

DataSetructure Simulator<1.0.0>

PURPOSE

Data Structure simulation <1.0.0>(DSS) is an application where all the data structures with all its functionality are graphically demonstrated . The application will also contain descriptions of all the data structures in two different languages namely Hindi and English. The codes in the description are also written in two technical languages namely C and JAVA. The application's objective is to teach all the students how different data structures works and to give them a crystal clear concept of its working. It can also be used by teachers as manual for teaching purpose.

SCOPE

The Scope of the Data Structure simulation <1.0.0>(DSS) includes:

- *Teachers can use it as manual.*
- *Physically challenged students will also get help as everything is graphically displayed.*
- *Documentation is very vital which comes in two languages.*
- *Student who comes from rural areas will be benefited mostly.*
- *UI is user friendly*

System requirements

- *Android version : 2.2 and above*
- *7" tablet or any 4"+ phone in landscape mode.*
- *Runs even if you have less ram, internal storage.*

Definitions, Acronyms and Abbreviations

- ***XML***

Extensible Markup Language :is a text based format that let developers describe, deliver and exchange structured data between a range of applications to client for display and manipulation.

- ***HTTP***

Hypertext Transfer Protocol :It's a service protocol.

Tools Used

Application architecture – JAVA, XML

JAVA

Java is an object-oriented programming language developed by Sun Microsystems a company best known for its high end UNIX workstations. Java language was designed to be small, simple, and portable across platforms, operating systems, both at the source and at the binary level, which means that Java programs (applet and application) can run on any machine that has the Java virtual machine (JVM) installed.

XML

Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. It is defined in the XML 1.0 Specification produced by the W3C, and several other related specifications, all gratis open standards.

The design goals of XML emphasize simplicity, generality, and usability over the Internet. It is a textual data format with strong support via Unicode for the languages of the world. Although the design of XML focuses on documents, it is widely used for the representation of arbitrary data structures, for example in android.

Description

DSS<1.0.0> will contain all the data structure (linklist,stack,queue,tree,etc) graphically demonstrated.

Stack will have buttons like push ,pop ,peek .

Link List will have buttons like addnode , delete ,reverse the links ,etc.

Tree will have buttons like display(postorder , preorder ,inorder),addnode,delete ,etc

Queue will have buttons like enqueue ,dequeue ,circular queue ,simple queue.

And many more data structures.

The application will also contains a button named "DOCS" where codes and description of that particular data structure will be given in two different technical languages C and java. It's also a multilingual application which will have the description of all the data structures in two different languages Hindi and English.