

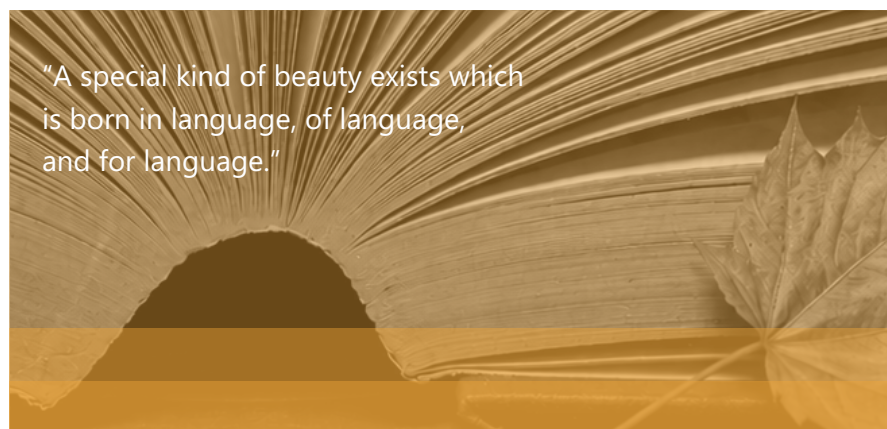


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"A special kind of beauty exists which
is born in language, of language,
and for language."



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Cognitive Metaphor in English Digital Discourse: Embodied Schemas in the Conceptualization of Online Activity

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Annotation *This article examines conventional metaphors that organize the vocabulary of English digital discourse and explains how embodied experience provides cognitive structure for abstract online activity. The analysis focuses on recurrent expressions such as platform, window, page, navigate, stream, traffic, feed, viral, footprint, cloud and thread. Drawing on Conceptual Metaphor Theory and image-schema approaches, the study treats these units not as isolated stylistic ornaments but as evidence of systematic mappings from spatial, material, biological and motion-related experience to digital concepts. A qualitative semantic analysis shows that container, path, surface, flow, nourishment, contagion and trace schemas make technologically complex processes easier to conceptualize and communicate. The study also distinguishes between metaphorical motivation and lexical conventionalization: many digital metaphors remain cognitively transparent even after becoming routine technical vocabulary. The proposed classification clarifies how embodied schemas contribute to terminological productivity, user-interface language and the everyday interpretation of digital environments.*

Keywords *Cognitive metaphor, digital discourse, image schema, conceptualization, embodied cognition, lexicalization*

Ingliz raqamli diskursida kognitiv metafora: onlayn faoliyatni konseptuallashtirishda tajribaviy sxemalar

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Annotatsiya *Maqolada ingliz tilidagi raqamli diskurs lug'atini tartibga soluvchi konvensional metaforalar tahlil qilinib, mavhum onlayn faoliyatni konseptuallashtirishda jismoniy tajriba qanday kognitiv asos yaratishi yoritiladi. Tahlil platform, window, page, navigate, stream, traffic, feed, viral, footprint, cloud va thread kabi muntazam qo'llanadigan birliklarga qaratilgan. Konseptual metafora nazariyasi hamda obraz-sxema yondashuviga tayangan holda ushbu birliklar alohida uslubiy bezak sifatida emas, balki makon, harakat, moddiylik va biologik tajriba sohalaridan raqamli tushunchalarga yo'naltirilgan tizimli ko'chirishlarning natijasi sifatida talqin qilinadi. Sifat tahlili container, path, surface, flow, nourishment, contagion va trace sxemalari texnologik jihatdan murakkab jarayonlarni kundalik idrok uchun tushunarli shaklga keltirishini ko'rsatadi. Shuningdek, metaforik motivatsiya bilan leksik konvensionallashtirish farqlanadi: ko'plab raqamli metaforalar terminologik odatiylikka aylangan bo'lsa-da, ularning kognitiv asosi sezilarli darajada saqlanib qoladi. Taklif etilgan tasnif raqamli terminlarning shakllanishida tajribaviy sxemalarning rolini, interfeys tilidagi semantik izchillikni va yangi texnologik*

tushunchalarning kundalik til orqali o'zlashtirilish mexanizmini aniqroq ko'rsatishga xizmat qiladi.

Kalit so'zlar *Kognitiv metafora, raqamli diskurs, obraz-sxema, konseptuallashtirish, tajribaviy kognitsiya, leksiklashuv*

Когнитивная метафора в англоязычном цифровом дискурсе: опытные схемы концептуализации онлайн-деятельности

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Аннотация *В статье рассматриваются конвенциональные метафоры, организующие лексику англоязычного цифрового дискурса, и объясняется роль телесно-пространственного опыта в когнитивном структурировании абстрактной онлайн-деятельности. Анализ охватывает регулярно употребляемые единицы *platform, window, page, navigate, stream, traffic, feed, viral, footprint, cloud* и *thread*. На основе теории концептуальной метафоры и подхода образных схем эти единицы трактуются не как отдельные стилистические украшения, а как проявления системных проекций из сфер пространства, движения, материального и биологического опыта на цифровые понятия. Качественный семантический анализ показывает, что схемы *container, path, surface, flow, nourishment, contagion* и *trace* делают технологически сложные процессы когнитивно доступными и коммуникативно экономными. В исследовании также разграничиваются метафорическая мотивированность и лексическая конвенционализация: значительная часть цифровых метафор стала рутинной технической лексикой, сохраняя при этом прозрачную концептуальную основу. Предлагаемая классификация позволяет систематизировать связь между телесным опытом, терминологической продуктивностью и языком цифровых интерфейсов. Такой подход показывает, почему новые технологические понятия легче закрепляются в языке, когда опираются на уже освоенные человеком модели пространства, движения, потока и материального взаимодействия.*

Ключевые слова *Когнитивная метафора, цифровой дискурс, образная схема, концептуализация, телесное познание, лексикализация*

Introduction

Digital communication is often described as if it were a physical environment that users enter, move through, occupy and leave. People

visit sites, open windows, follow links, navigate platforms, stream content, leave digital footprints and encounter viral material. None of these actions is literally identical to the

physical activity named by the source word. A website is not a geographical site, a browser window is not an architectural opening, and a stream of data does not possess the material properties of running water. Yet such expressions are immediately intelligible because they recruit familiar patterns of embodied experience to structure concepts that are otherwise technically complex and largely invisible.

Within cognitive linguistics, this regularity is explained by the assumption that metaphor is not restricted to poetic language. Conceptual Metaphor Theory treats metaphor as a systematic relation between conceptual domains: a comparatively concrete source domain provides structure for a more abstract target domain (Lakoff & Johnson, 1980; Kövecses, 2010). This position is especially productive for the analysis of digital vocabulary because many core terms of networked communication emerged through semantic extension rather than through entirely new lexical creation. Digital discourse therefore offers a compact illustration of how language reuses existing experiential knowledge when speakers need to conceptualize new objects, processes and relations.

The relevance of the problem has increased with the normalization of digital environments in everyday life. Expressions that were once innovative technical metaphors are now part of ordinary vocabulary and often appear to users as literal terms. Such conventionalization can obscure the conceptual work performed by metaphor. The cognitive question is therefore not simply whether a word has metaphorical origins, but what experiential schema it activates, which aspects of the digital target it highlights and which aspects it suppresses. The answer is important for cognitive semantics, terminology studies and the analysis of interface language, because lexical choices influence how users understand agency, movement, visibility, connection and risk in digital space.

The aim of this study is to classify recurrent metaphorical models in English digital discourse and to determine the role of embodied image schemas in their semantic organization. The analysis pursues three related tasks: to identify the principal source domains behind conventional digital expressions; to explain the cognitive correspondences that make these expressions intelligible; and to distinguish between metaphorical motivation and lexical conventionalization. The study does not attempt a frequency-based corpus measurement. Its purpose is qualitative: to show how a limited but representative set of conventional lexical items reveals stable cognitive models in contemporary digital English.

Theoretical framework

Conceptual metaphor operates through structured correspondences rather than through accidental resemblance. In the mapping ARGUMENT IS WAR, for example, participants, goals and stages of conflict structure the understanding of argumentative interaction (Lakoff & Johnson, 1980). The same principle applies to digital language. When users navigate a website, the target concept of searching through an information architecture is understood through the source domain of purposeful movement along a route. The mapping provides a starting point, possible paths, intermediate locations and a destination. As a result, the technical process becomes cognitively compatible with everyday experience of movement.

Image schemas refine this account by identifying recurring patterns derived from bodily and perceptual interaction with the environment. CONTAINER, PATH, SOURCE-PATH-GOAL, UP-DOWN, LINK, SURFACE and FORCE are among the schemas that repeatedly organize conceptual structure (Johnson, 1987; Evans & Green, 2006). They are schematic enough to support many lexical realizations. A digital platform, page or window recruits spatial organization; navigation and following a link recruit PATH; traffic and

streaming recruit FLOW; digital footprint recruits TRACE; viral content recruits a biological model of transmission. These patterns help explain why apparently heterogeneous words form coherent metaphorical clusters.

Cognitive linguistic analysis also requires attention to conventionality. Metaphorical expressions differ in salience. Some remain strongly figurative, whereas others become established technical terms whose metaphorical basis is no longer consciously foregrounded. Steen (2008) distinguishes between metaphor as a conceptual phenomenon and metaphor as a communicative choice, while the Pragglejaz Group (2007) proposes a systematic procedure for identifying lexical units whose contextual meanings contrast with more basic meanings. In digital discourse, this distinction is crucial: cloud, platform and traffic may function as ordinary technical terms, yet their semantic extension remains historically and conceptually dependent on spatial or physical source domains.

A further issue concerns the productive character of metaphor. Once a conceptual mapping becomes conventional, it can motivate new expressions. The spatial model of the internet supports home page, site map, address, destination, navigation bar and visit. The flow model supports data stream, traffic, channel and bandwidth-related descriptions. The biological model supports viral, infection, worm and ecosystem. Such lexical families suggest that metaphor is not merely retrospective etymology; it acts as an organizing principle that can guide new terminology and make innovations interpretable before they become fully conventionalized.

Material and Method

The material consists of a qualitative set of recurrent English expressions used in general digital communication, interface language and technology-related media: platform, window, page, home page, site, address, navigate,

follow, stream, traffic, channel, feed, viral, bug, ecosystem, footprint, cloud, thread, link and network. The units were selected because they are widely recognizable outside narrow specialist discourse and because their basic non-digital meanings remain available to speakers. The analysis therefore concentrates on lexical items whose digital meanings can be compared with established concrete meanings.

The procedure combines contextual-semantic analysis with conceptual mapping. For each unit, the study identifies a basic experiential source domain, the digital target concept and the correspondence that licenses the extension. The units are then grouped according to dominant image schemas. The same lexical item may participate in more than one schema; cloud, for example, combines an image of elevated spatial location with a container-like model of remote storage. Such overlap is not treated as a methodological problem, since conceptual metaphors often form networks rather than mutually exclusive categories.

The analysis also evaluates the degree of conventionalization. An expression is considered highly conventional when its digital meaning can be used without any felt rhetorical emphasis and is regularly understood as part of ordinary technical vocabulary. This criterion separates metaphorical motivation from deliberate figurative effect. The purpose is to demonstrate that conventionality does not eliminate cognitive structure: even routine lexical items may continue to guide inference through source-domain organization.

Spatial schemas: digital environments as locations and containers

The most extensive metaphorical pattern in digital English conceptualizes information systems as spatial environments. The noun site originally denotes a place or location; in website it identifies an organized digital location. Address transfers a conventional system of locating a physical destination to the identification of a resource on a network. Home

page extends the culturally salient idea of home as a point of orientation and return. Page imports the spatially bounded surface of a printed document into a screen-based environment. Window represents access to a delimited visual area through the architectural schema of an opening that permits viewing.

These expressions can be represented through a general mapping **DIGITAL ENVIRONMENTS ARE PHYSICAL SPACES**. The mapping is cognitively economical because it supplies orientation without requiring users to understand underlying computational architecture. A person can be on a platform, in a chat, at a website, inside a folder or outside an account. Prepositional behavior reinforces the spatial model and shows that metaphor operates above the level of isolated vocabulary. Grammar participates in the same conceptualization by assigning digital entities the relational properties of places and containers.

The **CONTAINER** schema is particularly important. Folders contain files, accounts contain personal information, inboxes contain messages and windows frame visible content. The schema includes an interior, a boundary and an exterior. In practical interaction, these components correspond to access, restriction and movement of information. Expressions such as log in and log out further conceptualize participation as crossing a boundary. The digital action is abstract, but the linguistic model is grounded in the bodily experience of entering and leaving bounded spaces.

Platform deserves separate attention because it combines spatial and functional structure. A physical platform is a raised surface that supports activity; a digital platform is an infrastructural environment that supports communication, commerce or content distribution. The semantic extension preserves the relational notion of support rather than the exact physical shape. This example illustrates a general property of conceptual metaphor: source domains contribute selected structure, not complete copies of physical objects.

Path and flow schemas: online activity as movement

A second cluster models digital activity as movement. Users navigate websites, follow links, go back, move forward, visit pages and reach destinations. The **SOURCE-PATH-GOAL** schema provides a coherent account of these expressions. It presupposes an initial location, a route, possible obstacles and an endpoint. Search behavior can consequently be described as successful or unsuccessful movement even though the user remains physically stationary.

The verb navigate is especially revealing. Its basic sense concerns controlled movement through physical space, historically including sea travel. In digital use, it refers to purposeful orientation within an information structure. The user becomes a moving agent, interface elements become landmarks, and hyperlinks become routes. Follow similarly maps sequential physical movement onto attention and informational connection. To follow a link is to select a path; to follow an account is to maintain an ongoing informational relation. The second use shows how a spatial mapping can develop a more abstract social extension.

The **FLOW** schema organizes another group of terms. Stream conceptualizes continuously transmitted media as a moving body of water. Traffic treats packets, requests or users as moving entities whose volume may increase, slow or become congested. Channel evokes a bounded route through which something flows. These expressions are productive because flow provides intuitive parameters for technical processes: direction, volume, speed, interruption and blockage. The metaphor supports both description and evaluation. Heavy traffic suggests load; smooth streaming suggests unobstructed transmission; a bottleneck identifies constrained passage.

The cognitive advantage of the flow model is that temporal process becomes spatially imaginable. Data transmission is invisible, but water and traffic are perceptually familiar. At the same time, the model selectively

highlights continuity and movement while backgrounding the discrete computational operations that constitute transmission. This selectivity is not a defect; it is the normal function of metaphorical construal, which makes one aspect conceptually prominent for a particular communicative purpose (Langacker, 2008).

Material, biological and trace metaphors

Digital discourse also relies on source domains that are not primarily spatial. Feed is based on nourishment: a system supplies a user with a continuing sequence of information as food is supplied to a living organism. The metaphor foregrounds regular intake and dependence on an external source. In social media, the noun has become so conventional that its biological source meaning may receive little conscious attention, yet expressions such as content consumption reactivate the broader model INFORMATION IS FOOD.

The adjective viral and the noun virus use a biological model of transmission. A computer virus reproduces through systems; viral content spreads rapidly across users and platforms. In the second case, the mapping is not limited to speed. It also introduces the idea of person-to-person propagation and a multiplication process that can exceed deliberate control. The evaluative component differs by context: a

software virus is harmful, whereas viral media visibility may be desirable. The shared cognitive structure is transmission, not a fixed positive or negative value.

Ecosystem extends an ecological model to interconnected technological actors, products and services. A digital ecosystem contains mutually dependent components whose functioning is understood through relations of coexistence, adaptation and balance. Unlike a simple machine metaphor, ecosystem emphasizes distributed interaction rather than centralized control. This makes it particularly useful for describing platforms, devices, developers, users and services as parts of a changing network of dependencies.

Footprint and thread illustrate different experiential structures. A footprint is a physical trace left by movement; a digital footprint is an informational trace produced by activity. The mapping makes persistence and retrievability salient: actions leave evidence even when the actor has moved on. Thread draws on the linear continuity of textile material. In digital communication, a discussion thread links messages into a sequence, allowing participants to interpret separate contributions as parts of one connected line. Link and network generalize the LINK schema by representing relationships as physical connections between nodes.

Source schema	Digital expressions	Conceptual contribution
SPACE / CONTAINER	site, page, window, platform, cloud	location, boundary, access, support
SOURCE-PATH-GOAL	navigate, follow, go back, destination	orientation, route, successful arrival
FLOW	stream, traffic, channel	continuity, volume, speed, blockage
BIOLOGY / NOURISHMENT	viral, ecosystem, feed	spread, interdependence, intake
TRACE / LINK	footprint, thread, link, network	persistence, continuity, connection

Table 1. *Principal embodied schemas in conventional English digital vocabulary*

The classification demonstrates that the same digital environment can be structured simultaneously by several embodied models. A platform is a supporting surface, a site is a location, a link is a path-enabling connection, a stream is a flow, and a footprint is a trace. These metaphors are compatible because each selects a different relational feature of digital activity. Their coexistence is evidence against the idea that technical vocabulary must form a single logically unified metaphorical system. Users shift between schemas according to communicative need.

Conventionalization and cognitive transparency

The conventionalization of digital metaphors creates an important analytical difficulty. When platform or cloud is encountered in a technological context, speakers may access the digital meaning directly without consciously constructing a comparison with a physical platform or meteorological cloud. Nevertheless, lexical conventionalization does not imply complete semantic arbitrariness. The source-domain structure remains available and can support new combinations, jokes, explanations and terminological extensions.

Cloud is a useful case. In cloud storage, the relevant source structure is not the detailed physical composition of clouds. The term profiles remote, non-localized and visually indeterminate space. For ordinary users, the metaphor allows data to be conceptualized as being kept "somewhere above" the local device, even though the physical servers are terrestrial and geographically specific. The expression therefore improves usability while simultaneously obscuring material infrastructure. Cognitive accessibility and technical accuracy are not identical goals.

A similar process can be observed in window. Graphical interfaces normalized the term to such an extent that it now denotes a basic component of screen organization. Yet the architectural mapping still explains important semantic properties: a window

frames a limited view, can be opened or closed, may overlap another window and provides access to something beyond its boundary. These inferential correspondences make the term more than an arbitrary label.

The distinction between metaphorical motivation and deliberate metaphor is therefore essential. Digital terminology frequently occupies an intermediate zone in which metaphor has become lexicalized but remains structurally transparent. Cognitive linguistic analysis is able to recover that structure and explain why certain lexical innovations become natural while other possible labels do not. Terms grounded in familiar schemas reduce conceptual cost by allowing users to transfer established patterns of reasoning to new technological domains.

Cognitive and pragmatic implications

The metaphors of digital discourse do not only describe technology; they frame user experience. Spatial metaphors construct the internet as a navigable environment and position the user as an agent capable of movement and choice. Flow metaphors represent communication as continuous transmission and make speed, congestion and interruption central evaluative parameters. Biological metaphors emphasize spread, reproduction and interdependence. Trace metaphors foreground persistence and accountability. Each mapping directs attention toward a particular dimension of the digital target.

This framing has pragmatic consequences. Interface designers and technology writers prefer terms that are short, inferentially rich and compatible with users' prior knowledge. A familiar metaphor can replace a longer technical explanation. At the same time, metaphor may simplify in ways that hide infrastructure or redistribute responsibility. Cloud storage, for instance, sounds immaterial and placeless even though it depends on energy-intensive physical facilities. Viral content may be represented as if

it spreads by itself, reducing attention to algorithmic amplification or deliberate sharing. Cognitive economy therefore coexists with conceptual selectivity.

For language teaching, the findings also have practical relevance. Digital vocabulary is often presented to learners as a list of technical meanings. A cognitive approach can instead organize items into metaphorical families. Learners who understand PATH can relate navigate, follow, go back and destination; learners who understand FLOW can connect stream, traffic and channel. Such grouping supports semantic retention because vocabulary is linked through conceptual motivation rather than memorized as unrelated units.

Conclusion

The analysis confirms that English digital discourse is extensively structured by embodied metaphor. Spatial, path, flow, biological, nourishment and trace schemas transform invisible technological processes into concepts that can be understood through ordinary physical and social experience. These patterns are not peripheral stylistic features. They organize central vocabulary used by specialists and non-specialists alike.

The most productive general mapping is DIGITAL ENVIRONMENTS ARE PHYSICAL SPACES, realized through site, page, window, platform, address and related expressions.

Movement and transmission are structured through SOURCE-PATH-GOAL and FLOW, while feed, viral, ecosystem and footprint recruit nourishment, biological spread, ecological interdependence and trace. The coexistence of these models demonstrates that digital conceptualization is multi-schematic: different source domains highlight different properties of the same technological reality.

A further conclusion concerns conventionalization. Routine technical use may reduce the felt figurativeness of a lexical item, but it does not necessarily eliminate metaphorical motivation. Many digital terms remain cognitively transparent because their source-domain structure continues to support inference and new lexical combinations. For this reason, metaphor analysis remains relevant even when speakers no longer experience an expression as rhetorically marked.

Future research can extend the present qualitative model through corpus-based comparison of registers, diachronic analysis of digital terminology and contrastive study of how the same technological concepts are metaphorically structured in English and Uzbek. Such work would make it possible to distinguish universal embodied schemas from language-specific lexicalization patterns and to trace how rapidly emerging technological domains become integrated into ordinary conceptual systems.

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