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Exploring the Hurdles and Flaws in Localizing English User Interface into Arabic on Social Media Platforms

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Abstract

In today's interconnected world, digital communication platforms such as Facebook, Instagram, Telegram, and WhatsApp represent a cornerstone of social interaction in modern communities. Yet, their user interfaces remain predominantly in English, posing challenges for non-English-speaking users. Consequently, users from these linguistic communities often require the interface to be translated into their native language to ensure accessibility and ease of use. Still, the task of these corporates in meeting such needs is fraught with obstacles, a challenge this research aims to address. The first part of this research examines lexical gaps and expressions that, when translated, require a longer linguistic equivalent than the original text. Such expansions may cause spatial constraints on the user interface, making the target language less suitable for the designated space. Moreover, certain translations may fail to convey adequate meaning due to cultural differences, while other terms cannot be translated at all since they represent trademarks of particular companies. These factors create a semantic gap for Arab users. The second part of this research proposes alternative translations to those currently used in the user interfaces of certain platforms, comparing them with the original versions. These alternatives are then presented to two groups of users, ordinary users and language experts, in order to assess the degree of acceptability of the researcher's proposed translations.
The findings demonstrate various difficulties and flaws in conducting the localization process including the over-reliance on AI-powered tools and machine translation and the absence of human post-editing. This results in linguistic ambiguity, stiff and robotic translations, lack of coherence, etc. Moreover, the study suggests that, across the analyzed texts, the proposed alternative translations were more favorably received by both groups, indicating a higher degree of acceptability and alignment with users' linguistic and cultural expectations.

Keywords: *Localization – User Interface (UI) – translation – social media – Transliteration - User Experience (UX)*

1. Theoretical Background

The rapid rise of social media usage is partly driven by localization, which makes platforms more inclusive and accessible by adapting them to diverse audiences. Arabic localization is particularly crucial, as targeting the 22 Arabic-speaking countries significantly expands user reach. Despite the global significance of social media, Arabic localization, especially the translation of UI, faces ongoing challenges. Translating menus, buttons, notifications, and help cues requires more than literal conversion; it demands cultural and linguistic sensitivity to ensure clarity, precision, and accessibility for Arabic-speaking users. As such this study aims to (i) identify and analyze challenges and inconsistencies in Arabic UI translations across major platforms (Facebook, WhatsApp, Instagram, Telegram), and (ii) propose alternative translations that enhance accuracy, clarity, and UX. Accordingly, the study aims to answer these questions: (i) how do linguistic differences between English and Arabic impact UI translation, and (ii) what specific challenges are observed in Arabic translations on these platforms?
Localization, while often conflated with translation, is broader. Esselink defines it as "the translation and adaptation of a software or web product" [6], and the Globalization and Localization Association notes that translation is only one service within localization, which may also involve adapting graphics, modifying designs, or adjusting content for the target culture [8]. Translation focuses on textual transfer, while adaptation addresses technical and cultural modifications. Adaptations can range from formatting dates and phone numbers to restructuring manuals for specific audiences [7]. Translators must balance linguistic accuracy with technical

constraints: a phrase requiring more words in Arabic may exceed the pixel space in the interface or distort the interface organization [11]. Dunne defines localization as (a) translating textual content, and (b) adapting non-textual content such as colors, icons, and packaging [5]. Modern approaches increasingly view graphical and typographic elements as integral to the text itself, highlighting the need for culturally impactful digital content.

Localizing social media UIs involves adapting both websites and apps, which often share technical features [12]. The UI is central to effective communication and smooth task execution [9]. Localization typically follows product adoption and includes translating texts, replacing icons and images, and adjusting formats like date and time [16]. The process begins with extracting resources, translating externally, reinserting them, and testing within the development cycle. Quality Engineers detect technical errors like displacement but lack linguistic expertise, so mistranslations and contextual mistakes require skilled translators. There is no doubt that crowdsourcing and machine translation are sometimes employed, yet expert translators remain essential for accuracy, cultural relevance, and usability [14].

Arabic localization presents unique challenges due to linguistic and cultural differences. English (i.e., Germanic) and Arabic (i.e., Semitic) differ in grammar, vocabulary, syntax, idiomatic usage, and cultural conventions [2, 13]. Arabic right-to-left script contrasts with English left-to-right design, creating visual and formatting issues. Syntactic differences, such as English SVO versus Arabic VSO word order, require careful sentence restructuring [10]. Arabic verb morphology is considerably more complex than that of English, as it encodes distinctions of gender, number, and person in ways that English verbs do not [3]. In addition to this structural complexity, translators face further challenges arising from lexical gaps, pronoun forms, idiomatic expressions, and phonological differences [1]. Addressing these challenges requires not only linguistic competence, but also cultural awareness and technical sensitivity, in order to ensure that Arabic social media user interfaces are accurate, accessible, and culturally appropriate.

2. Methodology

Data collection focuses on diverse user interface elements to capture both linguistic and technical issues in localization. These elements are examined for challenges at different levels—morphology, syntax, grammar, orthography, and semantics, which explain how structural and cultural differences between English and Arabic complicate translation and affect the overall user experience.

The methodology of this research is divided into three parts. The first involves data collection, which consists of gathering a set of Arabic translations from the user interfaces of several social media platforms. The second presents selected cases and examples that illustrate the difficulties translators face in rendering certain items into Arabic, as well as instances where existing translations fail to convey adequate meaning to users. The third part proposes alternative translations, which are presented to two groups, linguistic experts and ordinary users, in order to compare the acceptability of the current translations with that of the researcher's suggested alternatives.

3. Linguistic Challenges in UI Translation

3.1. Preliminary remarks

This research critique of English-to-Arabic UI localization is not meant to diminish the efforts of social media platforms, whose role in global communication and commitment to multilingual access are noteworthy. Rather, it highlights areas for improvement to enhance UX, cultural sensitivity, and communication clarity, offering a constructive opportunity for collaboration and refinement.

3.2. Transliteration

In a case in which a word in SL has no direct equivalent in TL, translators use a phrase or a combination of words in the target language to convey the intended meaning. However, in this context, the case is more challenging than it appears. That is, a translator's task in localizing UI are limited and influenced by the constraints of the graphic design space needed to accommodate the translated text effectively. Therefore, the translator's other two alternatives is either to leave the word untranslated, or to transliterate it. Transliteration seems to be resorted to as the very best of the worst.

Transliteration of the term "avatar" into Arabic as "أفاتار" (pronounced 'afātār') is a common practice, especially in the context of technology and online platforms like WhatsApp (in 'settings'). While transliteration helps users pronounce and understand foreign words, it can pose several challenges. One of these challenges is conceptual. For many Arabic users, particularly those with limited exposure to English, the word **أفاتار** may appear as an inherently Arabic lexical item. Because it is written in Arabic script, it visually integrates into the language, potentially misleading users into assuming it is a native term. Consequently, they may fail to apprehend its full conceptual meaning, which in English refers to a *digital self-representation* such as a profile image or animated character. In this respect, transliteration obscures both the semantic and cultural dimensions of the original term: users may recognize its form but fail to grasp its referential and symbolic significance.

As for Facebook, the original word appears in plural ('avatars'). It seems that the localizers/translators here chose to not to include the plural morpheme {-s pl} (which is realized here by the allomorph [z]), instead they follow a hybrid of translation-transliteration approach. The final product appears in the genitive form ("رسومات الافاتار"), whereby the definite article ال is added to the transliterated form. The translator appears to avoid either plural forms, i.e., adding Arabic plural morpheme to the transliterated word (to be, for instance, 'افاتارات', in analogy to the common Arabic pluralization pattern), or adding [z] (the plural English form). Even with "رسومات الافاتار", the case may still pose a problem for the user, where adding 'ال' to a term which is basically not Arabic may be misleading to laymen, as they might think that the word is originally Arabic.

3.3. Morphosyntactic Challenges

The message 'typing...' appears in messaging applications like Telegram and WhatsApp to indicate that "the person on the other end is currently composing a message". It serves as an immediate notification to inform users that the contact is actively engaged in typing a response.

Owing to the differences in morphology and syntax of SL and TL, a couple of challenges arise in connection to this matter. In the Arabic language, there is no grammatical distinction between the present simple and present continuous tenses as found in English. Therefore, if an action is described as "typing" in English, which signifies ongoing progressiveness, the Arabic equivalent would be expressed in a manner similar to the present simple tense. In other words, Arabic does not inherently convey the continuous aspect of an action in the same way English does, and the equivalent Arabic expression would typically resemble a simple present tense construction.

The other challenging issue is with translation of the verbs in the participle form, including **"**Typing**…"** → **يكتب** (*yaktub*), or **"**Ringing**…"** → **يرنّ** (*yarunn*), appear as gender-specific, and it can reflect a gender bias or, at the very least, gender ambiguity. The verb is conjugated based on the gender of the subject, and one conducts back translation, and then the result would be "he writes" as if the subject is male.

Nonetheless, in such cases in which indefinite persons where the gender is unspecified, the default tends to be masculine.

3.4. Exclusive Reliance on AI-Powered Translation

Mistakes and defects in SL that go unnoticed by MT systems can pose challenges, as these errors may be inadvertently transferred to TL during the translation process. A number of instances reveals an exclusive use of automated translation in social media platforms. One, spotted in Instagram (Settings and privacy→ Orders and payments→ Security), shows how the text is translated into Arabic with the same linguistic mistake. Figure 1 illustrates the case:

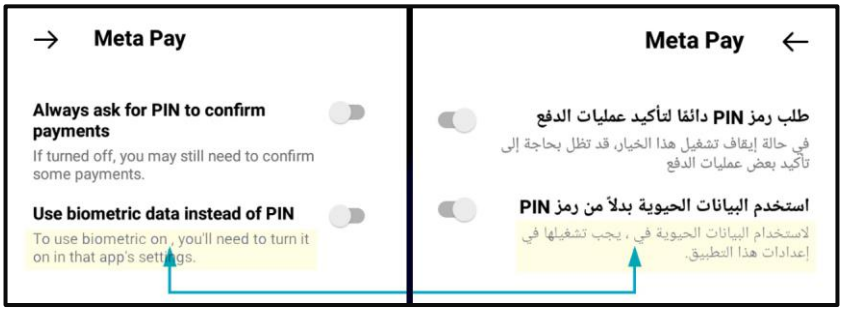

Fig.1. Error transferred to TL by MT without expert's post-editing

The translation is obviously done word-by-word, and even the mistake is mirrored to be exactly the same in TL (i.e., the incomplete infinitive phrase, and the space following the preposition is exactly the same).

From a UX (User Experience) perspective, this translation's ambiguity could result in user confusion and frustration. A well-crafted translation should consider the user's perspective and provide actionable and easily comprehensible instructions.

Another and most important phenomenon can be observed in Facebook, Telegram, WhatsApp, and Instagram, whereby the translation multi-sentence text looks awkward and weak as it lacks discourse coherence. Consider the following examples:

- *Keep your stories in your archive after they disappear, so you can look back on your memories. Only you can see what's in your archive.* (Instagram: Your activity→ Achieved)
  - يمكنك الاحتفاظ بقصصك في الارشيف بعد اختفائها، حتى يمكنك استرجاع ذكرياتك. لا يمكن لاحد سواك رؤية محتويات الارشيف
- *Contact and payment info used to quickly complete forms. Your autofill activity is used to improve ads and another parts of your Facebook experience.* (Facebook: Menu→ Settings & privacy → Browser→ Autofill)
  - تستخدم معلومات الاتصال والدفع لإكمال النماذج بسرعة. يستخدم نشاط الملء التلقائي الذي تقوم به لتحسين الإعلانات والاجزاء الاخرى من تجربتك على فيس بوك.
- *Create a report of your WhatsApp account information and settings, which you can access or port to another app. This report does not include your messages.* (WhatsApp: Settings→ Account→ Request account info)
  - قم بأنشاء تقرير عن معلومات حسابك والاعدادات في واتساب. ستتمكن من الوصول الى هذه المعلومات او نقلها الى تطبيق اخر. ان هذا التقرير لا يتضمن رسائلك.
- *Link previews will be generated on Telegram* ***servers. We*** *do not store any data about the links you send* (Telegram: Settings→Privacy and Security→ Secret Chats).
  - يتم توليد معاينات الروابط على خوادم تيليجرام. لانقوم بتخزين اي بيانات عن الروابط التي ترسلونها.
- *When your file is ready, you will have 4 days to download your information from this page. Downloading your files is a password-protected process that only you have access to* (Instagram: Your activity → Download your information)
  - عندما يصبح ملفك جاهزا، سيكون لديك 4 ايام لتنزيل معلوملتك من هذه الصفحة. يرجى العلم ان عملية تنزيل ملفاتك محمية بكلمة سر ولا يمكن لاحد سواك الوصول اليها.

The translated texts above are incoherent, as the flow of the Arabic discourse feels robotic and mechanical, signaling the use of MT and the absence of post-editing by an expert translator. Linguistic tools, such as conjunctions, play a crucial role in connecting sentences and ideas, yet they do not carry meaning on their own. In Arabic, the use of conjunctions to link short sentences is essential for harmonizing sentences, gathering ideas, and achieving coherence and aesthetic flow. Therefore, conjunctions are not always directly transferred from the source language; translators often need to add them as part of the Arabic localization process to avoid awkwardness. Consequently, such translations are often the result of machine translation or the work of unskilled translators.

3.5. Declarative vs. Imperative language

Some of the texts in the English UI of social media platforms are written in the imperative language. However, when translated into Arabic, the text often appears in the declarative form, presenting information rather than giving commands, offers or suggestions. This linguistic difference can impact the user experience and should be considered during the localization of UI elements. As an instance, consider **"**Get More Sleep" (in Facebook: found under Setting & privacy → Your time on Facebook), which is translated into Arabic as " الحصول على قدر اكبر من النوم". Unlike the SL text, which is a full sentence in the imperative form, the text in TL performs as a sentence fragment, specifically a noun phrase, as it lacks a clear subject and verb structure (yet, acting out more like a declarative sentence). This variance in linguistic structure can influence how users perceive and interact with the translated content, highlighting the importance of linguistic and cultural considerations in the localization process.

3.6. Untranslated Terms

Some terms in social media platform UI are left neither translated nor transliterated. Some of these terms include Google, Google Drive, Messenger, Meta, IP, Wi-Fi, QR, etc., As a matter of fact, they are often kept in their original form across languages due to a couple of reasons:

i) **Brand Recognition:** Terms like *Google*, *Android*, *Google Drive*, *Messenger* and *Meta* are brand names, and translating them might reduce global brand recognition. Companies often keep brand names consistent across languages for marketing purposes [4]:

- ***Google*** *may have access to the text of messages you translate* (Telegram: Settings → Language)
  - قد تتمكن Google من الوصول الى نص الرسائل التي ترجمتها
- *When turned on, your backup will be end-to-end encrypted before it gets uploaded to* ***Google Drive****. No one, not even* ***Google*** *or WhatsApp, will be able to access it.*
  - عند التشغيل سيتم تشفير نسختك الاحتياطية تماما بين الطرفين قبل تحميلها على Google Drive ، ولن يتمكن اي شخص، ولا حتى Google او واتساب، من الوصول اليها.

ii) **Acronym and Technical Terms:** IP (Internet Protocol), Wi-Fi (Wireless Fidelity), QR (Quick Response), and Proxy are technical terms or acronyms. Acronyms and Abbreviations, according to Wittner and Goldschmidt, are forms used in English aiming to condense the text for greater conciseness, “but they may not translate well in other languages and are likely to pose problems” [15]. Translating them might result in longer, less recognizable terms, and these terms are widely known globally in their original forms.

Nevertheless, when certain terms, such as those related to features or functionalities, are left untranslated or appear in their original language within an interface localized for Arabic users, it can have several detrimental effects. Firstly, untranslated terms contribute to confusion and hinder comprehension for some Arabic-speaking users. They may struggle to grasp the full functionality of the application, leading to frustration and a potential decrease in user engagement. This lack of clarity can impact the overall usability of the interface, as users may not fully understand the purpose or action associated with specific terms. In addition to usability concerns, the presence of untranslated terms can create an aesthetic inconsistency within the interface. This visual incongruity may give an impression of neglect or lack of attention to detail, diminishing the overall professionalism of the application. Users often appreciate a visually cohesive and well-integrated interface, and untranslated terms disrupt this cohesion. Additionally, acronyms require a full semantic conveyance when translated, which in turn demand significantly expanded text, potentially causing structure and design complications if the interface isn't tailored to handle such variations in text length.

3.7. Poor-quality Translations

There is a number of instances of translations shows awkwardness in the TL text. In many examples, translations are misleading, as there is a great gap in denotation between the original text and the translated one:

- *Messages you send will not link back to your account when forwarded by other users*. (Telegram: Settings→Privacy and Security→Forwarded Messages)
  - لن تملك رسائلك التي يحولها لك المستخدمون الاخرون رابطا الى حسابك

Reading such a text, users may misunderstand the function or meaning of UI features. That is, the sentence may technically “make sense,” but it feels mechanical, stiff, or robotic, often a sign of machine translation or a translator unfamiliar with Arabic stylistic norms.

Another issue observed in the target language is the weak syntactic structure of translated sentences. Instead of modifying or adapting the text to conform to Arabic grammatical and stylistic norms, translators often produce literal, word-for-word translations that retain the English Subject-Verb-Object (SVO) order:

- *<u>These users will</u> or will not <u>be able to</u> add you to groups and channels regardless of the settings above*. (Telegram: Settings→Privacy and Security→Groups & Channels)
  - <u>هؤلاء المستخدمون سيتم السماح لهم</u> بإضافتك للمجموعات والقنوات او منعهم من ذلك بغض النظر عن الاعدادات اعلاه.

Though the meaning can be conveyed when Arabic sentences begin with the noun, yet, Arabic sentences often begin with the verb for considerations related to aesthetic, grammatical, and rhetorical factors. The flexibility of Arabic syntax allows for different word orders while maintaining the intended meaning. However, beginning a sentence with a verb is a common stylistic choice in Arabic, with which it creates a dynamic and expressive language flow.

The next, also in Telegram, involves a sort of syntactic ambiguity with the location of the focus adverb ‘only’:

- *Users who add your number to their contacts will see it on Telegram only if they are your contacts* (Telegram: Settings→Privacy and Security→Phone number)
  - سيتمكن المستخدمون الذين يضيفون رقمك لقائمة جهات اتصالهم من رؤيته في تيليكرام فقط اذا كانوا من جهات اتصالك.

navigation path	Original Text	Original Translation OT	Alternative Translation AT	Expert's assessment		User's assessment	
				OT	AT	OT	AT
Facebook: Setting & privacy → Your time on Facebook	*Get More Sleep*	الحصول على **قدر اكبر** من النوم	احصل على **قسط وافر** من النوم	50%	90%	65%	90%
Facebook: Setting & privacy → Your time on Facebook	*Wind down in the evening and get better sleep by using scheduled quiet mode*	استرخ **في المساء واحصل على نوم افضل من خلال استخدام** الوضع الهاديء المجدول	استرخ **مساءا واحصل على نوم افضل مستخدماً** الوضع الهاديء المجدول	60%	85%	60%	70%
Facebook: Setting & privacy → Your time on Facebook	*See how you are spending your time, like your reactions, comments and posts*	اطلع على تفاصيل عن كيفية قضاء وقتك، على سبيل المثال تفاعلاتك وتعليقاتك ومنشوراتك	تعرف على كيفية قضائك لوقتك، بما في ذلك تفاعلاتك وتعليقاتك ومنشوراتك	50%	80%	65%	90%
Facebook: Setting & privacy →Your time on Facebook→Use Facebook Intentionally→see your time	*Time per day*	الوقت لكل يوم	المدة اليومية	15%	90%	20%	80%
Telegram: Account→Bio	*You can add a few lines about yourself. Choose who can see your bio in Settings*	يمكنك اضافة بضعة اسطر عن نفسك واختيار من يمكنهم رؤية نبذتك في الاعدادت	يمكنك كتابة بضعة أسطر عن نفسك وتحديد من يستطيع رؤية نبذتك ضمن الإعدادات	10%	90%	40%	90%
Telegram: Settings→ Privacy and Security→Phone number	*Users who add your number to their contacts will see it on Telegram only if they are your contacts*	سيتمكن المستخدمون الذين يضيفون رقمك لقائمة جهات اتصالهم من رؤيته في تيليكرام فقط اذا كانوا من جهات اتصالك	يمكن للمستخدمين الذين يضيفون رقمك إلى جهات اتصالهم رؤية رقمك في تيليكرام بشرط أن يكونوا ضمن جهات اتصالك أيضًا	60%	70%	55%	80%
Telegram: Settings→Privacy and Security→ Forwarded Messages	*Messages you send will not link back to your account when forwarded by other users*	لن تملك رسائلك التي يحولها لك المستخدمون الاخرون رابطا الى حسابك	الرسائل التي ترسلها لن ترتبط بحسابك عند إعادة إرسالها من قبل مستخدمين آخرين	35%	85%	40%	80%
WhatsApp: Settings→Privacy→Calls	*Calls from unknown numbers will be silenced. they will still be shown in the calls tab and in your notifications*	سيتم **اسكات** المكالمات الواردة من **ارقام غير معروفة، ولكن سيستمر ظهور هذه المكالمات في شاشة** مكالماتك واشعاراتك	سيتم **كتم** المكالمات الواردة من ارقام مجهولة، **، لكنها ستبقى ظاهرة في تبويب المكالمات وإشعاراتك**	55%	90%	25%	90%
Instagram: Your activity→ Download your information	*When your file is ready, you will have 4 days to download your information from this page.*	عندما يصبح ملفك جاهزا، سيكون لديك 4 ايام لتنزيل معلوماتك من هذه الصفحة. يرجى العلم ان عملية تنزيل ملفاتك محمية بكلمة سر ولا يمكن لاحد سواك الوصول اليها	عندما يكون ملفك جاهزًا، سيكون أمامك 4 أيام لتنزيل معلوماتك من هذه الصفحة. عملية التنزيل محمية بكلمة مرور ولا يمكن الوصول إليها إلا من قبلك.	60%	85%	50%	80%

	Downloading your files is a password-protected process that only you have access to						
Instagram:	*Keep your stories in your archive after they disappear, so you can look back on your memories. Only you can see what's in your archive*	يمكنك الاحتفاظ بقصصك في الارشيف بعد اختفائها، حتى يمكنك استرجاع ذكرياتك. لا يمكن لاحد سواك رؤية محتويات الارشيف	احتفظ بقصصك في أرشيفك بعد اختفائها ، كي تتمكن من استرجاع ذكرياتك. ملاحظة: لايمكن لا احد سواك الاطلاع على ما في أرشيفك	40%	85%	60%	80%

Table 1. Questionnaire form of expert and user's assessments of OT and AT in social media platform UI

The ambiguity in this example comes from the placement of the word "only". In English, "only" can modify what comes before it or what comes after it. For instance, in the sentence from Telegram, it could mean "only on Telegram" (modifying what comes before) or "only if they are your contacts" (modifying what comes after). The confusion arises because there is no comma in the original text to clarify its intended meaning. This shows that a translator's job in UI localization is not just to convert words into the target language, but also to consider the context, conditions, and the interface setting to ensure the translation is clear and unambiguous for users.

4. Suggested Translations

The study employs a survey comparing original translations (OT) with suggested alternatives (AT) to evaluate their acceptability. Two groups participated: language experts, bringing linguistic and translation expertise, and ordinary users, representing the general social media audience. Texts were selected from Facebook, Instagram, WhatsApp, and Telegram to ensure diversity and capture the range of linguistic challenges in UI translation. This design allows for assessing both expert judgments and user preferences, providing a comprehensive understanding of translation effectiveness and user satisfaction.

5. Findings

The findings of this research reveal that current English-to-Arabic social media user interface localizations face multiple challenges. Over-reliance on machine translation without human post-editing results in mechanical, incoherent, and sometimes ambiguous translations. Transliteration of terms such as *Avatar* and *Reels* introduces semantic ambiguity, cultural divergence, and inconsistent morphological handling, while morphosyntactic differences—such as the absence of a present continuous tense and gender-specific verb forms in Arabic—further complicate accurate rendering. Additionally, imperative instructions are often translated into declarative forms, and untranslated technical or brand-related terms can lead to user confusion and aesthetic inconsistencies. Literal and word-for-word translations produce awkward syntax, poor discourse cohesion, and ambiguity, negatively affecting the overall user experience. When alternative translations proposed by the researcher were compared with the originals, both linguistic experts and ordinary users judged the alternatives more favorably, indicating higher acceptability, clarity, and cultural alignment. These findings underscore the importance of human involvement and culturally sensitive approaches in Arabic UI localization.

6. Recommendations

The survey results can inform recommendations for translation practices in UI localization. These might include:

1. **Human Supervision:** Emphasizing the role of human expertise in translation processes to ensure nuanced and culturally appropriate content.
2. **Iterative Improvement:** Encouraging a dynamic translation process that allows for constant improvements based on user feedback, ensuring continuous refinement of translated content.
3. **User-Centric Approach:** Prioritizing translations that correspond with user expectations and preferences, ultimately enhancing user satisfaction and engagement.
4. **Cultural and Contextual Awareness**: Using translation examples from authentic UI's into language learning encourages students to recognize cultural distinction and context-specific language use. This fosters **pragmatic competence** and enhances learners' ability to make informed translation choices in professional and educational settings.
5. **Learning-Oriented Translation Practice**: Integrating UI localization tasks into translation training programs provides learners with opportunities for experiential learning. By engaging in authentic translation challenges, students can constantly improve their skills, broaden their understanding of applied linguistics, and strengthen problem-solving abilities relevant to both academic and professional contexts.

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