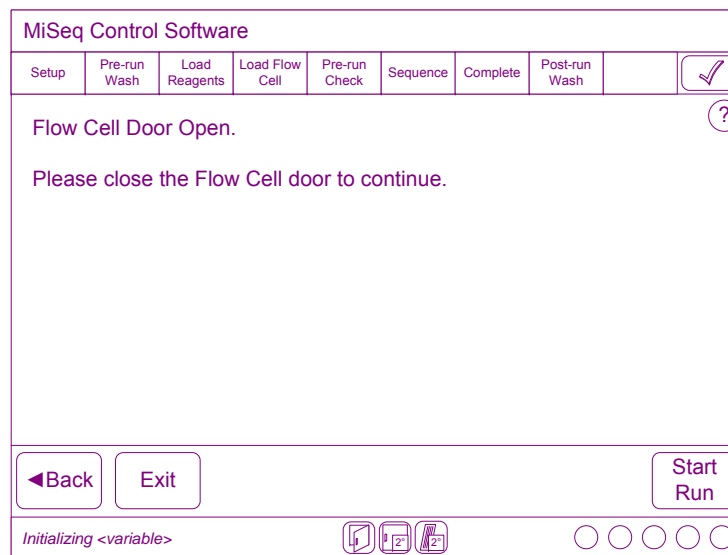
Button is disabled. When device detects that a non-full waste bottle is present, the device automatically advances. Button text is "Continue Sequencing" when bottle becomes full during sequencing

E7. Check Fluidics



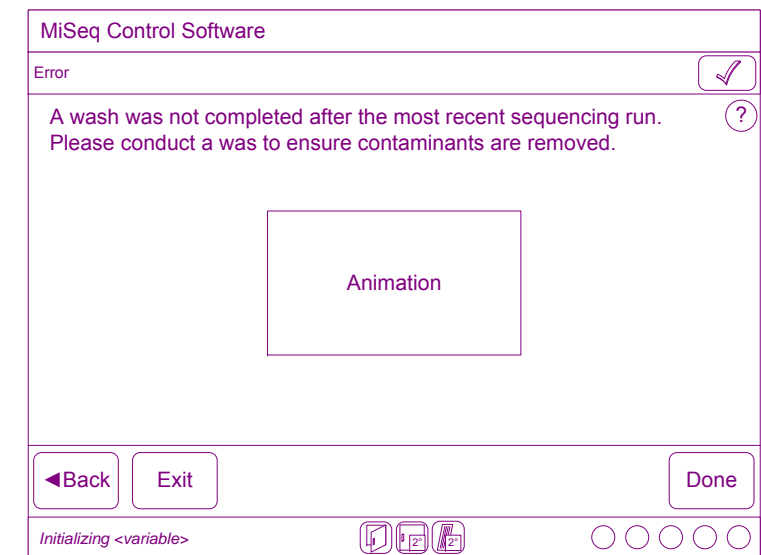
This button is disabled until fluids have been pumped.

E8. Close Door



Button is disabled until sensor detects door is closed. -When the door is opened during Initialization, the button text is "Re-initialize" -When the door is opened during Sequencing, the button text is "Resume"

E9. Wash



MiSeq User Interface Specification		
Status	Errors pg.2	
[✓] In Review	Rev: 0.11	Page: 18
[] SW Accepts	AA – SW Services	24-Jan-12