

# Programming Auto-Comment Generation System

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**Abstract:** *The tool is used to generate the comments automatically for the code (without comments) when given for understanding during analysis. Code comments improve software maintainability. To address the comment scarcity issue, we propose a new automatic comment generation tool. The system adds the comments for all functional, operational and calculating statements. It is helpful for the C/C++/JAVA beginners/users. Comments in the program make the code more effective to analyse the ambiguities and difficulties. The system is designed in perspective of three languages concerned to their keywords, function names, reserve keywords, etc. the file types are recognized depending on their file extensions*

**Keywords:** Comment, Program, C/C++/Java, Tool, System

## 1. Introduction

In the programming history no bunch of codes exists with details, makes it being understood by other non-coding person during the analysis process even though it is efficient and effective in the process of learning. The C/C++/JAVA Auto Comment Generation Tool is an application that allows programmer to generate the comments automatically. In computer programming, a comment is a user-readable annotation in the source code of a computer program. The comments are added to make the source code easier to understand and are ignored by the compilers and interpreters during execution. Writing the comments is the art of describing what our program is going to do in the "High level" English statements called programming statements, and are always the best way to explain our program even though during our absence. Hence the work has been proposed to help all the programmers to improve their program quality of self-learning for a reader.

The comments will give the details of statement depending on the keywords like data types, control statements, looping statements, built-in functions, etc., in the programming languages of C/C++/JAVA. There are usually two syntactic ways to comment. The first is called single line comment and, as implied, only applies to single line in the "source code" (the program). Use // for a single line. Everything from the // to the end of that line of the file is ignored by the compiler and is only the human readable code.

The second is called a Block comment and refers to a paragraph of text. A block comment has a "/\*" (start symbol) and "\*/" (end symbol), and everything between is ignored by a compiler.

The tool is an effective application for the programmer as well as for the beginners. The tool helps in generating comments automatically, and the testers to find and locate where the errors are.

## 2. Review of Literature

Writing a comment is a way of testing your ability to explain the code. Comments are for communication to people other team members, future maintainers. Many websites allows user to get C/C++/JAVA program files, but there is no website present which can insert comments automatically into existing C/C++/JAVA program file. Program without comments will have less importance, inserting the comments into program is very useful, it makes the code easier. A large amount of time has been spent in digging up actual need of variables, functions, looping statements, conditional statements and etc, to do all these user has to insert the comments manually, to reduce the manual work of the user we introduced our application which generates comments for C/C++/JAVA program files automatically.

Let us change the way of writing the comments manually in program, instead of writing manually let's put one step ahead towards automation, our application provides the facility to generate the comments automatically, for this user just have to upload their C/C++/JAVA program files and comment will be generated for their program.

The proposed Application will provide all the benefits of using comments in program that is explanation of intent, clarification, and warnings. And user will get all these benefits without any effort as comments will be generated/inserted automatically into the user's desired C/C++/JAVA program file. Manual work will be reduced and the programmer's time will be saved.

Inserting the comments into the program is very necessary, but at present comments are manually inserted into the program which consumes more time to overcome this we proposed new application which inserts the comments automatically into the program.

The method [1], witness's huge notice and a wealth of assure in content-based image recovery as a rising technology. It also a horizontal way for a huge number of new techniques and systems, get various new citizens include. In this piece, we survey almost 300 new hypothetical and experimental charity in the existing decade related to image recovery and regular image clarification. We also discuss significant challenges involved in the difference of existing image recovery techniques to build systems that can be useful in

Volume 5 Issue 6, June 2016

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the genuine world. In retrospect of what has been achieved so far, we also work out what the prospect may hold for image recovery study.

Predictable methods [2] of image revival require that metadata is connected with the image, usually known as keywords. Though some content based image retrieval systems utilize together semantic and prehistoric attributes to relation search principle, history has proven that it is tricky to remove linguistic in sequence from a 2D picture. In this observe, activity theory is used as a foundation to express how semantic in sequence can be retrieved from objects recognized in a picture. Via an picture segmentation method.

By The Berkeley Digital Library Project, and merge it with, a high-level accepting of he picture can be established Content-Based Image Retrieval [3] has become one of the popular most research areas. Many diagram attribute representations contain been explored and many systems build. While, these research information found the foundation of satisfied based image recovery, the kindness of the future approaches is incomplete. Specially, these efforts have comparatively overlooked two different characteristics of systems the space between towering level concepts and low level skin texture bias of human compassion of visual content. Which electively takes into account the above two uniqueness in CBIR. During the recovery process, the user's high level query and insight partisanship are captured by dynamically updated weights based on the user's advice. The provisional results over more than 70,000 images show that the future approach greatly reduces the user's effort of composing a doubt and capture the user's in sequence.

Application feedback [4] scheme based on support vector equipment have been generally used in content-based image retrieval. However, the arrangement of based application criticism is frequently abridged when the figure of labeled positive advice sample is little. This is mostly due to three reasons a classifier is disturbed on a little sized teaching locate, and over suitable happens since the number of characteristic dimensions is much senior than the size of the preparation set. In this document, we expand a device to overcome these troubles. To speak to the first two troubles, we propose an asymmetric container based. For the third problem, we combine the random subspace method and SVM for application feedback, which is named random subspace SVM (RS-SVM). Finally, by AB-SVM and RSSVM, an asymmetric bag and accidental subspace SVM (ABRS-SVM) is build to solve these three problems and further improve the application feedback performance. Some researchers used Image processing techniques for security[5][6] and for agriculture and horticulture produce[7][8].

### 3. Proposed System

We have designed our application in .NET Framework 4.0 which provides consistent programming model, cross platform support, Language interoperability, and automatic management of resource and ease of deployment. It provides

the various components such as CLR, .NET Framework class Library to easily develop the application

C# is one of the intermediate programming languages used to create executable program. it is an object oriented programming language having many similarities to java++ and visual basic. With a wide range of features, C# becomes the integral part of .NET.

These features are listed as follows:

Flexible – C# programs are executed on the local system, any remote system, or on the web.

Powerful – C# creates any type of applications such as word processors, spreadsheets, and compilers for some language

Easy to use – It uses similar code statements instead of using complex data types and operators such as pointers and :: and -> operators

Visually oriented – C# allows creating attractive user interfaces

Secure - Enables us to protect our code and data from unwanted access

ASP .NET is web development model, which is used to deliver interactive and data-driven web applications over the internet. It also consists of large number of controls, such as text boxes, buttons, and labels for assembling, configuring and manipulating the code.

ASP .NET also has the following advantages:

ASP .NET reduces the amount of code that is required to write an application

Compiled code is converted into classes

Strong typing is followed

Use of the components made easy

Testing is used to check overall processes to determine whether our project objectives are met. Testing is of two types, one is hardware testing and another is software testing. Our application is concerned about the software so we have done the software testing. Software testing is the process of evaluation a software item to detect differences between given input and expected output. Also to assess the feature of a software item. Testing assess the quality of the product. Software is a process that should be done during the development process. In other words software testing is a verification and validation process. In unit testing individual components are tested to ensure that they operate correctly. Each component is tested independently, without other system component. Components may be simple entities such as functions or object classes or may be coherent groupings of these entities. Unit testing is an action used to validate that separate units of source code remains working properly. For Example the functions, Loops or statements in program are working properly.

In our application we did verification for the login form where the user ID and Password are verified. And after only verifying the user will get the privilege to use our application. Validation is the process to make sure the product satisfies the specified requirements at the end of the development phase. In other words to make sure the product is built as per customer requirements.

After each validation test has been conducted, one of the two possible conditions exists. The function or the performance characteristics confirm to specification and are accepted. A

deviation from specification is uncovered and a deficiency list is created. Validation with respect to each form is done to stop the user filling the invalid data which leads to SQL injection. In our application we did validation for registration form where each textboxes should be filled and user should provide the 10 digit cell number and a valid email id is entered by the user.

#### 4. Conclusion

As the requirements are growing for the automation so we are introducing our application for the programmers to save their time in understanding the code. The system is simple by accepting the input and automatically generates comments for functional line of code. The system is user friendly that every comment is made simple to understand depending on the programming language used for coding.

The system is designed in perspective of three languages concerned to their keywords, function names, reserve keywords, etc. the file types are recognized depending on their file extensions. The user study results show that the majority of the participants consider the generated comments accurate, adequate, concise and useful in helping them understand the code.

#### 5. Future Enhancement

The generation of comments can be extended for a program by also generating the documentation content for every program and depending on the purpose or aim given by the user the title can be added as comment of the program

Our application can be extended to any programming language

The structure or Framework can be added for the selected programming Language

We can also generate comments for user defined functions

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