# Software Instructions document:

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| 1. **Introduction:**   In this chapter we introduced the implementation phase of Search Engine with Intelligent Web Spider. What tools we have chosen for the development of this software system. And what operating system we used for development environment is mentioned in this chapter;   1. **Technologies Used**   Following are the technologies we have used:   * Apache NetBeans IDE 12.0   + To write and execute the source code of Java language * Visual Studio Code 1.5   + To write the source code of PHP language. * Internet Explorer, Chrome & Mozilla Firefox Web browsers   + To test the source code of PHP language * WAMP Server   + To install the web server, php, and mySQL databases. * Database Server   + mySQL databases will be used as backend database to store keyword and other application specific data. * Some other Supporting tools:   + JDK   + MySQL Connector with JDBC 3.1.14   + Java Runtime Environment  1. **Steps for Installation & Running Web Crawler**  * **Install Java (JDK and JRE)**   + Go to www.java.com   + Select the Free Java Download button, and then select Agree and Start Free Download. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.   + On the notification bar, select Run. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.   + Select Install > Close. * **Verify if Java is configured successfully**   + Open Command Prompt   + Type java-version   + Java version “1.8.X.X” will be printed. As shown below      * **Run Crawler Application**   + Go to the project folder where the “**webcrawler.jar”** is placed   + Verify StopList.txt file is present   + Verify lib folder is also present and it contains **“mysql-connector.jar”** file   + Double click on “**webcrawler.jar”**   + Following Screen should appear      * **Start Crawling**   + Specify the domain to search from the dropdown   + Type numeric value e.g. 5   + Type Website URL e.g. <https://iqra.edu.pk>   + Press **“Start”** button   + Application will start crawling and display keywords in the lower area   + Once crawling is complete, application will display Completed message in the bottom left side.   + Click “Save” button to save the generated keywords   + Screen is shown below      1. **Steps for Installation of Search Engine**  * **PHP and WAMP Server**   + Go to <https://www.wampserver.com/en/>   + Download Wamp Server e.g. Wamp Server 32 bits   + Once download is complete double click on **wampserver3.2.3\_x86**      * + Click Next and follow the instructions   + Installer will ask for MySQL User Name and Password. Provide **root** as user name and “**iqra@university”** as password   + Click Next and follow the instructions and then Finish   + Once completed Wamp Icon will display on the task bar as shown below      * + Left click wamp icon   + Select “**www directory”**   + It will open up a folder. Place Search Engine project in this folder      * + Go to WebPortal folder and open **ewcfg50.php** configuration file   + Specify the user name and password you have provided for MySQL in this file under Database Connection   + Save the file   + Left click wamp icon   + Select **“Start All Services”**   + This will start MySQL, PHP and Apache Services * **Run Search Engine**   + Open Web Browser and type <http://localhost/WebPortal>   + Following screen will be shown      * + Type the keyword you want to search and click on search button   + Search engine will display search results   + Clicking on any result will open respective website      * + From login page, type user name and password e.g. admin/admin and click on login   + Following screen will appear. |
| * + From here user can view keywords generated by the crawler and used by Search Engine   + View Web site that have been crawled by our web carwler   + Change Password   + Logout |

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| 1. **Summary**   Above is the high-level detail about the deployment and execution of both crawler application and Search Engine. |
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# Annexure–A:

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