Chapter 8:
Conclusion
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Java Platform, Micro Edition (Java ME) is a collection of technologies and specifications to create a platform that fits the requirements for mobile devices such as consumer products, embedded devices, and advanced mobile devices. It is a collection of technologies and specifications that can be combined to create a complete Java runtime environment specifically to fit the requirements of a particular device or market.

Java ME Platform represents the truly open solution for building mobile applications for the industry. The technology allows portability of applications between platforms and investments are kept to a minimum through the possibility of reuse. The continuous platform evolution is driven by the increasing demands for capabilities and performance in the industry and assured through the definition of the platform components and APIs in the Java
Community Process. The fact that the technology is open for anyone to use the community of developers creating applications for the platform is large and increasing. This assures the continuous improvement and availability of applications for the platform which in turn drives business for everybody involved in the eco-system. On top of this the platform itself represents a high performance and secure platform for mobile applications.

The Java ME technology ecosystem evolves around a number of different players in the industry, all of them participating in, and influencing, the continuous improvement of the technology and platform. The end users are constantly demanding new features and capabilities to their services. The content developer adopts the user requirements and creates new appealing services with new capabilities. The OEMs creates new capable devices to host the new services and features and also creates new demands by presenting new capabilities to the end users. Carriers creates the mobile environment to host and deploy services on and also drives the exploration of new business-driving services to the end users. This constant evolution of demands and capabilities is the single most important reason for the success of the Java platform and ensures it will continue to evolve into the future needs of everyone involved in the eco-system.

J2ME is one of three parts of advanced Java. According to the JavaOne Developers Conference which held in mid-1999, KVM has been invented for the first time in Mobile handset and wireless system.

NOKIA used to be the first company which started working and developing accord to the new platform.

As well as Java, the Symbian company also established and introduced a new type of operating system by working on the least hardware and configuration.

Symbian OS is a proprietary operating system, designed for mobile devices, with associated libraries, user interface frameworks and reference implementations of common tools, produced by Symbian Ltd. It is a descendant of Psion's EPOC and runs exclusively on ARM processors.

Symbian OS, with its roots in Psion Software's EPOC, is structured like many desktop operating systems with pre-emptive multitasking and memory protection. EPOC was inspired
by a VMS-like approach to multitasking with server-based asynchronous serialized access based on events.

Symbian OS was built to follow three design rules - the integrity and security of user data is paramount, user time must not be wasted, and all resources are scarce. This led to a continuation of the use of servers; a microkernel; a request and callback approach to all services; an absolute division of user interfaces from system or application services; reuse and openness; extensibility; and robust management and resource recovery to support extended always-on operation. For hardware the OS is optimized for low-power battery-based devices and for ROM-based systems (e.g. features like XIP and re-entrancy in shared libraries). Applications, and the OS, follow an object orientated design, MVC.

The Symbian OS System Model contains the following layers, from top to bottom:

- UI Framework Layer
- Application Services Layer
  - Java ME
- OS Services Layer
  - generic OS services
  - communications services
  - multimedia and graphics services
  - connectivity services
- Base Services Layer
- Kernel Services & Hardware Interface Layer

The Base Services Layer is the lowest level reachable by user-side operations; it includes the File Server and User Library, the Plug-In Framework which manages all plug-ins, Store, Central Repository, DBMS, and cryptographic services. It also includes the Text Window Server and the Text Shell, the two basic services from which a completely functional port can be created without the need for any higher layer services.

Symbian could run the java files which introduce by Sun Microsystems and can also run Microsoft media files.
So by this new combination, Symbian becomes a successful company which most of the big wireless and handset producers start contributed with it, and according to its platforms the new generation of mobiles, introduce and use by end user.

Finally the generation and mobiles platform becomes by the name of series 20,30,40,60,80,90s.

By the time series 20 had been expired and a few number of series 30 already available in the market. From the other side also series 90 had been used only by Nokia company, which was only on 7700 and 7710. But currently series 40, 60 and 80s are the most popular wireless handset available in the market.

Series 40s generation also growth and by introducing the new generation which name Series 40 3rd generation with feature pack 1 and 2 becomes a cheap popular device which you can easily develop a program on J2ME and run on it.

Series 60s platform by using Symbian operating system with the feature of multi threading, multi tasking, capability of accessing to the large memory and hard disk drive is the most popular for the developer. Behalf of J2ME programming, you can easily develop the Symbian programming which is based on different types of programming and coding by different companies.

In this thesis, I tried to develop new types of programming which is based on the Database, Networking, Graphics, HTTPConnections and I almost used most specification of the latest generation of the wireless handset in series 40, 60 and 80.

In these programming and coding, I tried to make different types of application which can connect to the internet server and local host as well, Creating a "clipboard" to share data among components, Searching and sorting records in persistent storage, Primitive drawing operations (arcs, rectangles, text, etc.), Creating simple graphic game, Scheduling timers, Creating a client request and interpreting a server response using HTTP, Using HTTP request methods GET and POST, Using a thread to download network data in the background, Download and view files and images.


