Lab 1 – Introduction to Mobile Development

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INFT03101 – Mobile Development

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The Mobile Revolution

Definition of Internet of Things (IoT)

IoT refers to physical objects (things) that connect and exchange data with systems or devices over a network using sensors, software, or other technology places on those devices. There are a large number of objects that we use on a daily basis that we can connect to increase productivity and conveniency for the need of any individual. Some examples of objects that use IoT are cars, house appliances, and equipment monitoring.

Advantage

One of the most common device that we use as a thing of internet would be smart phones which have sensors and software that use communication to other devices or software that allow automation, remote control, and better efficiency. Smart phones have convenient connectivity to networks that enhance data collection and communication to the cloud and other physical objects for effective data transfer.

Disadvantage

The primary issue for IoT relates to security concerns and privacy. The widely connected nature of IoT devices can bring vulnerabilities to sensitive data within those devices. Personal information and preferences can be exposed, transmitted, and stolen. This raises concerns about how we can secure and prevent our sensitive information to unethical attackers.

Use Cases

There are many use cases across all industries. In the manufacturing industry, monitoring of equipment using sensors on the equipment that detect failures that are about to happen. Sensors can also be used to determine the rate of production of a product. In the automotive industry, sensors in cars can be used to detect areas of the car that need maintenance, preventing failures and increasing safety for drivers or passengers. For transportation systems, sensors can be used to control temperature and track the location of inventory such as food or livestock.

Personal Experience

Personally, IoT has affected me the most with the car I use a decent amount. Being alerted to issues or concerns about the car has most definitely kept my safety on the road. One of the tires of the car had a cut that would have made the tire burst if we had not been notified and changed it. Situations like this where IoT helps make me glad that we can have more information about our devices for our own good.

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Clash of Titans

Manufacturer	Unit	Google	Samsung
Phone Model	Name	Pixel 9 Pro XL	Galaxy S24 Ultra
Picture/Photo	Picture		
Colours	Color Names	Porcelain, Rose Quartz, Hazel, Obsidian	Cobalt Violet, Amber Yellow, Onyx Black …
Selected Storage Size	Terabyte	1 Terabyte	1 Terabyte
Price	Canadian Dollar	CA $1,349	CA $2,280
Release	Date	August 22, 2024	January 31, 2024
Operating System	Name	Android 14	Android 14
Chipset	Name	Google Tensor G4	Snapdragon 8 Gen 3
CPU Type	Name	Octa-core	Octa-core
CPU Speed	Gigahertz	1x3.1, 3x2.6, 4x1.92	3.39, 3.1, 2.9, 2.2
Memory	Gigabytes	16	12
Screen Size	Millimetre	172.72	172.5
Resolution	Pixels	1344 x 2992	3120 x 1440
Max Refresh Rate	Hertz	120	120
Rear Camera Max Resolution	Megapixels	50	200
Front Camera Max Resolution	Megapixels	42	12
Video Recording Resolution	Pixels in frames per second	8k, 30	8k, 30
Wi-Fi Usage Time		Up to 27 hours	Up to 27 hours
Pen Support	Boolean	No	Yes

Winner Declaration

  With the comparison of the Google Pixel 9 Pro XL with the Samsung Galaxy S24 Ultra, the S24 is the ultimate winner. Although the camera of the Pixel 9 Pro is better, the Samsung phone does all that the pixel does and more. Additionally, the Samsung phone has more customization options for the user which perfectly personalizes the device to each individual. These customization options also allow users to have the phone function the way they want, thus increasing efficiency and productivity for the user. Finally, the S24 better handles high power-consuming activities such as watching videos and playing video games. In conclusion, the S24 wins over the Pixel 9 Pro.

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The Ultimate Service Showdown

Service provider	Unit	Koodo mobile	Freedom mobile
Plan	CAD per month	39	35
Call time	Minutes	Unlimited	Unlimited
Data	Gigabytes	50	50
Data speed	Name	4G	5G
Additional Data	Varies	$13/100MB	No data overage fess, 256kbs down and 128kbs up
Messaging	Number of texts	Unlimited	Unlimited
Global service	Varies	Data, Talk, and Text $14/day U.S $16/day International	Data - $0.15/MB Talk - $0.75/min Text - $0.25/text
Call features	List	Display+, Waiting, Conference Calling	
Coverage	Location	Canada	Canada U.S. Mexico
Perks		Premium Voicemail 24 message storage Instant voicemail to MMS Unlimited International SMS From Canada to anywhere Rollover Data Unused data rolls into next month Unlimited Long-Distance Pack Long distance calling	100 long distance minutes With new line or upgrade on phone plan Refer a friend Get $25 each Trade in Save up to $500 on next phone
Offers		Netflix, Amazon Prime, and Disney+ for $15/mo.	Freedom Home Internet for $39/mo. Freedom TV + Sports for $29/mo.

Winner Declaration

Upon my findings comparing the two service providers Koodo and Freedom mobile, I have determined that Koodo is the better service in comparison. Many users of Freedom mobile have experienced problems with the connectivity of the Freedom mobile service whereas Koodo provides consistent service reliability. As someone who likes to watch videos on the bus, I greatly value the perk of rollover data which lets you use unused data into the next month.

September 20, 2024

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September 20, 2024