**King Abdul Aziz University**

**Faculty of Computing and Information Technology**

**Department of Computer Science**

**Senior Project CPCS-499**

Developing an Online Developers Community& auto UML Generator (Report-I)

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**Table of Contents**

[Summary of previous work 2](#_Toc526281310)

[Aim of the project 2](#_Toc526281311)

[Problem definition 2](#_Toc526281312)

[Project scope 2](#_Toc526281313)

[Expected outcome 3](#_Toc526281314)

[Target Users 3](#_Toc526281315)

[Suggested solution 3](#_Toc526281316)

[Functional Requirements :- 3](#_Toc526281317)

[Data Requirements:- 4](#_Toc526281318)

[Implementation Languages:- 4](#_Toc526281319)

[Software:- 4](#_Toc526281320)

[Methods and Approaches 4](#_Toc526281321)

[Planning 4](#_Toc526281322)

[Analysis 5](#_Toc526281323)

[Design 5](#_Toc526281324)

[Implementation 5](#_Toc526281325)

[Maintenance 5](#_Toc526281326)

[Activities and Actions 5](#_Toc526281327)

[Completed: 5](#_Toc526281328)

[Not Completed: 6](#_Toc526281329)

# Summary of previous work

## Aim of the project

The aim of this project is to create an online community for software developers which it allows them to generate UML diagram from the PHP code automatically as well as it will be also an environment for the software developers to communicate with each other, to ask and share ideas among each other.

## Problem definition

This project is an online software application which is focused on creating an auto UML generator to convert the source code into UML diagram. In the future, it can expand easily, due to providing such a platform for other languages as well, such as (Java, C++, and other languages that support OOP). The problem is, in developing a PHP parser to extract the OO information from the source code and finding the solution for how to illustrate the extracted information into diagram by using HTML5 Canvas that be easier to understand for the user. Also, another part of the problem is to create such a platform to allow users to create a specific group where the developers can share and ask the ideas on a specific topic such as a group for PHP where PHP developers can join and chat with each other about specific PHP topic.

## Project scope

The scope of this project is:

* To create an auto UML generator from PHP 5.0 source code
* To creating an online application for specific purpose of software developers
* To make a platform for future extension of auto UML diagram for other OOP languages

## Expected outcome

A full responsive web application that can generate UML diagram from PHP 5 source code as well as a chat application for software developers where they could find a specific group and join it for discussion.

## Target Users

## The main target users of this application are the software developers, but in general, anyone can use it for his or her own purpose of generating UML diagram from PHP source code or to chat with other programmers.

## Suggested solution

* Creating a PHP syntax parser for extracting class and interface details from the source code
* Using HTML5 Canvas to draw the extracted information from the php source code into visually UML diagram
* Creating the application interface for the chat application

## Functional Requirements:-

* Parse PHP code
* Generate UML diagram
* Create new group for chat
* Ranking the group
* Putting group in favorite list
* Remove group from favorite list

## Non-Functional Requirements :-

* Response time.
* Throughput.
* Reliability.
* Maintainability.

## Data Requirements:-

## The user should upload the files which contain the PHP source code, which through the uploaded source code, the UML diagram will be generated.

## Implementation Languages:-

* PHP
* MySQL
* JavaScript
* jQuery libraries
* HTML
* CSS

## Software:-

* NetBeans 8.2
* Windows 8
* XAMP Server (PHP and MySQL compiler)
* Chrome Browser

# Methods and Approaches

## Planning

## I planned for the project by work break down structure (WBS) then scheduled the project by Gantt chart & time estimates to manage & organize my work in order to complete the project.

## Analysis

First, I tackled the analysis and parsing part of PHP syntax and figure out how to design and implement it to extract the information of OO code in PHP. The compiler course which I took last year, really helped me in this part of the project.

Second, I figured out about the illustration part of the UML diagram on the browser page, which is the most important and difficult part of this project. The generated UML diagram will be illustrated in the browser so, therefore, I planned to make use of HTML 5 Canvas to convert the extracted information from the source code into UML diagram in the client side.

Third, it’s the application’s user interface part and also figure about the chat application part and creating the database for the entire application.

## Design

I designed an initial prototype and design for the project, flow chart, use case diagram and class diagram.

## Implementation

This project is implementation based therefor I started coding the project. And the coding is divided into 4 parts:

1. Implementation the PHP syntax parser.
2. Implementation of the UML illustration part into HTML 5 Canvas.
3. Implementation of Chat Application.
4. Creating database for the application.

## Maintenance

After completing the code, we will test the program in order to remove the errors.

# Activities and Actions

## Completed:

* PHP syntax parser.

## Not Completed:

* Implementation of HTML 5 Canvas which is the UML illustrator.
* Chat Application