

Custom Protocol Selector 2.0: More Personalized Content

PRESENTED BY

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INTRODUCTION

- Step through the problems we wanted to solve for
- Introduce CPS 1.0, the first solution
- Detail CPS 2.0, our latest solution
- Demo CPS 2.0
- Discuss impacts and next steps

ABOUT ILLUMINA

- Illumina is a genomics company that makes products for reading and understanding genetic variations
- Determining a genome is called sequencing



PROBLEM # 1: COMPLEXITY



PROBLEM # 2: MODULARITY

- How to find the right guide?
- Or the right combination of guides in the right order?





PROBLEM # 3: BROAD CUSTOMER BASE

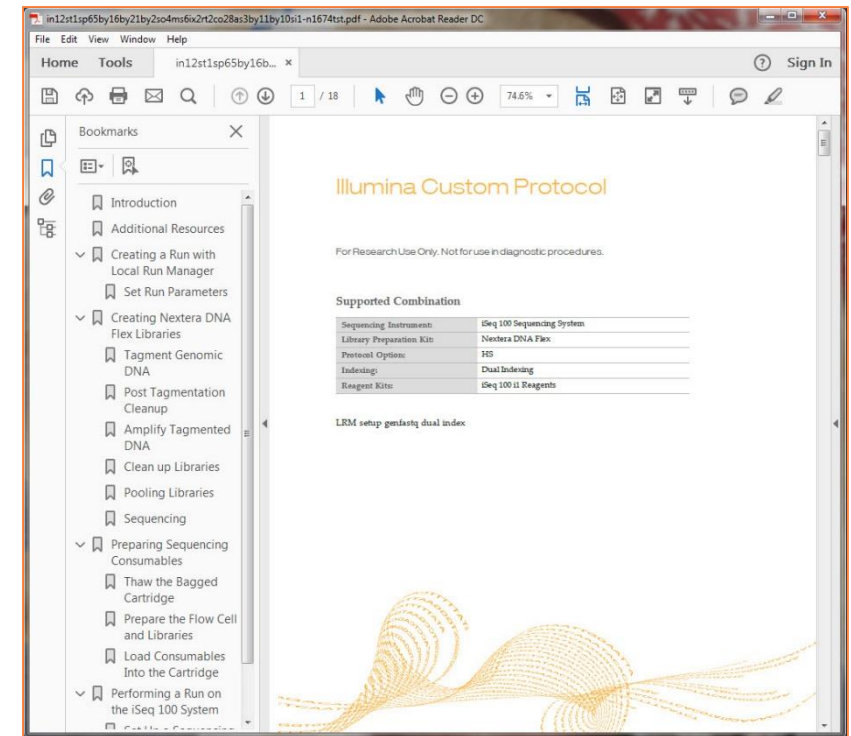
- Illumina is an international company
- We serve different lab sizes and types
- Customers have different roles, some more specialized
- Customers are novices to highly experienced
- Customer expertise is not always in sequencing



Solution # 1

CPS 1.0: GREATER CUSTOMIZATION

- End-to-end PDF tailored to the customer's experiment
- Targeted to experienced users only
- Modular instructions that are mixed and matched
- Pulls protocol steps out of large reference guides



CPS 1.0 CONTENT STRATEGY

- Applied conditions and variables to customize for workflow
- Applied conditions and styles to deliver high-level instructional steps

Condition Tags ▲		Comment
Custom	<input checked="" type="checkbox"/>	Tailored content for a specific workflow (ie, CPS)
Standard	<input type="checkbox"/>	Generic content for all workflows (ie, PDF guides)

Distinguish user guide
content from CPS
content

Condition Tags ▲		Comment
Checklist	<input checked="" type="checkbox"/>	Concise output for CPS and PDF checklists
Comment	<input type="checkbox"/>	Suppress content in all outputs
Comprehensive	<input type="checkbox"/>	Detailed output for CPS and PDF reference guides
QuickRef	<input type="checkbox"/>	Standard output for CPS and site prep guides
Review	<input type="checkbox"/>	Content for review outputs only

Distinguish levels of
detail

WIZARD

- Customers select workflow steps
- Selections dynamically update to ensure compatibility
- Target is built automatically using conditions and variables

Choose the instrument:

- ☐ NovaSeq 6000
- ☐ MiniSeq
- ☐ MiSeq running MCS v2.5 or later
- ☐ NextSeq 500 running NCS v1.4 or NCS v2.0
- ☐ NextSeq 550
- ☐ HiSeq 2500 running HCS v2.2
- ☐ HiSeq 2000 running HCS v2.2
- ☐ HiSeq X running HCS v3.3
- ☐ HiSeq 4000 running HCS v3.3
- ☐ HiSeq 3000 running HCS v3.3
- ☐ Illumina SeqLab

[What is the Custom Protocol Selector?](#)

[What's new?](#)

[Show all included products and options.](#)

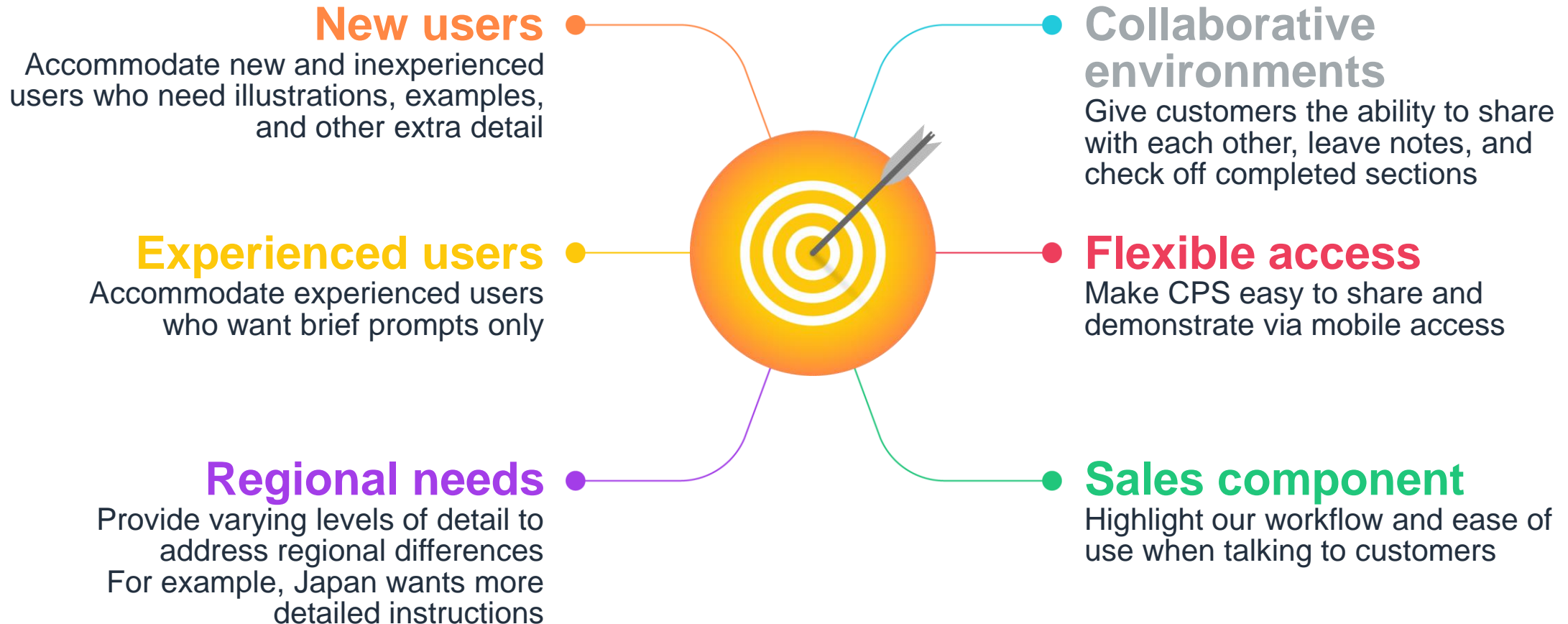




PROBLEMS SOLVED

- Solved issues of finding the right guides, combining the steps for multiple products, and streamlining for the customer's workflow
- Did not solve issue with broad customer base
 - Restricted CPS 1.0 to experienced users
 - Less experienced users still used it
 - Increasing demand for more detail

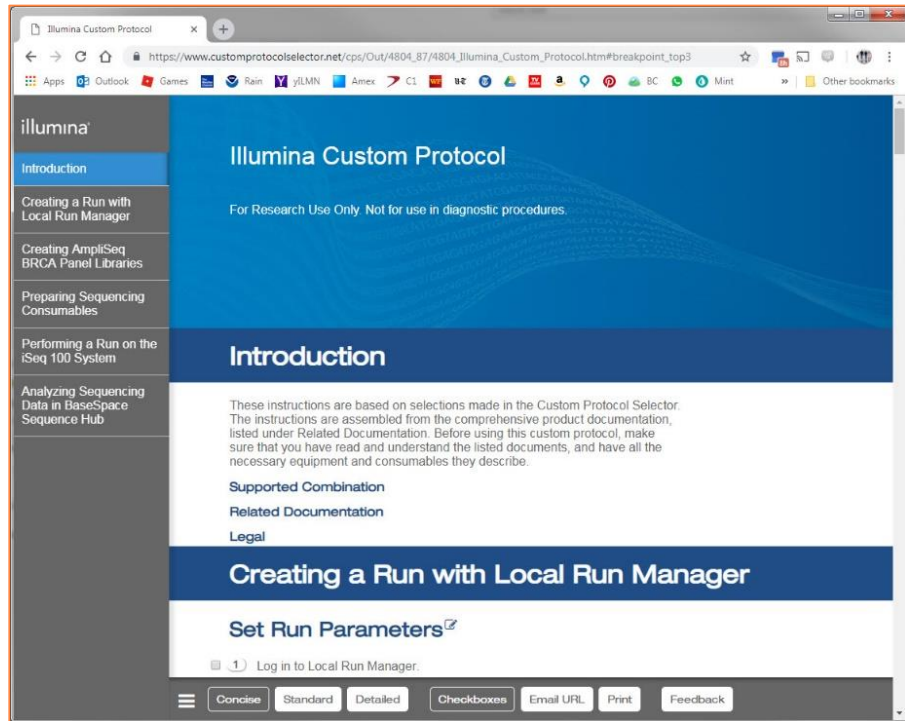
IMPROVEMENTS: FOCUS ON TARGET AUDIENCE





Solution # 2

CPS 2.0: GREATER PERSONALIZATION



- Increased speed of delivery
- Better analytics gathering with HTML
- More features and options



THREE LEVELS OF DETAIL

- Select buttons to add or remove detail
 - **Concise**—Succinct, steps-only view
 - **Standard**—Detailed steps (default view)
 - **Detailed**—Detailed steps with figures and explanations

CONCISE AND STANDARD VIEWS

Adds:

- Detail to steps (conditions)
- Step information (styles)

Load the Cartridge Onto the Instrument

- 1 Place the cartridge onto the tray.
- 2 Select **Close Door**.

Load the Cartridge Onto the Instrument

- 1 Make sure that the cartridge is thawed and contains the flow cell and library.
- 2 Place the cartridge onto the tray so that the access window faces up and the flow cell is inside the instrument. Do not push the cartridge or tray into the instrument.
- 3 Select **Close Door** to retract the cartridge and close the door.
A panel appears on the left side of the screen to show information from the scanned consumables. During scanning, you can continue with run setup.

DETAILED VIEW

Adds:

- Graphics (styles)
- Examples and step results, if applicable (styles)

Load the Cartridge Onto the Instrument

- 1) Make sure that the cartridge is thawed and contains the flow cell and library.
- 2) Place the cartridge onto the tray so that the access window faces up and the flow cell is inside the instrument. Do not push the cartridge or tray into the instrument.



- 3) Select **Close Door** to retract the cartridge and close the door.
A panel appears on the left side of the screen to show information from the scanned consumables. During scanning, you can continue with run setup.

CHOOSE OUTPUT FORMAT

- Default output is an HTML page
- Print button lets you print to PDF

Introduction

These instructions are based on selections made in the Custom Protocol Selector. The instructions are assembled from the comprehensive product documentation, listed under Related Documentation. Before using this custom protocol, make sure that you have read and understand the listed documents, and have all the necessary equipment and consumables they describe.

Supported Combination

Sequencing Instrument:	iSeq 100 Sequencing System
Setup Option	Manual
Read Type:	Single Read
Indexing:	No Indexing
Reagent Kits:	iSeq 100 i1 Reagents

Related Documentation

This document is derived from the following documents:

Document Title	Document Number	Publication Date
iSeq 100 Sequencing System Guide	1000000036024 v04	October 2018

Legal

This document and its contents are proprietary to Illumina, Inc. and its affiliates ("Illumina"), and are intended solely for the contractual use of its

Illumina Custom Protocol

For Research Use Only. Not for use in diagnostic procedures.

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INTERACTIVE ELEMENTS

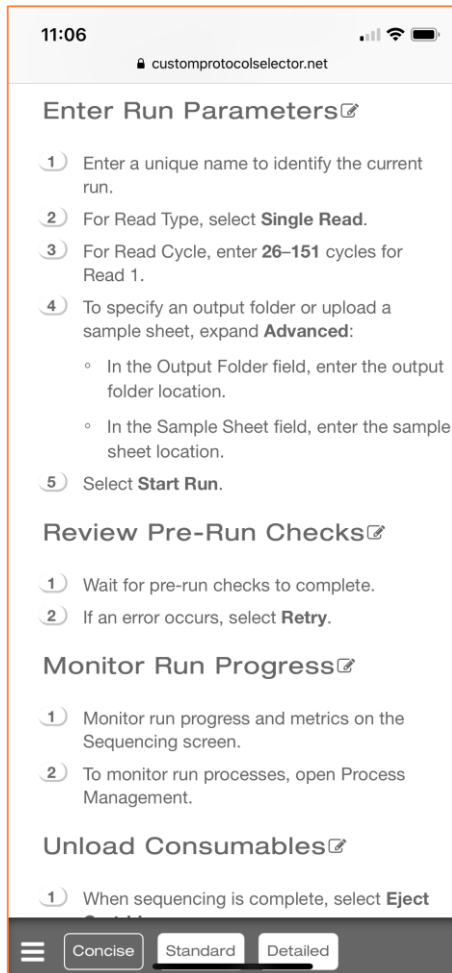
- Add interactive elements like checkboxes and notes
 - Button turns checkboxes on or off for each step
 - Select checkboxes as you go
 - Icon next to headings turns on notes for each section

Unload Consumables

We can recycle the flow cell and cartridge in our region.

- ☒ 1 When sequencing is complete, select **Eject Cartridge**.
- ☒ 2 Remove the cartridge from the tray.
- ☐ 3 Remove the flow cell from the cartridge.
- ☐ 4 Dispose of the flow cell and cartridge per regional standards.

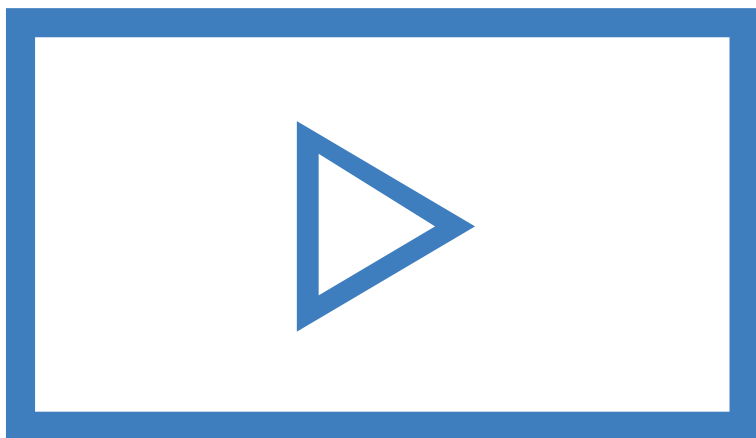
MOBILE-FRIENDLY OUTPUT



- Responsive design
- View on a computer, tablet, or phone
- Useful in a lab setting

DEMO

support.illumina.com/custom-protocol-selector.html



- ## Procedure

 - 1 Remove plate from the magnetic stand.
 - 2 Using a P100 or P200 pipette, add 22 μ l Ligation Mix to each well.
 - 3 Using a P20 pipette, pipette to mix. Make sure that beads do not remain in the pipette.
 - 4 If bubbles form, centrifuge at 100 x g for 20 seconds.
 - 5 Place on the thermal cycler and run the EXT_LIG program.
 - 6 Combine ATL and PMM as follows.
 - ▶ **[16-sample kit]** Transfer 18 μ l ATL to the PMM tube. Flick and invert to mix.
 - ▶ **[96-sample kit]** Transfer 137 μ l ATL to the PMM tube. Flick and invert to mix.
 - 7 Transfer 18 μ l ATL to the PMM tube. Flick and invert to mix.
 - 8 Transfer 137 μ l ATL to the PMM tube. Flick and invert to mix.

Volumes include an additional 10%.

 - 9 Place on ice for the next step.

Conditions
distinguish detailed
from concise content

Conditions also distinguish user guide output from CPS output

Variables optimize reuse

Styles distinguish supplementary info from primary steps



IMPACT

- 5500 uses in the second half of 2018
 - Triple our typical uses
 - Positive feedback: “Worked beautifully!”
 - Showcase for our commitment to customers
- Set up for future enhancements
 - Interactive calculators and easier linking
 - Connect with other digital channels
 - Build a comprehensive documentation set, not just the protocol



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Thank You!

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