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**РЕФЕРАТ**

з дисципліни “Англійська мова професійного спрямування” на тему: **“GUI”**

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**ЗМІСТ**

[1. What's a GUI 3](#_Toc451205384)

[2. GUI History 4](#_Toc451205385)

[3. GUI modern trends 4](#_Toc451205386)

[Flat design 4](#_Toc451205387)

[Material Design 5](#_Toc451205390)

[GLOSSARY 6](#_Toc451205393)

[SUMMARY 7](#_Toc451205394)

[SUMMARY TRANSLATION 8](#_Toc451205395)

[LITERATURE 9](#_Toc451205396)

# 1. What's a GUI

Abbreviated GUI stands for **Graphical User Interface**  (pronounced GOO-ee). A [program](http://www.webopedia.com/TERM/P/program.html) [interface](http://www.webopedia.com/TERM/I/interface.html) that takes advantage of the [computer's](http://www.webopedia.com/TERM/C/computer.html) [graphics](http://www.webopedia.com/TERM/G/graphics.html) capabilities to make the program easier to use. Well-designed graphical user interfaces can free the user from learning complex [command languages](http://www.webopedia.com/TERM/C/command_language.html). On the other hand, many [users](http://www.webopedia.com/TERM/U/user.html) find that they work more effectively with a [command-driven](http://www.webopedia.com/TERM/C/command_driven.html) interface, especially if they have already known the command language.

In computer science and human-computer interaction, user interface (of a computer program) refers to the graphical, textual and auditory information which program presents to the user. The user employs several control sequences (such as keystrokes with the computer keyboard, movements of the computer mouse, or selections with the touchscreen) to control the program.

There exist two main types of user interfaces.

Command-Line Interface (CLI): The user provides the input by typing a command string with the computer keyboard and the system provides output by printing text on the computer monitor.

Graphical User Interface (GUI): There are used both pictures and words to represent the input and output of a program. Input is accepted via devices such as keyboard and mouse.

But that’s not all. Many [DOS](http://www.webopedia.com/TERM/D/DOS.html) and some modern programs include some [features](http://www.webopedia.com/TERM/F/feature.html) of GUIs, such as menus, but are not [graphics based](http://www.webopedia.com/TERM/G/graphics_based.html). Such interfaces are sometimes called graphical[*character-based*](http://www.webopedia.com/TERM/C/character_based.html)user interfaces to distinguish them from true GUIs.

All of modern operating systems (Microsoft Windows, Linux-based or Apple Macintosh) use GUI, that feature the following basic components:

* Pointer **:** A symbol that appears on the [display screen](http://www.webopedia.com/TERM/D/display_screen.html) and that you move to [select](http://www.webopedia.com/TERM/S/select.html) [objects](http://www.webopedia.com/TERM/O/object.html) and [commands](http://www.webopedia.com/TERM/C/command.html). Usually, the pointer appears as a small angled arrow. [Text](http://www.webopedia.com/TERM/T/text.html) -processing [applications](http://www.webopedia.com/TERM/A/application.html), however, use an [I-beam pointer](http://www.webopedia.com/TERM/I/I_beam_pointer.html) that is shaped like a capital I.
* Icons **:** Small pictures that represent commands, [files](http://www.webopedia.com/TERM/F/file.html), or [windows](http://www.webopedia.com/TERM/W/window.html). By moving the pointer to the icon and pressing a [mouse button](http://www.webopedia.com/TERM/B/button.html), you can [execute](http://www.webopedia.com/TERM/E/execute.html) a command or [convert](http://www.webopedia.com/TERM/C/convert.html) the icon into a window. You can also move the icons around the display screen as if they were real objects on your desk.
* Desktop **:** The area on the display screen where icons are grouped is often referred to as the desktop because the icons are intended to represent real objects on a real desktop.
* **Windows:** You can divide the screen into different areas. In each window, you can [run](http://www.webopedia.com/TERM/R/run.html) a different program or display a different file. You can move windows around the display screen, and change their shape and size as you want.
* Menus **:** Vast majority of graphical user interfaces let you execute commands by selecting a choice from a menu.

# 2. GUI History

Years ago, before the Apple Macintosh operating system or the Windows operating system to be used, the only way to tell a computer what you wanted, was to type text commands into the command-line interface. It was more like trying to solve a crossword puzzle with no squares. Thick user manuals with long lists of 'parameters' and 'command-line switches' were your best assistant. On the screen, you saw an empty black screen with a flashing block of phosphor. That was it. On the keyboard, you memorized long commands and hoped you didn't type them wrong.

Then some fellas at Xerox in Palo Alto around 1981 thought up a neat way to get around all that memorizing and typing, using graphic icons and arrows. Eventually, this trickled down from big computers (which had been running UNIX, another CLI system). Personal computers really needed an easy interface for casual users. But at the time, even personal computers looked like UNIX. Most old PCs ran an operating system called CP/M - a simple command-line interface, which sort of evolved into the amazing graphic computer desktops we see today.

# 3. GUI modern trends

Now two design directions are very popular: material design and flat design.

Two similar design styles, one based on the other. One a spontaneously-adapted design trend and another is a purpose-built set of guidelines. Most of developers probably familiar with the conflict between flat and material design by now.

But what are the differences between the two, really? Is one inherently better than another for certain uses?

## Flat design

Flat design, in many ways, is design stripped down to the basics. It removes any stylistic choices that give it the illusion of three-dimensionality, like drop shadows, gradients and textures. It’s focused on the interplay of icons, typography and color.

### Pros

* It embraces the limits of the screen and works with them instead of trying to be something else.
* It streamlines designs and gets rid of unnecessary graphical and animated elements, decreasing loading time.
* The lack of skeuomorphic elements can also speed readers’ progression through your content.
* Removes all unnecessary design choices as well, facilitating faster site design.
* Flat design’s simplified sites are endlessly adaptable and extremely easy to make responsive.

### Cons

* Flat design can be limiting, constraining you to simple colors, shapes, and iconography.
* If taken too far, it’s easy to accidentally create a very featureless and generic-looking site.
* Some sites or apps require complex visual cues to guide the user through the process, which is one of flat design’s major failing points. One common complaint is that its lack of drop shadows and raised edges can make it hard to tell clickable buttons apart from static vector graphics.
* Its ubiquity can make it hard to create an original-looking flat site or app.

## Material Design

Critics of flat design argue that it’s gone too far; that it was too radical in removing all skeumorphs, even the useful ones. Enter material design. Borrowing the layers concept from countless image editors—and separating them by drop shadows, bevels and animations—it taps into our natural ability to correlate depth with importance.

Material design, for the few uninitiated, is a set of design standards developed by Google. It has countless unique and interesting features, but the most defining is its use of the Z-axis. Basically, it adds a little skeuomorphism back into flat design, creating the impression of a bunch of two-dimensional planes floating over each other at designated elevations.

Imagine a piece of paper, but one that can expand and contract at will, reshape itself, fuse and divide. Now stack a few of these on top of each other (they can levitate, too), and draw a site element on each one. That’s the concept in a nutshell.

### Pros

* The three-dimensional arrangement makes programs easier to interact with. For example, drop shadows are used to indicate layer arrangement.
* Unlike flat design, material comes with a very detailed and specific set of guidelines, leaving nothing to guesswork.
* If you’re planning to develop things for multiple platforms, like a website and an Android app, material will provide a unified experience across all devices, which will aid user-friendliness and subtly help your branding.
* If you’re interested in having animations, material’s the way to go, as it comes in with built-in ones of the type that would have to be done manually otherwise.

### Cons

* Like it or not, Material Design is inextricably tied to Google. If you want to distance yourself from that and create a unique identity for your site or app, it’ll be that much harder if you use Google’s guidelines to make it.
* Not all systems will be able to pull off the intended framerates. And it can be hard to know what, if anything, you can do to improve usability for those who can’t.
* [The animations drain mobile users’ batteries](http://www.reddit.com/r/Android/comments/29d412/material_design_animations_turn_off_to_save/).
* Forcing developers to adhere to rendering guidelines may further stifle individual creativity and slow the development of more animations and decorative features.

In my opinion, flat websites are practical. They load faster than websites full of animation and complex graphics. If you’re designing a site that has to be simple, aimed at a wide variety of users on all devices and with all levels of technical experience, or just place a lot more focus on user-friendliness over form, flat design might be for you.

# GLOSSARY

**r**efers-зіслатися

**t**o employ – вживати

**k**eystrokes – За допомогою кнопок

**r**ather – швидше

**a**ccepted - прийнято

**f**eature – особливість

**d**istinguish – виділити

to appear – з'явитися

**d**esktop – робочий стіл

**i**nterface – інтерфейс

**f**ellas – хлопці

Neat – акуратний

folks – люди

Evolved – виділяти

material design – напрям у дизайні що заснований на сприйняті матеріалів

passing fad - скороминуще захоплення

spontaneously-adapted – спонтанно адаптований

to drop shadows – відкидати тінь

to embrace – використовувати, охоплювати

to streamline – надавати обтічної форми

to simplify – спростити

constraining – стримуючи

featureless – невиразний

uninitiated – необізнані

three-dimensional arrangement - об'ємно-просторової композиції

drop shadows – тіні

guidelines - керівні принципи

guesswork – припущення

inextricably – нерозривно

drain- виснажувати

stifle - задушити

# SUMMARY

Graphic user interface greatly simplified interaction ordinary users with computers.

You no longer need to memorize commands for the command line, or look them up on the Internet. But even today users such as the programmers, scientists and even some hipsters continue to use CLI. Modern Desktop GUI has the following basic components:

pointer, icons, desktops, menus. Also, there is graphical[*character-based*](http://www.webopedia.com/TERM/C/character_based.html)user interfaces.

The history of the development of the graphical user interface is a long and complicated tale. While it is easy to find individuals like Douglas Engelbart and Alan Kay who made great contributions to advancing the state of the art, the truth of the story is that the GUI was developed by many different people over a long period of time. Saying that "Apple invented the GUI" or "Apple ripped off the idea from PARC" is overly simplistic, but saying that "Xerox invented the GUI" is equally so. In fact each team borrowed liberally from all GUIs that had been created in the past, added their own unique contributions, and paved the way for other teams to move forward in the future.

As for the present, now are popular two concepts of design: flat design and material design. They are very similar and different at the same time. It is a lot of controversy over whether - what design nicer, faster or clearer, but there are such opinions.

Flat design is more faster, not overloaded by skeuomorphic elements, endlessly adaptable and extremely easy to make responsive, but it not very intuitive.

As for the material design, it easy to interact thanks the three-dimensional arrangement of elements, comes with a very detailed and specific set of guidelines, suitable for mobile applications and for websites, interested in having different animations but it heavily processed on slower devices.

As for me, I prefer material design because it more interactive, performance problem is solved by the fact that every year the devices became more powerful, but tastes differ.

# SUMMARY TRANSLATION

Графічний інтерфейс користувача значно спростив взаємодію з комп’ютером для звичайних користувачів. Вам більше непотрібно запам’ятовувати команди для командного рядка, або шукати їх в Інтернеті. Але, навіть сьогодні таки користувачі, як програмісти, вчені і навіть деякі хіпстери продовжують використовувати інтерфейс командного рядку.

Сучасний графічний інтерфейс робочого столу має наступні основні компоненти:  
курсор, іконки, робочі столи, меню. Також, є графічно-символьний інтерфейс користувача.

Історія розвитку графічного інтерфейсу це довга і складна казка. Хоча легко знайти людей, як Дуглас Енгельбарт і Алана Кея, які зробили великий внесок у просування рівня техніки, правда історії в тому, що графічний інтерфейс був розроблений багато різних людей протягом тривалого періоду часу. Сказати, що «Apple винайшов GUI" або "Apple зірвав ідею з PARC" є некоректно, але говорити, що "Xerox винайшов GUI» теж не вірно. Насправді кожна команда запозичила детально всі GUI, які були створені в минулому, додавши свої власні унікальні вклади, і проклавши шлях для інших команд, для подальшого руху вперед в майбутньому.

Що стосується сьогодення, то зараз популярні дві концепції дизайну: плоский дизайн та «матеріальний» дизайн. Вони дуже схожі і різні водночас. Багато суперечок з приводу того, який дизайн краще, швидше і зрозуміліше, але є і такі думки.

Плоский дизайн більш, швидший, не перевантажений орнаментальними елементами, нескінченно адаптивний і дуже легко зробити його чутливим, але він не дуже зрозумілий.

Що стосується «матеріального» дизайну з ним легко взаємодіяти завдяки тривимірному положенню елементів, він супроводжується з докладними керівними принципами, підходить як для мобільних додатків так і для сайтів, цікавий тим, що має різні анімації, але він тяжко обробляється на «слабких» пристроях.

Що стосується мене, то я віддаю перевагу «матеріальному» дизайну, тому що він більш інтерактивний, а проблема продуктивності вирішується за рахунок того, що кожен рік апарати становляться потужнішими, але про смаки не сперечаються.

# LITERATURE

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