

Figure 3: User Interface design of Android Application

Fig.4 shows the detailed stages of compiler. Figure shows how the compiler will work exactly step by step from user or user interface to web services and cloud compiler.

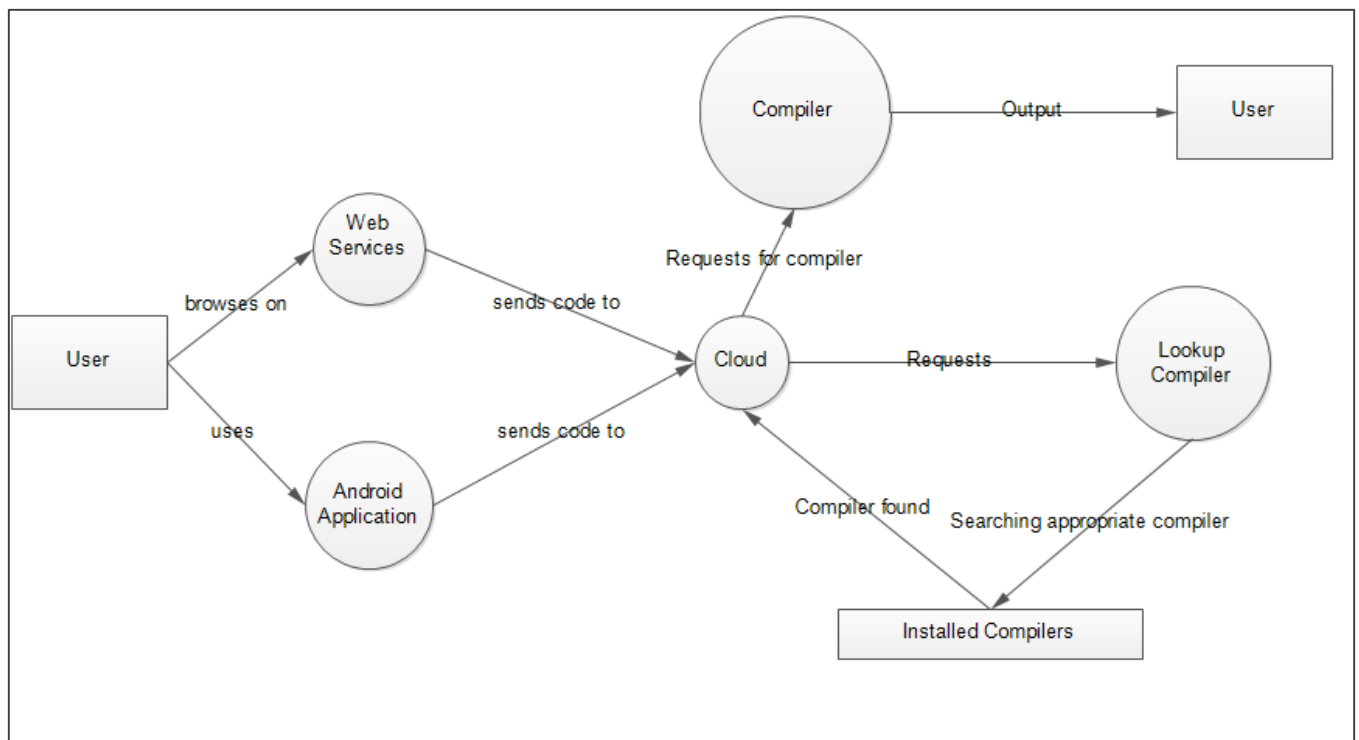


Figure 4: Detailed stages of system

### C. System requirements for cloud compiler

#### 1) Hardware requirements –

- An Android phone for running Android application
- Any other device capable of running browsers can contribute to the working of system.

#### 2) Software requirements -

- Mobile Client - Our Android application on client's device.
- Client Using Web Browser -Web Browser (Firefox, Chrome, Internet Explorer, Safari), Operating System (Any).
- Database Server – MySQL, SQLite, Operating System (Any).

- Development End - (Java, .Net framework, HTML, ASP), OS (Windows, Linux), Web Server, StarUML, Eclipse or Netbeans.

### D. SOAP (Simple Object Access Protocol)

SOAP is a protocol which is used in implementation of web services for exchanging structured information. In cloud compiler module, SOAP's role is very important because SOAP is used by the web services for standard messaging. SOAP's primary use is for inter-application communication. So it performs a very important role between service requester which is user and service provider.

In fig.5 overview of SOAP is shown below:

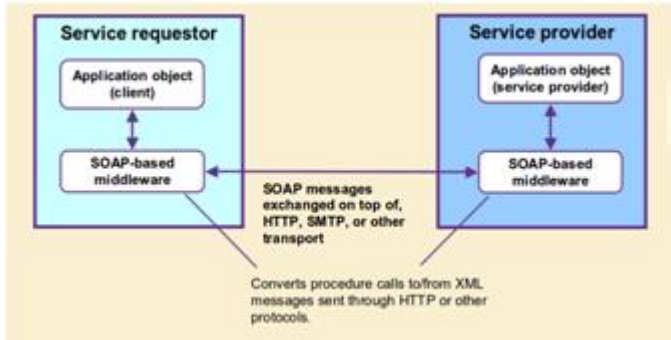


Figure 5: Overview of SOAP

We use SOAP because it provides portability. By using SOAP there is no issue of portability. It is also having ability of interoperability which is useful for cloud compiler system.

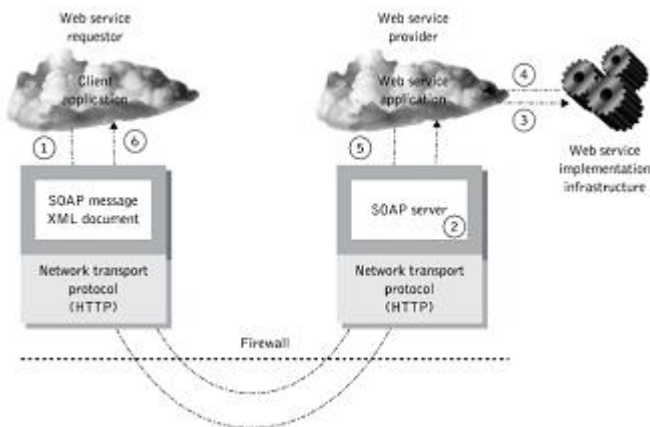


Figure 6: SOAP's working in distributed messaging

#### 4. Implication

- 1) This system is portable, the computation can be done on-the-go.
- 2) This system provides great flexibility.
- 3) This system is location independent.
- 4) This system provides better reliability as data is stored on secure server.
- 5) This system gives ability to use different compilers allow the programmer to pick up the fastest and the most convenient tool to compile the code and remove the errors.
- 6) Cloud computing can reduce both capital expense and operating expense costs.

#### 5. Result and Testing

- It successfully works on android device using android app for cloud compiler it will perfectly perform its work. It will successfully upload the user code and compile it and shows output or errors if any.
- In non-android system it will also work with the help of web browser it was also successfully tested that on any web browser user can open cloud compiler web page and upload their code and gets the output of the code and it will also show errors if any errors present in uploaded code.

#### 6. Conclusion

Cloud Computing is an vast domain which provides storage, computation, data retrieval services without the end-user having the knowledge of configuration and physical location of the system that provides the services.

The main idea behind developing this project is that it eliminates the need of installation of compilers in each and every device as the cloud provide services for compilation of programs. Also, it will act as a centralized repository for C, C# and Java in which user will have a facility of storing the programs and accessing their files through their respective login details. It is centralized and on cloud so upgrade, update or installing compiler is not the issue for user and it can be also be run on low end devices. Another advantage is it can also be used or access by non-android user through any web browser. We have also provided authentication and personalization by providing username and password.

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