Design Supporting Tool for Japanese Traditional Kimono Patterns

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Japanese traditional kimonos have beautiful expressions about patterns and colors. It has been limited to design kimono patterns in craftsmen, because the user is required to have a proficient design sense for designing kimono patterns. Kimono patterns are used to make clothes or bags, and they have revived recently. This thesis extracts implicit rules of arrangement from kimono design, and proposes a design support system for novice users based on those rules.

This thesis focuses on plant patterns in *Kaga Yuzen*, in the means of difficulty covering all various kimono patterns. Furthermore, this paper only treats arrangements of kimono patterns.

To extract the arrangement rules from *Kaga Yuzen*, ten samples are randomly selected from the portfolio of *Kaga Yuzen*. This system is implemented in two common rules, "Flow" and "Hierarchy (layer structure)", which are extracted from ten samples.

The design support system consists of two elements; pattern generation algorithm and user interface. L-System is the algorithm for modeling real plants. As the kimono's plant patterns differ from the real plants, this paper improves the L-System to express ornamental plants. This thesis also proposes a user interface that makes it possible to design kimono pattern easily by considering the rule of *flow* and *hierarchy.*