WEB OLIGOS UI MOCKUP

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1 **Strive for consistency.**
The application is designed to be very simple, but still holds consistent within itself and other applications a user may be used to. Both screens will have similar styles, using Bootstrap to provide a familiar, adaptable interface used by many web sites.

2 **Enable frequent users to use shortcuts.**
Although there are not many controls to use in this system, users of any software that requires filling forms will be used to using the keyboard (tab, enter) to quickly navigate the form fields and submit.

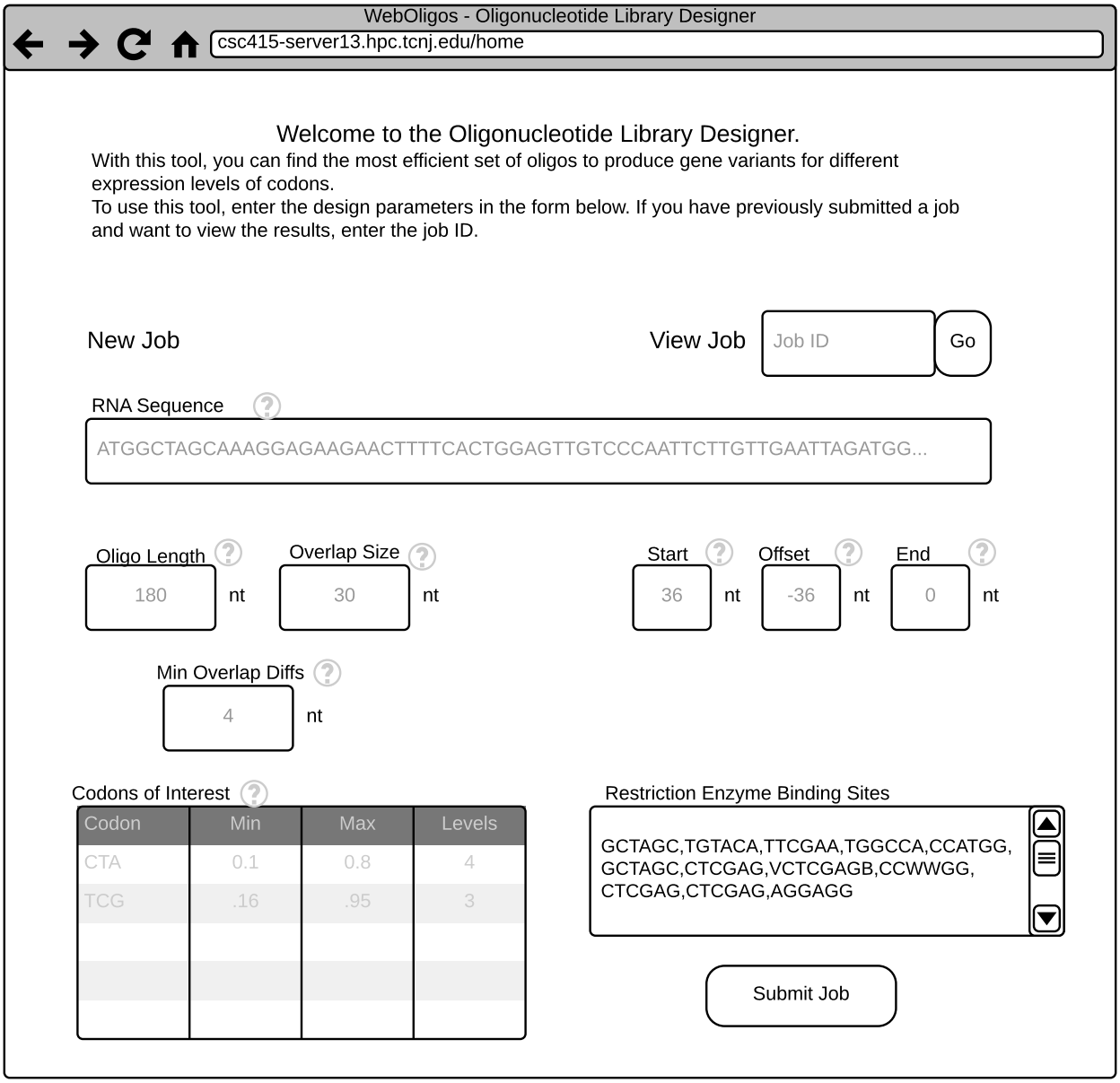
3 **Offer informative feedback.** / 4 **Design dialog to yield closure.**
As noted in the use case diagrams, there are two major actions which the user can perform. Submitting a job will either inform the user of any form errors (if applicable), or return the job ID to the user so they can see the results. Going to the view page will show job results, or inform the user if there was an error processing their data (or if it simply isn't finished yet). Feedback will be handled in a non-intrusive way, such as highlighting fields or adding error text to the page.

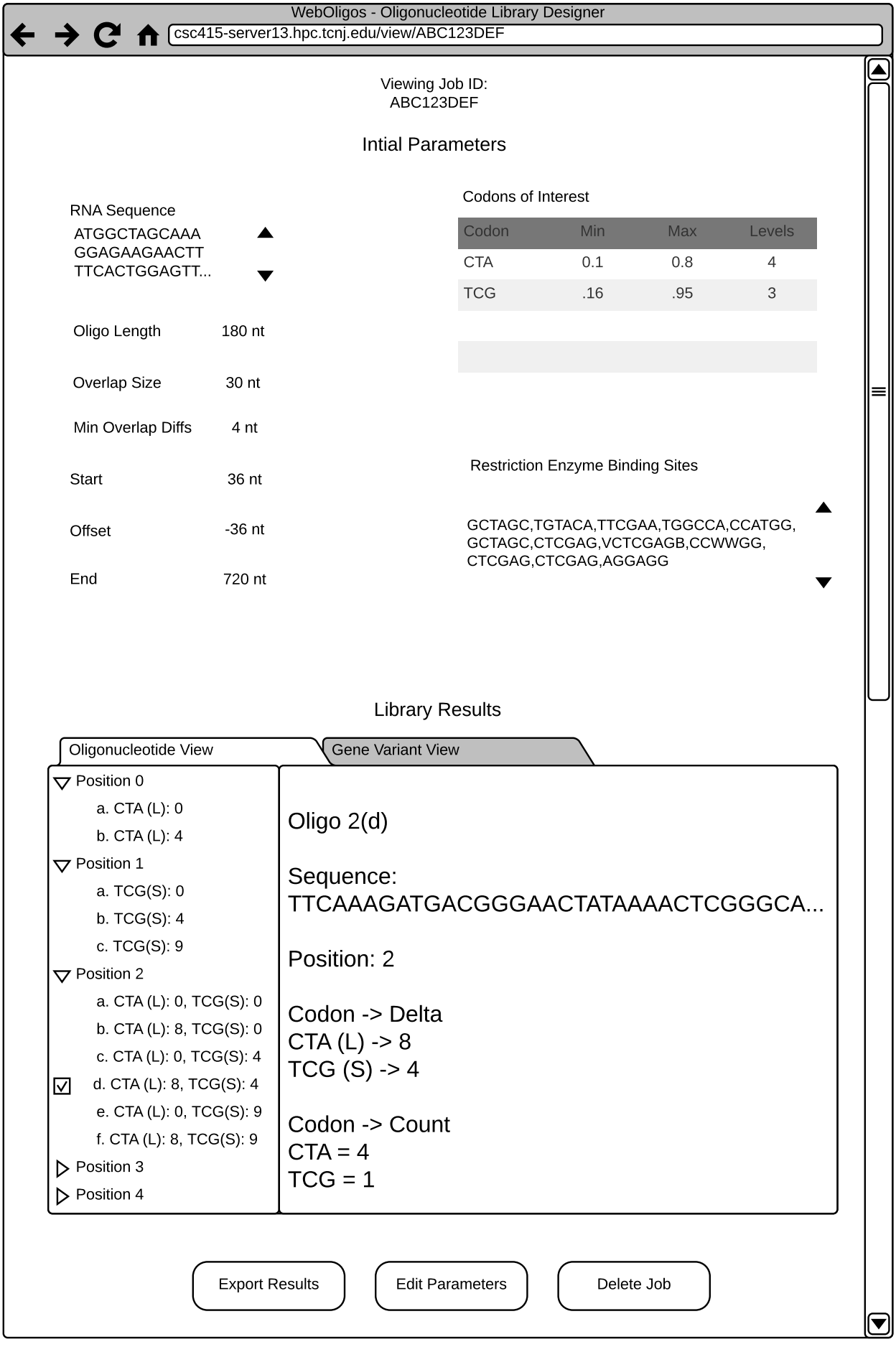
5 **Offer simple error handling.**
Form inputs are validated before submitting the job, and the system will warn the user if any changes need to be made.

6 **Permit easy reversal of actions.**
Form data is not permenent until the user decides to submit their job. They can always change parameters. Even after submitting the job, they can later decide to edit the parameters and make a new job from the editted parameters.

7 **Support internal locus of control.**
The user is always in control of their information as they can edit or delete their job at any time.

8 **Reduce short-term memory load.**
The input form is short enough to remain on one page. Each input box comes with a help button that will inform the user what is required if they are unsure about the parameters. The results page reiterates the input parameters so no memory is needed at all.




WebOligos - Oligonucleotide Library Designer
csc415-server13.hpc.tcnj.edu/view/ABC123DEF
Viewing Job ID:
ABC123DEF
Intial Parameters
RNA Sequence
ATGGCTAGCAAA
GGAGAAGAACTT
TTCACTGGAGTT...
Oligo Length 180 nt
Overlap Size 30 nt
Min Overlap Diffs 4 nt
Start 36 nt
Offset -36 nt
End 720 nt
Codons of Interest
Codon Min Max Levels
CTA 0.1 0.8 4
TCG .16 .95 3
Restriction Enzyme Binding Sites
GCTAGC,TGTACA,TTCGAA,TGGCCA,CCATGG,
GCTAGC,CTCGAG,VCTCGAGB,CCWWGG,
CTCGAG,CTCGAG,AGGAGG
Library Results
Oligonucleotide View
Gene Variant View
Position 0
a. CTA (L): 0
b. CTA (L): 4
Position 1
a. TCG(S): 0
b. TCG(S): 4
c. TCG(S): 9
Position 2
a. CTA (L): 0, TCG(S): 0
b. CTA (L): 8, TCG(S): 0
c. CTA (L): 0, TCG(S): 4
d. CTA (L): 8, TCG(S): 4
e. CTA (L): 0, TCG(S): 9
f. CTA (L): 8, TCG(S): 9
Position 3
Position 4
Oligo 2(d)
Sequence:
TTCAAAGATGACGGGAACTATAAAACTCGGGCA...
Position: 2
Codon -> Delta
CTA (L) -> 8
TCG (S) -> 4
Codon -> Count
CTA = 4
TCG = 1
Export Results
Edit Parameters
Delete Job