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Basic Design of BAIK – Scripting Language with Indonesian Lexical Parser for Internet based Software Development

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Abstract— **Developing software with global team is increasing rapidly and the programming language as development tool takes the important role in the global development. However, available modern programming languages are only in English which make difficulties for global programmers whom native language is not in English.**

In this paper, we design the BAIK programming language which syntax is modeled with Indonesian language for Internet based software.

I. INTRODUCTION

The web global software development with involving developers from many countries faces the language barrier not only in spoken communication between members, but also in programming code level. The programmers should not only think about the program algorithm but also should write and understand the English based programming languages. As many operating systems are localized into local languages, it is natural to have an idea of programming language that can be written in different local languages that produce the same algorithm logic. In this paper, we describe basic design of scripting language which parsing uses Indonesian lexical parser. The main concept of this scripting language is easy to use for everyone and to provide infrastructure for Indonesian web developers.

We call our scripting language as BAIK (Bahasa Anak Indonesia untuk Komputer), which means language for computer by Indonesian kid with lexical syntax is written in Indonesian. This scripting language covers not only basic components of programming language such as basic arithmetic operation, logical condition, array and text file handling, but also supports simple object oriented programming, database access and web interaction via CGI(Common Gateway Interface). This scripting language was developed using GNU C language[5][6] in Windows and Unix/Linux environment.

The design of BAIK language can be divided into three parts: The first is Indonesian Parsing Engine (IPE), which read the source code from text file and determine the language word in Indonesian. Since Indonesian syntax uses alphabetic character, the standard C language functions are used to recognize Indonesian words. The second is Memory Allocation of Variables (MAV). To put the value of variable, memory allocation using Binary Search Tree model[3][7] is used as data structure. List structure of memory allocation is used to store the array of string and an object. The last is Language Function (LF), which provides the capability to process specific functions such as mathematical Sin and Cos functions. LF depends on the standard C library or other extern C library that can be adopted into BAIK language.