

An Interactive System for Original Necklace Design

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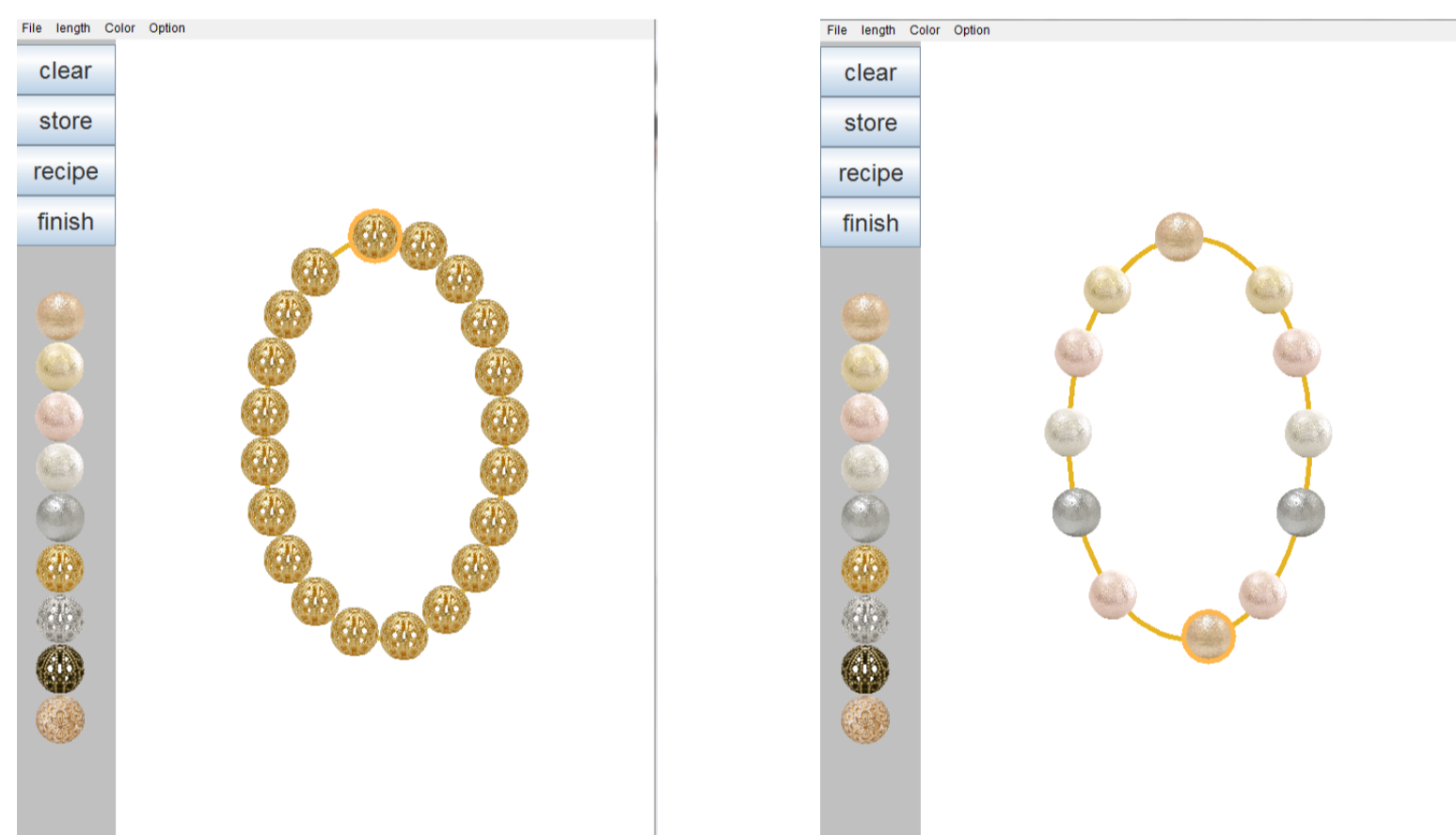
Introduction

Making original necklaces is a popular, traditional handicraft, and many professionals design their own original work. On the other hand, novices usually follow an off-the-shelf design or buy necklace kits because it can be difficult for novices to visualize and design their own necklaces successfully without assistance.

To address this problem, we propose an interactive system to assist novices in the design and construction of original necklaces.

Interactive drag-and-drop Design Tool

The user can use an interactive drag-and-drop design tool using images of “pearls” and design the necklace by manipulating the pearl images through trial-and-error on the screen. The user has the option of creating a symmetrical design by using the “symmetry design mode”.



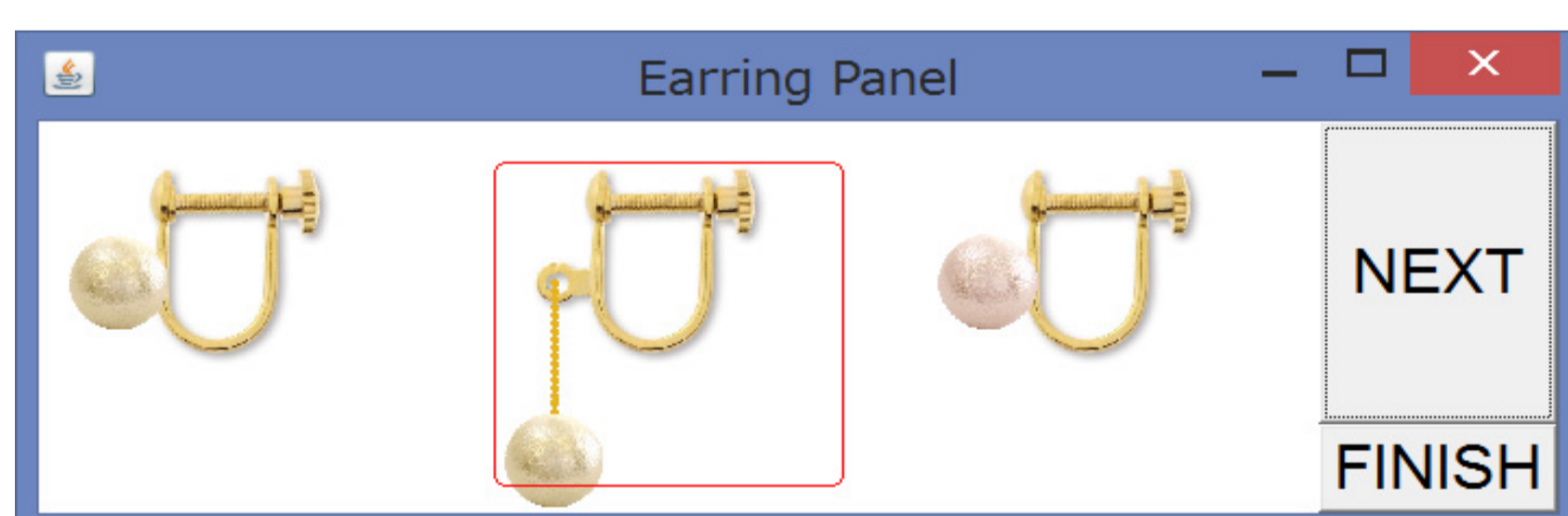
Interactive Evolutionary Computation Design Tool

The user can use a design choice tool with an interactive evolutionary computation (IEC) system. The system shows the user images of necklaces which have been designed by other users using the interactive design tool. After the user chooses three preferred necklace images, the system creates next generation options for the user.



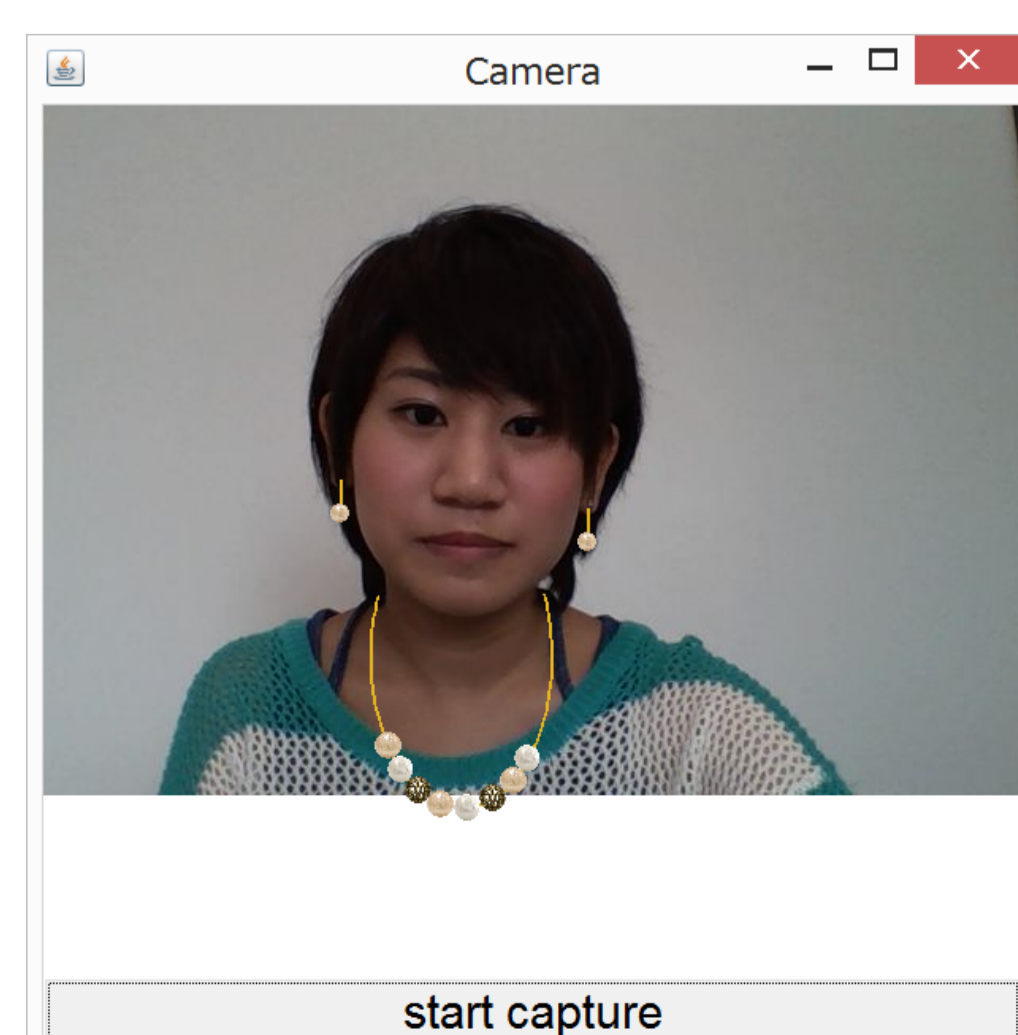
Auto Suggestion for Earring

After the user has created a design for their necklace using these tools, the system proposes multiple complimentary earring designs.



A Wearing Simulation using a Web Camera

The system also includes a virtual modeling simulation, allowing users to superimpose their designed necklace and selected earrings on their own photograph using a web camera. If the results are not satisfactory, the user can return to the beginning and create a new design.



A Construction Guide

Finally, the system also provides the user with a construction guide to assist them with the manual construction process. The user can then actually produce their original necklace using the guide.



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