

The software will help in the education and improvement in the knowledge, skills, understanding, and expertise of the students and learners about programming. Thus, allowing them to compete and increasing the opportunities for their careers.

The software will provide assistance for teachers and instructors to teach and demo programming concepts through visualization. This will aid in relieving workload, stress, and maximizing lessons each class time.

The software will benefit educational institutions like university for computer laboratory classes by providing a free software oriented for the purpose of learning.

The software will provide learning experience for the developers and researchers in preparation for software development career.

This study would serve as a guide and reference in the field of software development and education for future researchers.

### **Conceptual Framework of the Study**

The conceptual framework (refer to Figure 1) represents the relationship and flow of the concept of developing a visual programming software for learning the fundamentals of programming.

It shows the order of actions required by the study to achieve the desired output following the design of the context diagram (refer to Figure 4)

The inputs has the following requirements for the development of the study. Knowledge requirements include programming, programming languages, parsing, evaluation, Haxe programming language, user-interface design, user-experience design, data flow diagram, and context diagram. Software requirement include Linux 5.4 - Manjaro as operating system and distribution, Vim as text and code editor, terminal, Kha and zui library for graphics, and the Haxe programming language for development. Microsoft Windows 7 and above, C++ Runtime libraries, and the Haxe programming language for deployment. Hardware requirement are machine with at least Intel Core 2 Duo at 1.4 GHz, 2 GB of RAM, and 80 GB HDD storage for development. At least Intel Core 2 Duo at 1.4 GHz, 2 GB of RAM, and at least 1 GB HDD storage space for deployment.

The process to be followed and used for the development of the software is the V model. The process model involves the requirements of gathering necessary data and information from respondents through conducted survey. High-level design of the implementa-