Faculty of engineering - Shoubra
Benha University
Research Article / Research Project / Literature Review

in fulfillment of the requirements of

Department	Engineering Mathematics and Physics
Division	-----------
Academic Year	2019-2020 Preparatory
Course name	Computer
Course code	ECE001

Title: -

Mobile Computing

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Research objectives

The objective of this project is to cover an overview of Mobile

Computing and its modern applications and create a website for

that purpose using HTML.

Abstract

This Advances in wireless networking have prompted a new concept of computing, called mobile computing in which users carrying portable devices have access to a shared infrastructure, independent of their physical location. This provides flexible communication between people and (ideally) continuous access to networked services. Mobile computing is revolutionizing the way computers are used and in the coming years this will become even more perceptible although many of the devices themselves will become smaller or even invisible (such as sensors) to users. This paper gives an overview of mobile computing and issues related to the field. The discussion starts with definitions of various terms associated with mobile computing. The diversity of mobile applications is explored to give readers an idea of what mobile computing has to offer, followed by a discussion on the limitations of wireless networks and the issues which have to be addressed in order to support roaming users.

Table of contents

Divide your research into sections or subjects, mention each section first page at this table

Introduction

Mobile Computing is a technology that allows transmission of data, voice and video via a computer or any other wireless enabled device without having to be connected to a fixed physical link.

The main concept of mobile computing involves:

- Mobile communication
- Mobile hardware
- Mobile software

Mobile communication

The mobile communication in this case, refers to the infrastructure put in place to ensure that seamless and reliable communication goes on. These would include devices such as protocols, services, bandwidth, and portals necessary to facilitate and support the stated services. The data format is also defined at this stage. This ensures that there is no collision with other existing systems which offer the same service.

Mobile Hardware

Mobile hardware includes mobile devices or device components that receive or access the service of mobility. They would range from portable laptops, smartphones, tablet Pc's, Personal Digital Assistants.

Mobile software

Mobile software is the actual program that runs on the mobile hardware. It deals with the characteristics and requirements of mobile applications. This is the engine of the mobile device. In other terms, it is the operating system of the appliance. It's the essential component that operates the mobile device.

Literature Review

Based on an extensive research it is obvious that technology is shifting towards Mobile computing especially with the wide spread of smart phones, lighter and thin laptops and fast wireless communication services.

Mobile working infrastructure can deliver real time business benefits, companies of all sizes are walking up to the fact that they can improve productivity and increase profits by giving employees remote access to mission critical corporate IT system. The importance of Mobile Computers has been highlighted in many fields of which a few are described below:

- Vehicles
- Nomadic user
- Smart mobile phone
- Invisible computing
- Wearable computing
- Intelligent house or office
- Meeting room/conference
- Taxi/Police/Fire squad fleet
- Service worker
- Lonely wolf
- Disaster relief and Disaster alarm
- Games
- Military / Security

Other benefits include improved intradepartmental communications, support for community-based policing, less expense when a report changes, lower training costs, increased officer confidence, and improved professional image for the department.

Website

HTML is used to create this website.

Tables, lists, hyperlinks and images are used to design this website.

GitHub repo: https://github.com/mostafattia/html_project

GitHub pages: https://mostafattia.github.io/html_project/index.html

Some Screenshots and code are below.


```html
<html>
<head>
        <a href="index.html" style="padding:20;">Overview</a>
        <a href="history.html" style="padding:20;">History</a>
        <a href="features.html" style="padding:20;">Features</a>
        <a href="applications.html" style="padding:20;">Applications</a>
        <a href="pros&cons.html" style="padding:20;">Pros & Cons</a>
        <h1>Mobile Computing Overview</h1>
</head>
<body style="font-size:25px">
        <img src="mobile-com.jpg">
        <p>
        Mobile Computing is a technology that allows transmission of data, voice and video
via a computer or any other
        wireless enabled device without having to be connected to a fixed physical link.
        </p>
        <h3>The main concept involves :</h3>
        <ul>
                <li>Mobile communication</li>
                <li>Mobile hardware</li>
                <li>Mobile software</li>
        </ul>
</body>
</html>
```

```html
<html>
<head>
        <a href="index.html" style="padding:20;">Overview</a>
        <a href="history.html" style="padding:20;">History</a>
        <a href="features.html" style="padding:20;">Features</a>
        <a href="applications.html" style="padding:20;">Applications</a>
        <a href="pros&cons.html" style="padding:20;">Pros & Cons</a>
        <h1>Mobile Computing Advantages and Disadvantages</h1>
</head>
<body style="font-size:25px">
        <table cellpadding=10 border=1 style="font-size:25px;">
        <th width="50%">Advantages</th>
        <th width="50%">Disadvantages</th>
        <tr>
                <td>
                        <ul>
                                <li>Portable and Convenient.</li>
                                <li>Well-Standerdized Hardware and Operating systems enabling rapid development</li>
                                <li>Well-Standerdized wireless networking protocols allowing communication between different devices and systems.</li>
                                <li>Low cost devices compared to full-powered Computers.</li>
                        </ul>
                </td>
                <td>
                        <ul>
                                <li>Input options are uncomfortable and output is limited by small screens.</li>
                                <li>Limited computing power and short battery life resrict device capabilities.</li>
                                <li>Relatively high cost considering limited capabilities for some users.</li>
                        </ul>
                </td>
        </tr>
        </table>
</body>
</html>
```

Overview   History   Features   Applications   Pros & Cons

Mobile Computing Advantages and Disadvantages

Advantages	Disadvantages
- Portable and Convenient. - Well-Standerdized Hardware and Operating systems enabling rapid development - Well-Standerdized wireless networking protocols allowing communication between different devices and systems. - Low cost devices compared to full-powered Computers.	- Input options are uncomfortable and output is limited by small screens. - Limited computing power and short battery life resrict device capabilities. - Relatively high cost considering limited capabilities for some users.

Conclusions

Mobile computing offers significant benefits for organizations that choose to integrate the technology into their fixed organizational information system. Mobile computing is made possible by portable computer hardware, software, and communications systems that interact with a non-mobile organizational information system while away from the normal, fixed workplace. Mobile computing is a versatile and potentially strategic technology that improves information quality and accessibility, increases operational efficiency, and enhances management effectiveness.