جامعة الموصل

كلية الآداب

القسم: الترجمة

عنوان المحاضرة:Mobile Communication

المادة الدراسية: الترجمة السمعية والمرئية

المرحلة الدراسية: الثالثة

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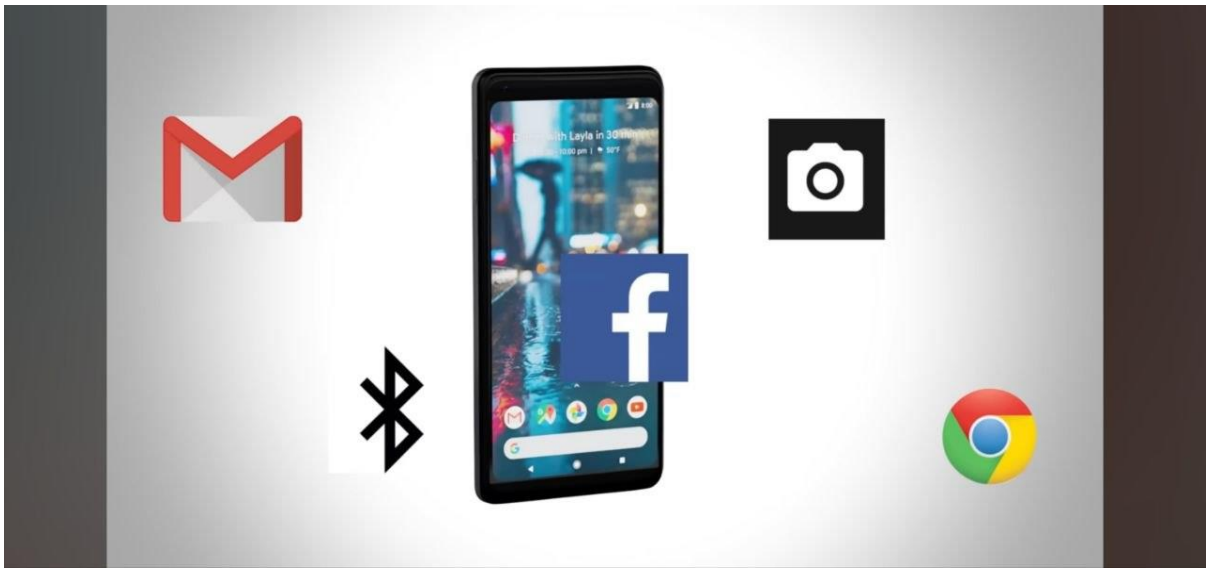

Mobile Communication

Have you ever wondered about the scientific mechanism that allows your mobile phone to connect you with anyone around the world in a matter of seconds? This process is not random; it is the result of a precise integration between wireless communication and digital computing.

The physical cycle of a call begins when you speak. The phone's microphone captures the mechanical sound waves and converts them into electrical impulses. Next, an internal Digital Signal Processor translates these impulses into binary code, consisting of zeros and ones.

In the following step, this digital data is routed to the phone's internal antenna, which converts it into electromagnetic waves, known as radio waves, and broadcasts them through the air at the speed of light. Since the network operates on a cellular system, geographic areas are divided into sectors called 'cells,' each

served by a local cell tower. The nearest tower intercepts these waves and forwards them via fiber-optic cables and ground networks to the carrier's Mobile Switching Center.
This switching center determines the exact location of the receiver and routes the signal to the cell tower closest to them. As soon as the waves reach the receiver's phone, their internal antenna detects them, and the entire digital process is reversed. The binary code is decoded and translated back into electrical signals that vibrate the speaker's diaphragm, accurately reproducing your original voice.
Ultimately, a mobile phone is not just a communication tool; it is a highly advanced, high-tech radio transceiver operating right in the palm of your hand."

هل تساءلت يوماً عن الآلية العلمية التي تمكّن هاتفك المحمول من ربطك بأي شخص حول العالم في أجزاء من الثانية؟ إن هذه العملية لا تحدث عشوائياً، بل هي نتاج تكامل دقيق بين علوم الاتصالات اللاسلكية والحوسبة الرقمية.
تبدأ الدورة الفيزيائية للمكالمة عندما تتحدث؛ حيث يقوم ميكروفون الهاتف بالتقاط الموجات الصوتية الميكانيكية وتحويلها إلى نبضات كهربائية. بعد ذلك، يتولى معالج الإشارات الرقمية داخل الجهاز تحويل هذه النبضات إلى شفرة ثنائية مكونة من أصفار وآحاد.
في الخطوة التالية، يتم إرسال هذه البيانات الرقمية إلى الهوائي الداخلي للهاتف، والذي يقوم بتحويلها إلى موجات كهرومغناطيسية تُعرف بموجات الراديو، وتبث في الهواء بسرعة الضوء. وبما أن الشبكة الهاتفية تعتمد على نظام خلوي، فإن الأرض تُقسّم جغرافياً إلى مساحات تُسمى خلايا، ترتبط كل خلايا ببرج اتصالات محلي. يلتقط البرج الأقرب إليك هذه الموجات، ثم يمررها عبر ألياف ضوئية وشبكات أرضية إلى مركز التحويل الرئيسي التابع لشركة الاتصالات.
يقوم هذا المركز بتحديد الموقع الجغرافي الدقيق للشخص المستقبِل، ويوجه الإشارة إلى برج الاتصالات الأقرب إليه. بمجرد وصول الموجات إلى هاتف المستقبِل، يقوم الهوائي الخاص بجهازه بالتقاطها، وتُعكس العملية الرقمية بالكامل؛ حيث تُفك الشفرة الثنائية وتُترجم مجدداً إلى إشارات كهربائية تتسبب في اهتزاز غشاء مكبر الصوت، مما يعيد إنتاج صوتك الأصلي بدقة.
في النهاية، يمكننا القول إن الهاتف المحمول ليس مجرد أداة للتواصل، بل هو جهاز إرسال واستقبال لاسلكي متطور عالي التقنية يعمل في راحة يدك."

English Terms with their Arabic meanings

Scientific mechanism
الآلية العلمية
Connect
يربط / يصل
Matter of seconds
في غضون ثوانٍ
Precise integration

تكامل دقيق
Wireless communication
الاتصالات اللاسلكية
Digital computing
الحوسبة الرقمية
Physical cycle
الدورة الفيزيائية
Microphone
ميكروفون
Mechanical sound waves
الموجات الصوتية الميكانيكية
Electrical impulses
النبضات الكهربائية
Digital Signal Processor (DSP)
معالج الإشارات الرقمية
Translates
يحوّل / يترجم
Binary code
الشفرة الثنائية
Consisting of
المكوّنة من
Internal antenna
الهوائي الداخلي
Electromagnetic waves
الموجات الكهرومغناطيسية
Radio waves
موجات الراديو
Broadcasts
يبث
Cellular system
النظام الخلوي
Geographic areas
المناطق الجغرافية
Sectors
قطاعات / مناطق
Cells
خلايا
Cell tower
برج اتصالات
Intercepts
يلتقط
Forwards
يمرر

Fiber-optic cables
الألياف الضوئية
Ground networks
الشبكات الأرضية
Carrier
شركة الاتصالات
Mobile Switching Center
مركز التحويل الرئيسي
Determines
يحدد
Receiver
المستقبِل
Routes the signal
يوجه الإشارة
Detects
يكتشف / يلتقط
Reversed
تُعكس العملية
Decoded
تُفك الشفرة
Speaker diaphragm
غشاء مكبر الصوت
Reproducing
إعادة إنتاج
Communication tool
أداة اتصال
Advanced
متطور
Radio transceiver
جهاز إرسال واستقبال لاسلكي
Palm of your hand
راحة يدك

Audiovisual Translation Problems and Solutions

Audiovisual Translation (AVT) refers to the transfer of spoken and visual messages from one language into another. It includes subtitling, dubbing, voice-over, and interpreting audiovisual materials. Translation students often encounter various difficulties when translating audiovisual content because they must deal simultaneously with language, sound, image, timing, and cultural references. Understanding these challenges is essential for developing professional translation competence.

Problem 1: Fast Speech Rate

One of the most common difficulties in audiovisual translation is the rapid speed of speech. Speakers may talk quickly, use contractions, or overlap with other speakers. Students often fail to identify individual words and expressions accurately.

For example, native speakers frequently reduce pronunciation in everyday conversation. Expressions such as "gonna," "wanna," and "gotta" may confuse learners who are accustomed to standard written English.

Solution

Students should practice extensive listening using authentic materials such as news broadcasts, interviews, documentaries, and TED Talks. Repeated listening exercises and exposure to different accents can significantly improve listening comprehension. Using transcripts while listening also helps students recognize connected speech patterns.

Problem 2: Technical Terminology

Audiovisual materials often contain specialized terminology related to science, medicine, engineering, politics, or technology. Students may understand the general meaning of a sentence but fail to translate key technical terms accurately.

In the provided text, terms such as "Digital Signal Processor," "electromagnetic waves," and "Mobile Switching Center" require technical knowledge in addition to linguistic competence.

Solution

Translators should develop research skills and consult reliable dictionaries, glossaries, and academic sources. Building personal terminology databases can help students maintain consistency and accuracy when translating specialized texts.

Problem 3: Cultural References

Many audiovisual materials contain cultural elements that may not exist in the target culture. These references include traditions, humor, idioms, historical events, and social customs.

A direct translation may confuse the target audience because the cultural background is missing. Consequently, the translator must decide whether to explain, adapt, or replace the cultural reference.

Students should improve their intercultural competence by learning about the cultures associated with both source and target languages. Techniques such as adaptation, localization, and explanatory translation can be used when necessary.

Problem 4: Synchronization Constraints

In audiovisual translation, the translated message must fit the available time and space. Subtitles are usually limited to a specific number of characters and must remain on the screen long enough for viewers to read them.

A literal translation may exceed these limitations and negatively affect

readability.
Solution
Students should learn condensation techniques. Instead of translating every word, they should focus on conveying the essential meaning in a concise and natural manner. Effective summarization skills are particularly important in subtitling.
Problem 5: Accent Variation
English is spoken in many different accents, including American, British, Canadian, Australian, and regional dialects. Students often struggle when encountering unfamiliar pronunciations.
Accent variation may cause misunderstanding even when the vocabulary itself is simple.
Solution
Regular exposure to different English accents can increase comprehension. Watching international media and completing accent-recognition exercises help students become familiar with pronunciation differences.
Problem 6: Background Noise and Sound Quality
Audiovisual materials are not always recorded under ideal conditions. Background music, environmental noise, and poor audio quality may interfere with comprehension.
These factors can make it difficult for students to distinguish words and phrases accurately.
Solution
Students should use high-quality headphones and audio-enhancement tools when possible. Replaying difficult segments multiple times and consulting available transcripts can improve accuracy.
Problem 7: Idiomatic Expressions
Idioms present a significant challenge because their meanings cannot be understood from the individual words. Literal translation often produces unnatural or incorrect results.
For example, the English expression "bear with me" does not literally mean "تحملني" but rather "اصبر معي" or "يرجى تفهم موقفي".
Solution
Students should study idioms systematically and focus on understanding their contextual meanings. Consulting bilingual idiom dictionaries can help identify appropriate equivalents in Arabic.
Problem 8: Memory and Information Processing
During audiovisual translation and interpreting, students must listen, analyze, remember, and translate simultaneously. This creates a heavy cognitive load that can lead to omissions and errors.
Long sentences and dense information are particularly challenging.
Solution
Note-taking techniques, memory-training exercises, and shadowing practice can

improve information retention. Regular interpreting practice gradually increases processing speed and accuracy.