**Q1 ) Mobile ecosystem consists of different operators, networks & devices. How the knowledge of this will help in improving mobile based applications design.**
**Ans:**
- Mobile ecosystem is a group of devices, platforms, software, companies and the united set of services offered by a mobile device company.
- It also includes the device hardware, OS, App store and user account.
- A mobile device is a general term for any type of handheld computer.
- These devices are designed to be extremely portable and they can often fit in your hand.
- A mobile application platform is a group of software tools used for designing, creating and maintaining mobile applications.
- It provides mobile application tools for development.
- It supports mobile application development using various tools for different programming languages.
- It also offers an application programming interface (API) to allow interactivity between software packages.
- It can be used to share or transfer data from one device to another.
- The base layer in the mobile ecosystem is the operator.
- It can be referred to as Mobile Network Operators, mobile service providers, wireless or simply carriers, mobile phone operators or cellular companies.
- A mobile network is a communication network where the last link is wireless.
- Operators sell devices at a severely discounted price often 1/3rd or less of the actual cost of the device.
- This enables the operators to lock the devices to their networks.

**Q2) Moviles are considered 7th Mass media. How is it entering the remaining 6 mass media?**
**Ans:**
- Mobile is the 7th mass media which is as much superior to the network, as TV is to radio.
- It is the first personal mass media
- It is permanently carried.
- It is always on and has a built-in payment mechanism.
- It is available at the point of creative inspiration and has the most accurate audience measurement.
- It captures the social context of media consumption.
- It is also referred to as the fourth screen.
- It is a diverse array of media technologies that reach a large audience via mass communication.
- The technologies through which this communication takes place includes a variety of outlets.
- It is growing and heavily capturing business revenue and content from its earlier mass media.
- The consumption of news, music, watching TV, radio, movies are all possible on a mobile device.
- It is also referred to as 2nd interactive media.

## Q3) Distinguish between primary and secondary windows.
## Ans:

### I) Primary Window:

1. The primary window is the first window which appears on the screen when activity or action is started.
2. Primary window represents an independent function or application.
3. Primary window is used to present information that is continually updated for example: Date and time.
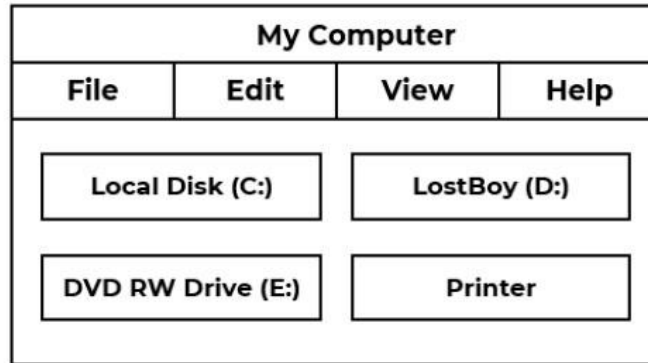4. Figure 6.1 represents primary window



Figure 6.1: Primary Window

### II) Secondary windows:

1. Secondary windows are **supplementary windows**.
2. Secondary windows may be dependent upon a primary window or displayed independently of the primary window.
3. Secondary windows are used for performing subordinate, supplementary or ancillary actions.
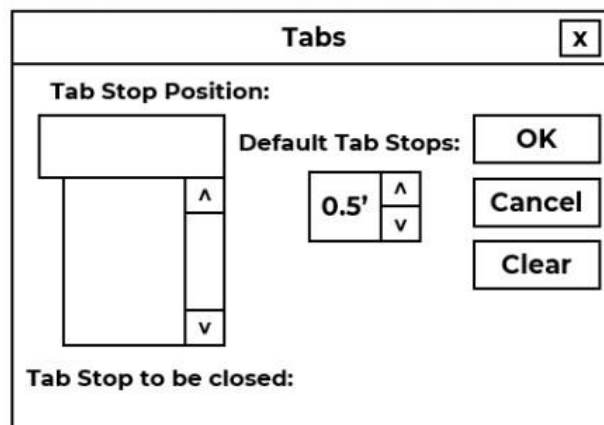


Figure 6.2: Secondary Window

# Menu Bar vs. Status Bar

6. **Menu Bar:**
   - A menu bar is used to **organize and provide access to actions**.
   - It is located horizontally at the top of the window, just below the title bar.
   - A menu bar contains a list of topics or items that, when selected, are displayed on a pull-down menu beneath the choice.

7. **Status Bar:**
   - Information of use to the user can be displayed in a designated screen area or areas.
   - They may be located at the top of the screen in some platforms and called a status area, or at the screens bottom.
   - Microsoft recommends the bottom location and refers to this area as **the status bar**.
   - It is also referred to by other platforms as a message area or message bar.

# Overlapped vs. Cascaded windows:

## II) Overlapping Windows:

1. Overlapping windows may be placed on top of one another like papers on a desk.
2. They possess a three-dimensional quality, appearing to lie on different planes.
3. Size of the overlapping window can be altered.
4. Location as well as the plane of the windows is user controlled.
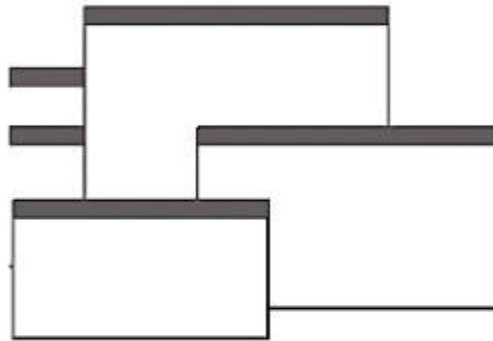5. Figure 6.9 represents overlapping windows.



Figure 6.9: Overlapping Windows.

## Advantages:

1. Visually, their look is three-dimensional, resembling the desktop that is familiar to the user.
2. Greater control allows the user to organize the windows to meet his or her needs.
3. Windows can maintain larger sizes.
4. Windows can maintain consistent sizes.
5. Windows can maintain consistent positions.
6. Screen space conservation is not a problem, because windows can be placed on top of one another.
7. They yield better user performance for tasks where the data requires much window manipulation to complete the task.

## III) Cascading Windows:

1. It is a special type of overlapping window.

2. It has the windows automatically arranged in a regular progression.

3. Each window is slightly offset from others, as illustrated in Figure 6.10.

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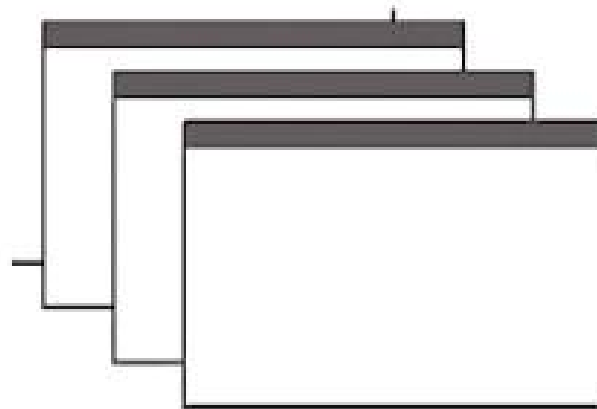
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Figure 6.10: Cascading Windows.

## Advantages:

1. No window is ever completely hidden.

2. Bringing any window to the front is easier.

3. It provides simplicity in visual presentation and cleanness.

**Q4) How will the usability improve using status information and warning messages, words, images and icons?**
**Ans:**

1. Status Message:
   - It is used to provide information relating to the progress of a lengthy operation.
   - It provides the progress of a function using an indicator and short message describing the type of operation being performed.
2. Information Message:
   - It provides information about the state of the system when it is not immediately obvious to use.
   - It is used to provide feedback when normal feedback is delayed.
3. Warning message:
   - It calls for an action for a particular situation or state of activity being processed.
   - It also drives the user's immediate attention for an undesired situation.
4. Words:
   - Minimal use of words should be done that calls the attention of the user.
   - We should avoid usage of words in general and use them well.
5. Images:
   - Standard images can be used but image internationalization should be possible.
   - Distinguishing navigational images from decorative images is required.
   - We should minimize no. of presented images and size of image and animation used in images.
6. Icons:
   - They are images used to reflect the idea about object icons.
   - They are often used to represent objects and actions with which users can interact or manipulate.
   - They may separate on a desktop or in a window or be clubbed together in a toolbox.