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Internet Language and Its Influence on Microsoft Documentation and User Interface

The Internet is changing our language. To unequivocally prove this basic claim, we can hold up the ubiquitous use of the acronym, *LOL*, to quickly dispatch those who doubt it. A slightly more nuanced argument can be made in evaluating at how the Internet has imposed a different meaning on such words as *menu* and *site*. And even though new technology has traditionally impacted our language by introducing new terms and changing others (Herring 2003), no other technology has connected so many people over such a vast area over a myriad of electronic mediations for the sole purpose of communicating. The distinction between writing, speaking, viewing, and producing, blurs when communication is mediated by various forms of Internet-connected devices and formats, which in turn, impose different structure and outputs on both the creators and the consumers of content (Crystal, 2001).

The depth and scope of the change that the Internet has had on the English language is unknown. Indeed, the very toolset we use to provide an analytical framework, Internet linguistics, is a field in its infancy. The potential for research is huge and daunting. The list of Internet output types grows by the month; the overwhelming volume of corpus is impossible to sort through in its entirety, not to mention the obvious issues of privacy and security that would preclude such an effort. But the basic fact remains: this technology is changing our language.

But to what extent has Internet language impacted software documentation and user interface (UI)? By evaluating some contemporary software documentation from a big corporation such as Microsoft, can we find any evidence of Internet language making its way into this well-guarded fortress of traditionally system-centered, earnest content?

In this paper, I'll start by evaluating how the Internet has influenced our language by first showing the popular perception of this phenomenon. I then compare the popular reaction of the influence of the Internet on language to the scholarly reaction. The goal in comparing these two reactions is to illustrate how two different language-aware domains (media and academia) can perceive the same phenomenon and emerge with nearly opposite conclusions. This comparison may shed some light on the reluctance of the business domain to fully embrace the influence of the Internet on the language. After I show that we are seeing some quantifiable influence of the Internet on our language, I then focus on the single linguistic trait of orthography in an attempt to identify a specific area of change. To this end, I evaluate contemporary UI and help documentation from Microsoft through the lens of orthography.

What is the Popular Perception of Internet Language Influence on Language?

For at least the last decade the popular media likes to remind us on a regular basis that the English language is deteriorating. And specifically, the Internet is at fault for this deterioration. According to one headline, "[o]nline language has developed into a shorthand that all but obliterates the Queen's English" (*The Guardian,* 2001). Tales of students turning in school papers with text-message shorthand are a familiar version of this genre (Thurlow & Bell, 2009, p. 1039). To provide context around the notion that our language is changing, it's helpful to

examine how the popular media, and by extension, how the popular culture views the Internet's influence on our language.

Many scholars have commented on the popular media's assessment of the Internet's influence on language (Crystal, 2009; Thurlow, 2006; Thurlow & Bell, 2009; Baron, 2000; Squires 2010; Garrison, A., Remley, D., Thomas, P., & Wierszewski, E. 2011). Overwhelmingly, popular debate characterizes the effects of the Internet on language with nearly-universal negative implication of a language in decline. Crystal (2011) summarizes the general popular sentiment:

> The prophets of doom have been out in force, attributing every contemporary linguistic worry to the (Internet), and predicting the disappearance of languages and a decline in the spoken and written standards (p. 3).

But it's the print media and more specifically, print journalists, whose "evaluations of the impact of technology on language can be anecdotal, dismissive, and, sometimes, surprisingly vitriolic" (Thurlow, 2006, p. 668). Thurlow (2006) has directed perhaps the largest research and analysis to date of how the print media evaluates and writes about Internet language. From his analysis emerge four broad themes that provide an excellent illustration of the premise that, at least according to print journalists, the Internet is changing our language for the worse. While Thurlow's (2006) enumeration of themes provides a valuable framework that suggests the potential breadth of changes to our language as perceived by popular opinion, his first theme, "CMD as a Linguistic Revolution," is the most relevant to the discussion here (p. 672). Specifically, Thurlow (2006) finds a number of print articles in his research that explicitly call out Internet language, or computer mediated discourse (CMD), as "a form of linguistic 'revolution,' implying a decisive and dramatic break with conventional practice," and that

"regardless of whether CMD was explicitly labeled revolutionary, a similar rhetoric of uniqueness and distinctiveness was evident throughout" (p. 672-673).

The sentiment is shared by popular culture, as is the general framing of the language change in one of ideology, that "internet language features are enregistered as being in contrast and even conflict with Standard English" (Squires, 2010, p. 475).

So, while it's clear that there is some popular perception that the Internet is influencing our language–and its effect largely appears to be threatening–scholarly commentary, research, and reaction to the phenomenon is, not surprisingly, more measured and value-neutral. Indeed, if print media's catalyst to comment on Internet language is fear (Paradis, 2005), then it appears the scholarly corollary might be linguistic curiosity.

An illustration of this curiosity can be qualified by searching across the corpus of scholarly language-related articles according to Internet output type (e.g., texting, blogs, chatting or chat rooms, social networking, email, etc.):

- A digital equivalent of speaking is encountered in an online chat or instant message session. But which properties of oral conversation map to the chat room? For example, how does turn-taking and the notion of "silence" work in the typed representation of online context (Zitzen & Dieter, 2004)?
- How has the use of email been shaped by past technologies and how might it change how we communicate in other mediums and to each other (Baron, 2002)?
- Can microblogging, or "Tweeting," be used as a medium to enhance language learning (Lomicka & Lord, 2012)?
- The blog format is essentially a platform that allows users to express their opinion. Therefore, with millions of blogs published across the Internet, might this be a rich

resource for analysis of the linguistic traits of evaluative opinion, or "sentiment analysis" (Daille, Dubreil, Monceaux, & Vernier, 2011)?

The goal of providing this list is to indicate the scope and the variation of language-related domains that scholars might mine to quantify how the Internet is influencing language. While influence is undeniable, the question that is far from being answered by anyone, and is likely never to be resolved, is "Exactly how is the Internet changing our language?" Aside from the obvious issues of scale represented by the Internet as a language corpus – that is, assuming we *could* catalog the content on the Internet satisfactorily – how might we go about analyzing it in a way that satisfies any notion of a comprehensive requirement? One appoarch, as I'll do here, is to study Internet language by identifying and evaluating specific linguistic registers within the language. From there, we can enumerate a given register's distinctive features, and then attempt to qualify how those features have impacted a different register of Internet language.

What is Internet Language?

Before we can evaluate how the Internet may be changing language, we need to define how to approach the concept of Internet as consisting of a language. A relevant concept to recall in this context is the sociolinguistic notion of register, which "refers to the fact that the language we speak or write varies according to the type of situation" (Halliday, 1978, p. 31-32). In the context of defining "Internet language," the situation of enregisterment is "the Internet." But as we look at specific features and components of language, we'll be evaluating linguistic practice in the context of the application or output type.

Previous attempts by popular culture to name Internet language restricted broad adoption by over-emphasizing either the particular output type (e.g., chatspeak), or language feature (e.g., netlish, cyberspeak). However, Squires (2010) argues that both chatspeak and netspeak are terms

that "invoke notions of distinctive online linguistic practice…[that] illustrate several key ideological themes…[and] that are central to enregistering internet language" (p. 2). So, while none of these overly-specific terms will suit the broad definition of "Internet language," they do illustrate the existence of a notion of enregisterment by the participants that engage in them.

Crystal (2011) provides a brief analysis of some of the other various names that scholars have attempted to apply to the broad concept of Internet language: *computer-mediated communications, electronically mediated communication, digitally mediated communication, electronic discourse, computer-mediated discourse,* and *e-linguistics* (p. 2). In the end, he prefers *Internet linguistics* as the term to define the study of the subject. *Internet language,* therefore, seems to be a reasonable term—for now—that defines the subject itself, as does *computer-mediated communications* (CMC), which appears to be a commonly accepted term in the field as well. I use the two terms interchangeably in this paper.

In the context of Internet linguistics, a useful means of categorizing the vast volumes of content on the Internet is to follow Crystal's (2011) approach by defining a content type by its output. Examples of outputs, as noted previously, are email, tweets, texts, blogs, chats, etc. Crystal's (2011) choice to label these *outputs* instead of relying on traditional linguistic terms such as *genres, dialects, registers,* or *varieties* is intentional:

> We need a term that is theoretically neutral, from the linguistic point of view…and I propose to use *outputs*. I shall talk about email, for example, as being one of the outputs of Internet technology. The term implies nothing about its linguistic character, or how it relates to other outputs (p. 10).

By categorizing the content on the web according to output, the task of further classifying or sorting out specific language features becomes at once a much less daunting task. As we'll see in

the following pages, we can analyze a specific output whose mediated constraints—such as those imposed by the character count and input limitations of texting on a phone—might influenced a given linguistic trait, for example, orthography.

Language Change

In *Internet Linguistics*, David Crystal argues that specific linguistic features on the Internet "seem to be little different from what we observe in language used outside the electronic medium. However, 'little difference' is not the same as 'no difference'" (p. 57-58). While there may be no agreement on exactly how or to what extent the Internet has influenced our language, we can use some of the tools of linguistics to analyze the features of how language is used on the Internet. The goal with this approach is to identify those features of language use on the Internet that highlight either a distinct change from pre-Internet usage, or perhaps only indicate a shift or future change in usage.

Those linguistic realms which show the quickest innovation and deviation tend to be lexicon and graphology (Crystal, 2011, p. 67). As graphology is the study and analysis of handwriting, the online corollary would be orthography, which is concerned with spelling and how a given language uses letters to make meaning and form words. And while there are lexical changes to our language influenced by the Internet, orthographical features are particularly obvious areas of innovation, and are the focus of this paper.

Cursory investigations of common Internet language usage reveals "abbreviations (e.g., 'LOL'), emoticons (i.e., 'smiley faces'), intentional misspellings (e.g., 'looooong day'), and non-standard uses of punctuation (e.g., '~*sleeping*~')" (Nastri, Peña, & Hancock, 2006). A brief analysis of a few scenarios that generate these examples reveals that orthographic innovation appears to be influenced, at a theoretical level, by Grice's (1989) maxims of quantity and

relevance, by the mediating effect of the computer application in which the communication is hosted, and the motivations of the users communicating.

For example, the cost of producing text messages (SMS) is generally considered to be high in relation to other means of CMC. Until recently, the financial cost of SMS messages was assessed per message by the mobile phone data provider. Additionally, the usability cost imposed by the limitations of the SMS device is also higher as compared to other CMC scenarios where a full keyboard is generally used. Finally, a limit of 160 characters or less is also imposed by the SMS medium. These costs and restrictions place a premium on meaning-making through an economy of graphemes in SMS text messages.

Indeed, from this highly-mediated communication medium emerges a number of orthographic devices that are used "for economy and text entry reduction." Some of the common examples include the "omission of vowels (<gd> for <good>)," homophones "(<r> for <are>, <2> for <to>)," and respellings "(<thru> for <through>, <fone> for <phone>)" (Shortis, 2007, p. 7-8).

It's worth noting here that many of these devices have "long been part of many vernacular literacy practices, such as trade names, codified occupational and uncodified shorthands, and popular culture (such as song lyrics)." But their use in various Internet outputs "publicizes and diffuses them" in a way that highlights our perception of a distinction between "internet/noninternet" language features (Squires, 2010, p. 482-483).

While the SMS scenario has clearly influenced and perhaps introduced many of the orthographic devices noted above, it's important to realize that users switch modes between output types frequently. For example, a user may be writing an email, then break to respond to an instant message conversation, then update their Facebook profile, then text a friend, and then

finish their email all within the course of a few minutes. Although each of these outputs may impose a different set of CMC restrictions and are undoubtedly approached for different purposes by the user, many of the orthographic devices discussed here are used across the different output types to similar ends. Further, identifying the originating output style for these devices is not useful for this discussion. As noted previously, analyzing linguistic features according to output type provides a usefully scoped lens through which to view a given feature or device.

Both chat and instant messaging scenarios provide a particularly rich corpus in which to analyze the innovation of orthographic devices. Unlike other forms of CMC, such as email or SMS, which are asynchronous methods of communication, chat and instant messaging are synchronous mediums where participants engage in real-time communication. The synchronous nature of these CMC scenarios illuminates a number of interesting linguistic strategies that have emerged as participants have figured out how to communicate effectively in real-time by typing into a computer over a network (Zitzen & Dieter, 2004). It is in this real-time CMC realm where research (Yates, 1996, Werry, 1996) has illustrated that the "use of vernacular lexicon and spellings showed that CMC language mirrors speech rather than writing" (Tagliamonte & Denis, 2008, p. 7). While the study of linguistic pragmatics reveals some of these strategies (turn taking and "silence" for example) as illustrated by more complex uses of language and CMC context, our interest here is in orthography. Specifically, in the context of synchronous CMS, orthographic devices are used by participants to support the economy of communication and additionally, to support a simulation of spoken language and meaning making.

We've already looked at examples of orthographic devices used in SMS messaging to optimize economy. A common feature of synchronous CMC (especially in chat scenarios), is a requirement to take very short "turns" at communicating. The reason for this is to enable the

"speaker" to keep up and to keep "the attention of the interlocutor while at the same time signaling that there (is) more coming" (Tagliamonte & Denis, 2008, p. 7). Again, we see this notion of "cost" that drives economy of communication. Many of the same orthographic devices used in SMS communications are used to this economical end in synchronous CMC scenarios.

Perhaps synchronous CMC better illustrates the use of orthography to simulate spoken language and more advanced meaning making than any other output type. Shortis identifies a number of orthographic devices that fall into spoken language and meaning-making categories: "accent simulation (<goin> for <going>)," capitals "to indicate paralinguistic details such as volume or emphasis," "stage directions in parentheses to indicate nuance…(E.g. 'Monsieur (said in French accent)')," "stretched sounds for emphasis (<Soooooo>)," emoticons (E.g. ☺), "color, movement, pictorial imagery…alphabetical rebuses" (2007, p.8).

As we look ahead to how these orthographic devices might influence technical content, we should briefly assess how such devices might generally influence discourse according to standard, abstracted principles. In both the SMS and the synchronous CMC scenarios, we can infer the illustration of Grice's (1989) maxims. Clearly, we see the maxim of quantity at work: that contributions should be no more than necessary. In both scenarios, the notion of language economy is a critical underpinning for success within the CMC. For the same reason, the maxim of quality (or relevance) is required.

The final orthographic device we should investigate is that of capitalization, or rather, the lack of standard capitalization in Internet language. In the context of our previous discussion around SMS and synchronous CMC, failing to adhere to standard capitalization norms makes sense given the cost of capitalizing in those scenarios. But in the context of the output email, what can we learn about capitalization usage? Since email has evolved from features of the pre-

Internet "office memo" genre (E.g., fields such as subject, carbon-copy, blind-copy are standard), it seems reasonable to expect that users would approach an email with similar formality. Yet, research has shown the opposite, in fact, "that email is a medium that encourages linguistic innovations and creativity" (Climent, S., Moré, J., Oliver, A., Salvatierra, M., Sànchez, I., Taulé, M., and Vallmanya, L., 2003).

According to Naomi Baron, the reason behind this innovation has to do with the "conceptual models" that users approach email with; do they view email more like speech or writing:

> That is, we must decide whether to employ conventions of informal speech (including assumptions that the message will be private and ephemeral, and that precision isn't overly important) or assumptions about more formal writing (that messages are durable and can end up in the hands of unknown others). Many computer users function with a mental model of e-mail as a private, speechlike medium of communication that disappears without a trace when "deleted," even when we rationally know better (2002, p. 410).

From this perspective, it's easy to see why email, along with SMS and synchronous CMC, when practiced in the same model of informal speech, may exhibit non-standard capitalization as an obvious feature.

Assessment of Microsoft Content and UI

Thus far, I've hoped to establish that CMC at a minimum has changed language to some identifiable extent, if not in the "real" world, but certainly in the context of the Internet, and perhaps—certainly by popular notion—that we've seen some influence to our noninternet language as result as well. Further, I've attempted to qualify some of that change by identifying and categorizing some of the "low hanging fruit" of language change: orthographic innovations

and deviations. Orthographic change, as we've seen with the examples so far, is easy to identify. As such, my next task is to analyze some non-traditional orthographic usage in technical content and user interface (UI) from Microsoft. My goal is to qualify to what extent these non-traditional implementations might indicate language change, however minor, in a genre that is traditionally considered more system-centered and conservative.

Angle Bracket as Disambiguator

The first orthographic change I'll evaluate is the use of the greater-than sign (>), or angle bracket grapheme, as a shorthand for "click," "double-click," "select," "expand," and other similar actions that users are required to interpret to perform actions upon UI elements. For example, "In Identity Manager, click Management Agents, and then double-click OnPremise," is representative of a first step in a procedure for content written before the angle bracket was put to use at some groups within Microsoft ("Configure mailbox plan attribute flow for Olsync for Live@edu," 2012). Today, a more representative step for Microsoft procedural content is, "In the EAC, navigate to Recipients > Groups > New > Dynamic distribution group" ("Manage dynamic distribution groups," 2012). The use of the angle bracket as a simple device to disambiguate the multiple actions users can perform on a given UI element is an illustration of an orthographic feature. According to Shortis, the use of an orthographic device in this context illustrates "a shift to multimodal visual and graphical effects and iconicity in which the linguistic sign is pushed to the periphery of meaning making" (2007, p. 7). More specifically, he refers to this type of usage as an alphabetical rebus. In the way the angle bracket grapheme disambiguates the specific technical action (click, expand, select, etc) to a more general action, we see the Gricean effect of efficient implicature as well (1989). In any case, with the widespread use of orthographic shorthand used in chat, SMS, and other outputs (Shortis, 2007; Nastri, Peña, & Hancock, 2006),

it seems reasonable to assume that the editorial leadership at Microsoft has therefore recognized, though perhaps not explicitly, that the angle-bracket is an acceptable, non-threating, and in fact a better device to communicate the range of previously problematic interpretation of ambiguous actions.

Nonstandard Non-capitalization

Another area to explore is the orthography of non-capitalization. As discussed earlier, the nonstandard use of non-capitalization is an orthographic device that cuts across many Internet output styles. In fact, it's so ubiquitous, and the examples so numerous, that non-capitalization presents an area for more research to further analyze and classify the different scenarios that exhibit this feature. In any case, non-capitalization, of the three orthographic devices we're analyzing here, appears to be the strongest case of influence of Internet language on Microsoft UI.

Consider *Figure 1*: a screen shot from Office 365 Preview UI. This UI has been designed for an audience of IT professionals, who are responsible for administering IT functions (email, document management, collaboration, etc) for small and medium businesses. Non-capitalization is a primary visual feature of the typography on this UI. In fact, there are no traditional UI control elements, such as buttons, sliders, or fields on this UI page; it's entirely composed of text-based links.

For the same reasons of publicization and diffusion, nonstandard non-capitalization appears to have been normalized across Internet registers. Nonstandard non-capitalization has normalized to such a degree that Microsoft has made it a central feature of their new design standard represented in *Figure 1*.

Empathizing Through an Emoticon

Perhaps the most visibly unambiguous embrace of orthographic devices is through the use of emoticons. A recent study summarizes the impact of emoticons well: "[b]ecause emoticons appear visually (that is, they look fundamentally different than print-linguistic text), the image of the emoticon seems to perform more rhetorical work as an utterance than the print-linguistic text alone" (Garrison, Remley, Thomas, & Wierszewski, 2011, p. 123). In the latest release of Microsoft's operating system, Windows 8, the emoticon is put to use in a fairly provocative way.

In all previous releases of the Windows operating system, a Stop Error condition resulted in a system crash that displayed a boilerplate (and frustratingly non-specific) message instructing users to "make sure any new hardware or software is properly installed," along with a screen of highly technical error code against a blue back ground (see *Figure 2*). This condition is referred to as the "Blue Screen of Death," or simply BSoD ("Blue Screen of Death," 2012). The appellation is well-deserved. There is no shortage of anecdotal accounts on the Internet from users and support professionals that have experienced frustration in their inability to decipher a course of action from the error codes that are presented on the BSoD. From the system side, since the Stop Error condition can be caused by thousands of theoretical scenarios, there is no intelligible specific action that can be generalized to present on the BSoD. Hence, the unhelpful boiler plate content and the error code are displayed. Technically, the error code is a crash dump. A crash dump, or memory heap dump, requires analysis by a computer engineer or support professional and is not useful for lay people who are attempting to troubleshoot the underlying issue.

In Windows 8, the BSoD has been updated to display a frown-face emoticon :(and a minimal amount of text (see *Figure 3*). What is interesting about how Microsoft implements the new BSoD is that the emoticon replaces all of the generalized, non-actionable boilerplate content.

The crash dump is still available, though it's not displayed. And a new message is added, which provides more empathetic content. I'd also argue that the use of "we" and the stylistic "voice" of the message are also interesting changes that reinforce an empathetic tone. However, an analysis of these stylistic devices is outside the scope of this orthographic discussion. The fact that the emoticon replaces all of the boilerplate content and stands on its own as the visual centerpiece of this screen is what makes its use provocative. This emoticon implementation supports the conclusions of the Garrison, Remley, Thomas, & Wierszewski (2011) research which showed that, "(i)n instances where the emoticon appears 'alone', the nature of the emoticon clearly allows it to function as an utterance on its own" (p. 123). In this case, that function is empathy, and perhaps a bit of humble shame at causing the user such a stark inconvenience.

Again, I would argue it's only through the influence of Internet language that the orthographic device of an emoticon could be normalized to such an extent that it would be deemed an appropriate response to perhaps the most visible, embarrassing, and well-known error condition that Microsoft is infamously known for.

While we can trace the use of the first emoticon on the Internet to 1982 ("Happy 30th Emoticon," 2012), of course it's nearly impossible to determine with any kind of relevant accuracy whether emoticons were in widespread use before the Internet. Study of telegraph messages illustrates a rich glossary of similar orthographic meaning-making devices, if not specifically emoticons. (Baron, 2002). Certainly, we can imagine that emoticons in some fashion had been used before; but again, as Squires argues, orthographic devices may have been used in pockets of different cultures and profession, but it's the Internet that "publicizes and diffuses them" (Squires, 2010, p. 482-483). And I believe that publicization and diffusion is what normalizes the use of emoticons to the extent that Microsoft can use :(on the BSoD in 2012.

To further support my claim that emoticons have been normalized in our language (or at a minimum in certain Internet registers to include UI), is the fact that Microsoft includes a brief emoticon glossary in their e-mail etiquette guide for new computer users ("Getting started with e-mail," 2012).

Conclusion

By relating Microsoft's use of these orthographic devices to a broader narrative of language change, I've hoped to illustrate that while the influence of the Internet on our language is impossible to quantify, it's clear that there is influence. The influence of the Internet on language is a huge area, with a broad scope and a seemingly limitless supply of research material. With the emergence and general embrace of Internet linguistics as a field of study, the corresponding tools, methods, and research corpus are maturing quickly to provide a rich theoretical foundation to support related areas of study. One such are of interest to me, is pedagogy of composition.

During my research this quarter, as I've taught English 101, I've been struck many times by the implications of how Internet language has influenced my students and how my recognition of this influence might be harnessed to better prepare my students for the future. For example, to the extent that my incoming students use a keyboard, it's likely that the majority of their interaction in context of typing is more of a speech act than one of writing. Perhaps then, it should not be a surprise to me that the typed assignments that I receive from my students often read more like a chat room or instant messaging session, rather than a composed piece of writing. As for pedagogy, there seems to me a potential for using the meaning-making devices familiar to my students, and embedded in Internet language to illustrate rhetorical concepts.

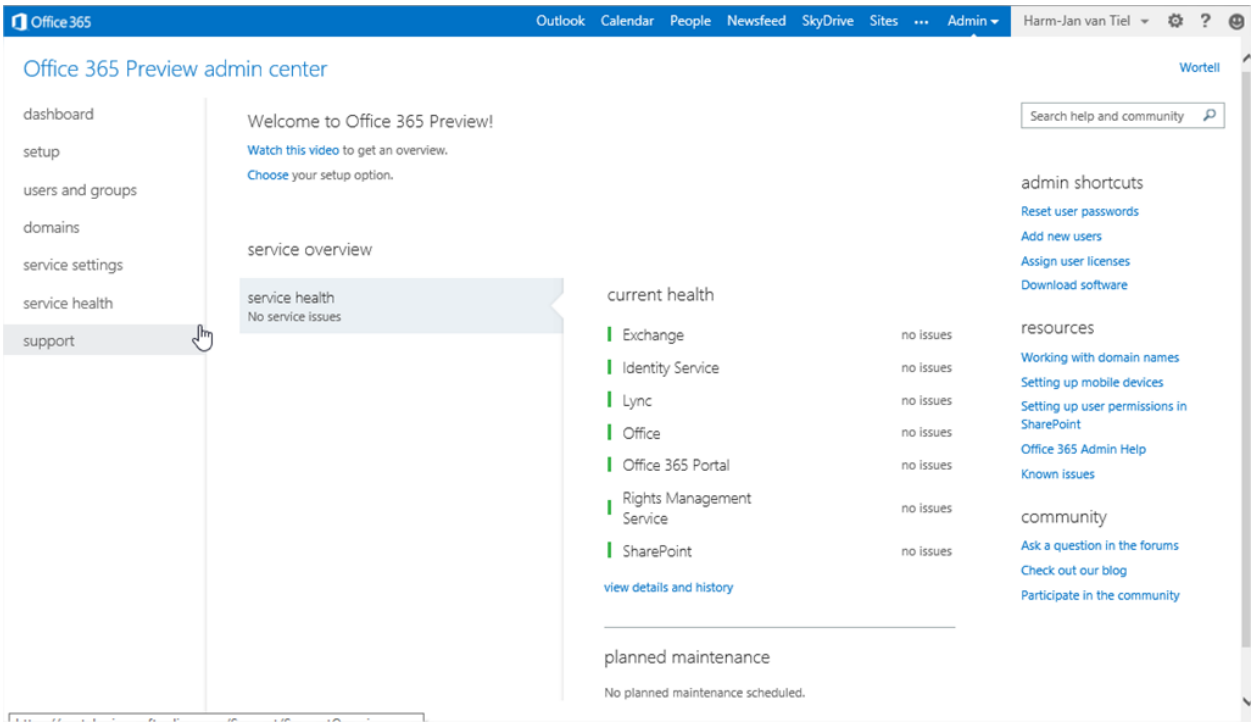

Figure 1. Office 365 Preview admin center screen capture. This figure illustrates the use of non-capitalization in Microsoft design style.

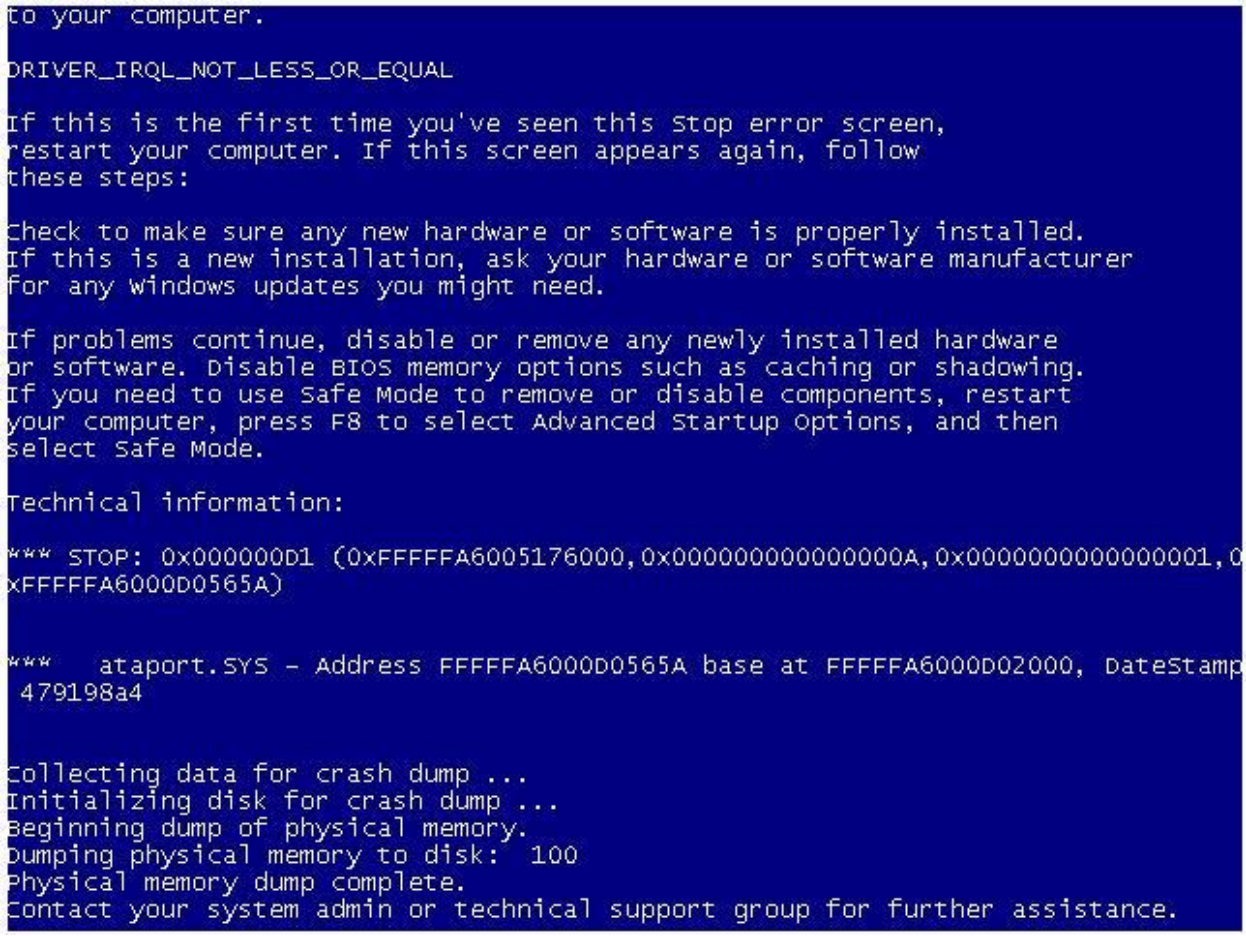

Figure 2. BSoD screen capture. This BSoD is from versions of Windows operating system prior to Windows 8.

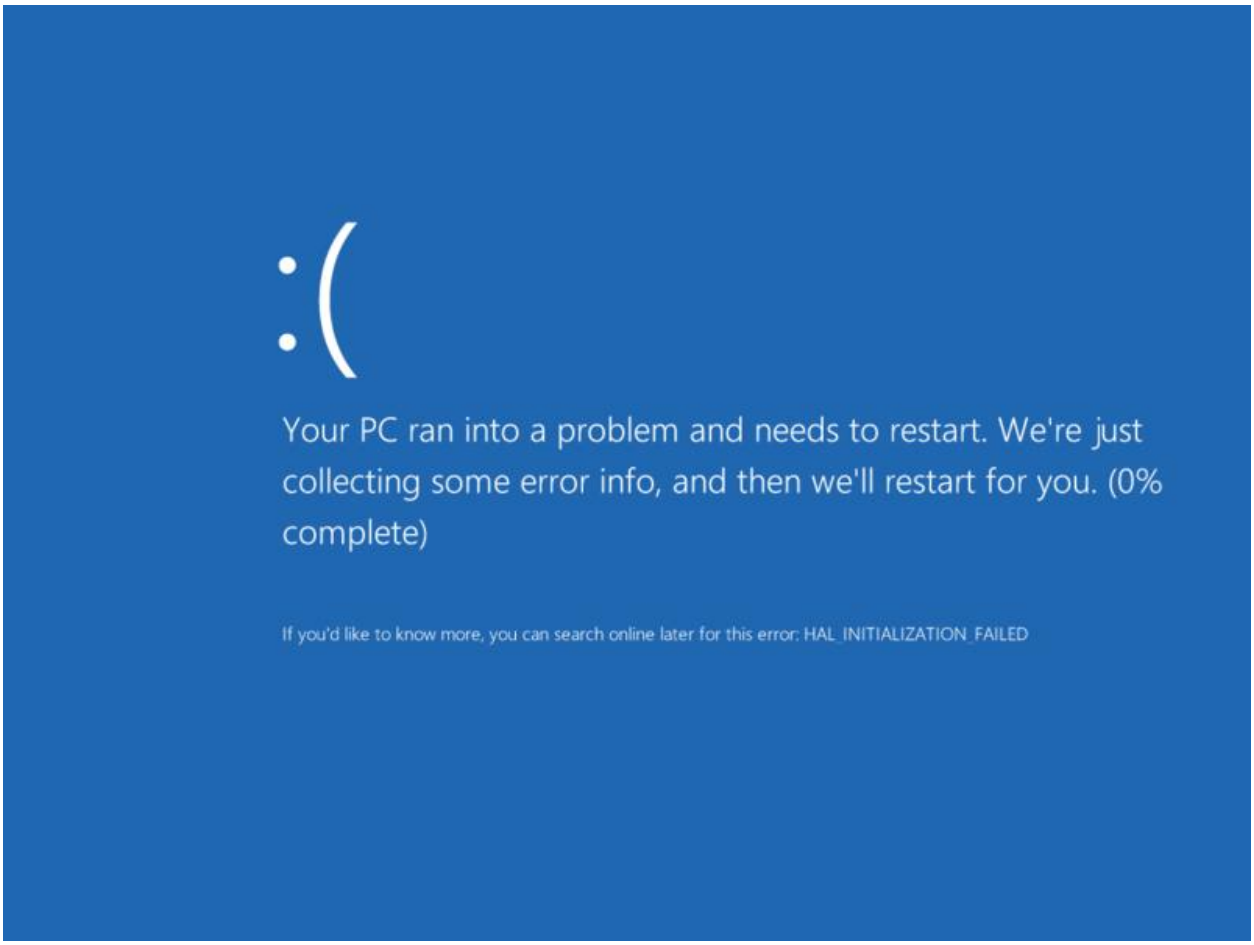

Figure 3. BSoD screen capture. This BSoD is from the Windows 8 operating system.

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Figure Sources

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