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# VISUAL PROGRAMMING LANGUAGE FOR JAVA

A PROJECT REPORT SUBMITTED BY

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A Visual programming language (VPL) is a programming language that lets users specify programs by manipulating program elements graphically rather than by specifying them textually. A VPL allows programming with visual expressions, spatial arrangements of text and graphic symbols. Most VPLs are based on the idea of "boxes and arrows," that is, boxes or circles or bubbles, treated as screen objects, and connected by arrows, lines or arcs, Boxes represent Entities and arcs represent relationships. In this study it was planned and built a VPL for Java programming language. In the proposed model, there are visual components with a code behind corresponds to each element in Java programming language such as Classes, Interfaces, Methods, variables and so on. Each component may contain one or more components within it. The relationship among components is made by applying the composite pattern. All the components are responsible of creating their own code based on the user selections. And the ultimate parent component is responsible of building the final program by combining all the sub components' code behind. The Composite pattern makes it easy to add more components to the model and extend the model as needed. Then the users of the proposed system can create Java programs easily without having knowledge of the java syntax and semantics given that they have a basic understanding of Object Orientation.