

Η Νέα Εποχή του E-commerce:

Πώς το AI αλλάζει τον
κόσμο του E-commerce

ARTIFICIAL
INTELLIGENCE



ADD TO CART



Μαρία Πάτση

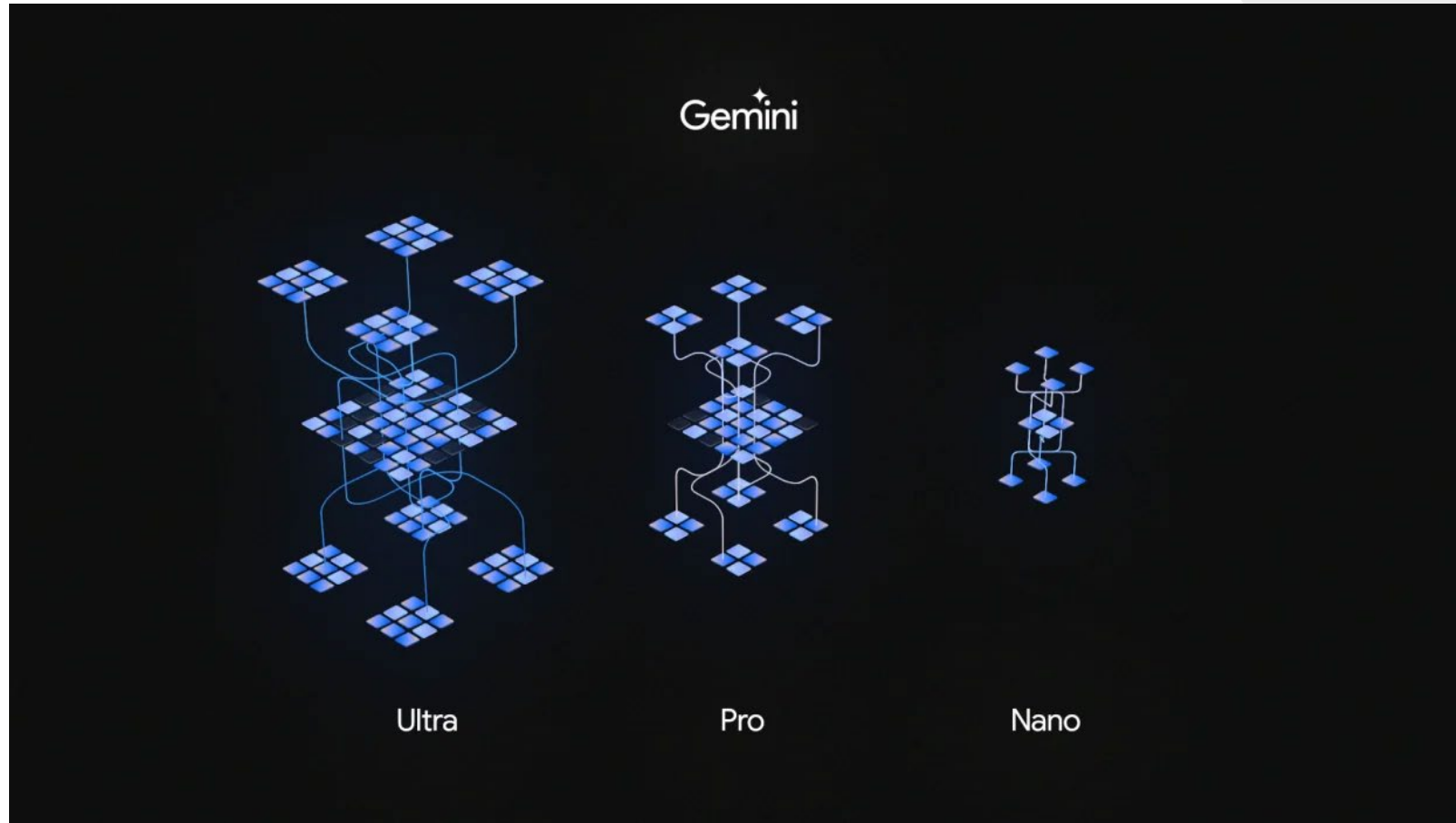
Warply Co-Founder & COO

Επικοινωνιολόγος

Στέλεχος επιχειρήσεων
απο το 2004



everything to everything models



Q1 2024

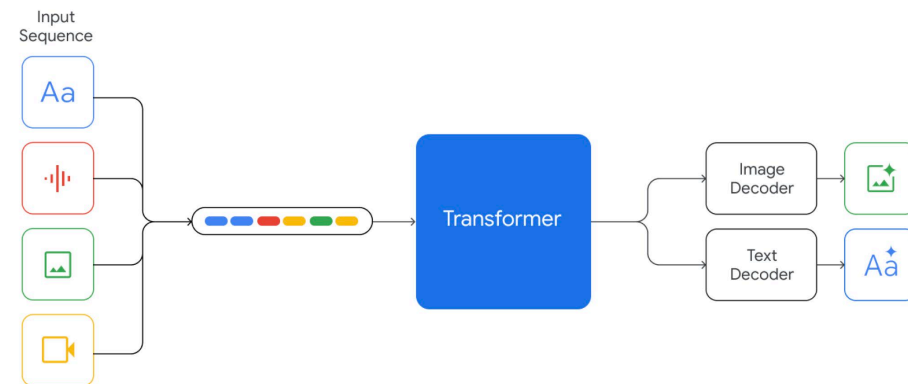
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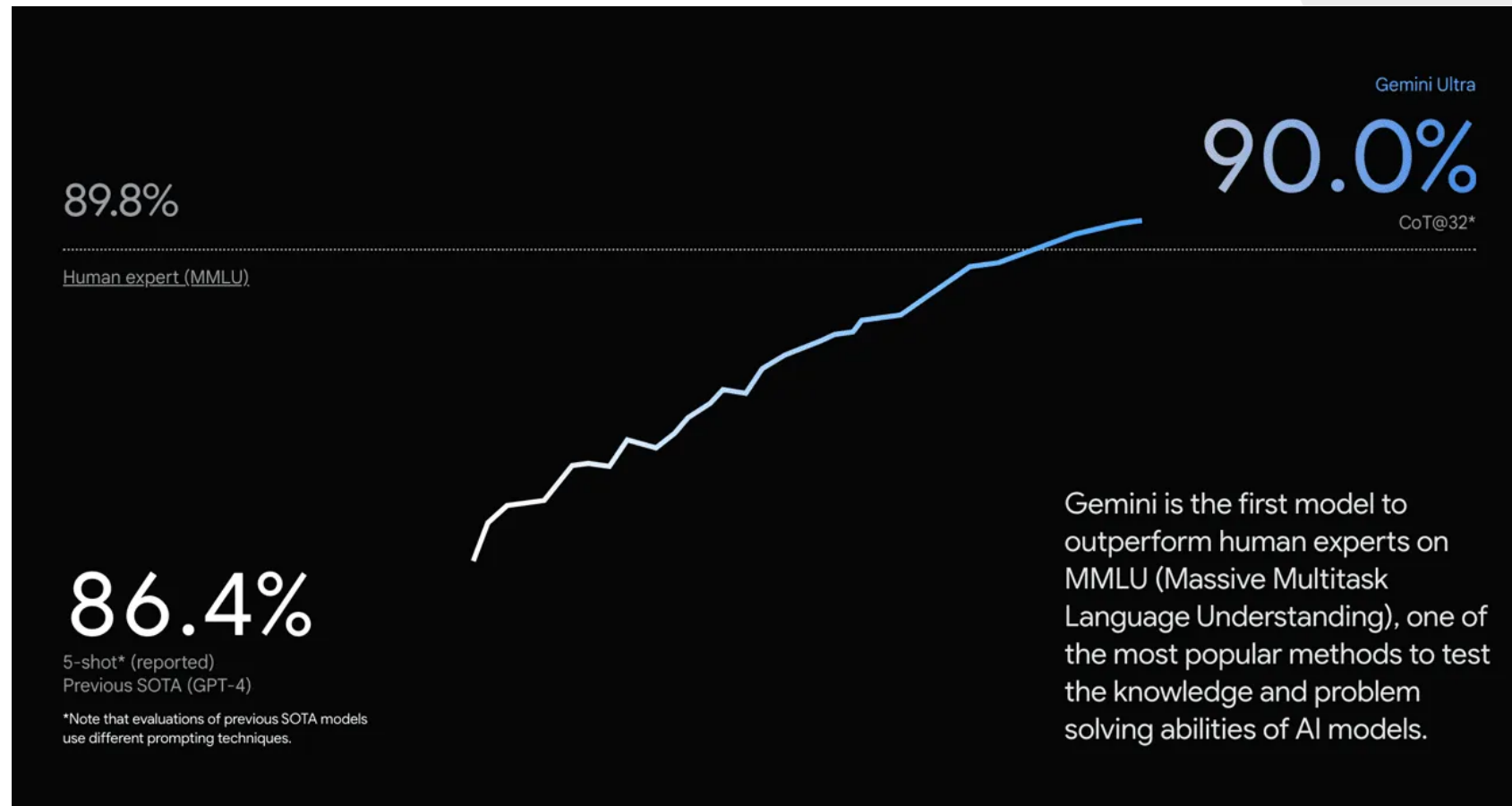


	Gemini Ultra	Gemini Pro	GPT-4	GPT-3.5
MMLU Multiple-choice questions in 57 subjects (professional & academic) (Hendrycks et al., 2021a)	90.04% CoT@32*	79.13% CoT@8*	87.29% CoT@32 (via API**)	70% 5-shot
	83.7% 5-shot	71.8% 5-shot	86.4% 5-shot (reported)	
GSM8K Grade-school math (Cobbe et al., 2021)	94.4% Maj1@32	86.5% Maj1@32	92.0% SFT & 5-shot CoT	57.1% 5-shot
MATH Math problems across 5 difficulty levels & 7 subdisciplines (Hendrycks et al., 2021b)	53.2% 4-shot	32.6% 4-shot	52.9% 4-shot (via API**)	34.1% 4-shot (via API**)
			50.3% (Zheng et al., 2023)	
BIG-Bench-Hard Subset of hard BIG-bench tasks written as CoT problems (Srivastava et al., 2022)	83.6% 3-shot	75.0% 3-shot	83.1% 3-shot (via API**)	66.6% 3-shot (via API**)
HumanEval Python coding tasks (Chen et al., 2021)	74.4% 0-shot (IT)	67.7% 0-shot (IT)	67.0% 0-shot (reported)	48.1% 0-shot
Natural2Code Python code generation. (New held-out set with no leakage on web)	74.9% 0-shot	69.6% 0-shot	73.9% 0-shot (via API**)	62.3% 0-shot (via API**)
DROP Reading comprehension & arithmetic. (metric: F1-score) (Dua et al., 2019)	82.4 Variable shots	74.1 Variable shots	80.9 3-shot (reported)	64.1 3-shot
HellaSwag (validation set) Common-sense multiple choice questions (Zellers et al., 2019)	87.8% 10-shot	84.7% 10-shot	95.3% 10-shot (reported)	85.5% 10-shot
WMT23 Machine translation (metric: BLEURT) (Tom et al., 2023)	74.4 1-shot (IT)	71.7 1-shot	73.8 1-shot (via API**)	—

everything to everything models



Πιο κοντά στο AGI



ΟΛΟΙ οι μηχανικοί γίνονται περιττοί ?

Input

G. The Maximum Prefix

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You're going to generate an array a with a length of at most n , where each a_i equals either 1 or -1 .

You generate this array in the following way.

- First, you choose some integer k ($1 \leq k \leq n$), which decides the length of a .
- Then, for each i ($1 \leq i \leq k$), you set $a_i = 1$ with probability p_i , otherwise set $a_i = -1$ (with probability $1 - p_i$).

After the array is generated, you calculate $s_i = a_1 + a_2 + a_3 + \dots + a_i$. Specially, $s_0 = 0$. Then you let S equal to $\max_{i=0}^k s_i$. That is, S is the maximum prefix sum of the array a .

You are given $n + 1$ integers h_0, h_1, \dots, h_n . The score of an array a with maximum prefix sum S is h_S . Now, for each k , you want to know the expected score for an array of length k modulo $10^9 + 7$.

Input

Each test contains multiple test cases. The first line contains a single integer t ($1 \leq t \leq 5000$) — the number of test cases. Their description follows.

The first line contains an integer n ($1 \leq n \leq 5000$).

Then for the following n lines, each line contains two integers x_i and y_i ($0 \leq x_i < 10^9 + 7, 1 \leq y_i < 10^9 + 7, x_i \leq y_i$), indicating $p_i = \frac{x_i}{y_i}$.

The next line contains $n + 1$ integers h_0, h_1, \dots, h_n ($0 \leq h_i < 10^9 + 7$).

It is guaranteed that the sum of n over all test cases does not exceed 5000.

Output

For each test case, output n integers in one single line, the i -th of which denotes the expected score for an array of length i , modulo $10^9 + 7$.

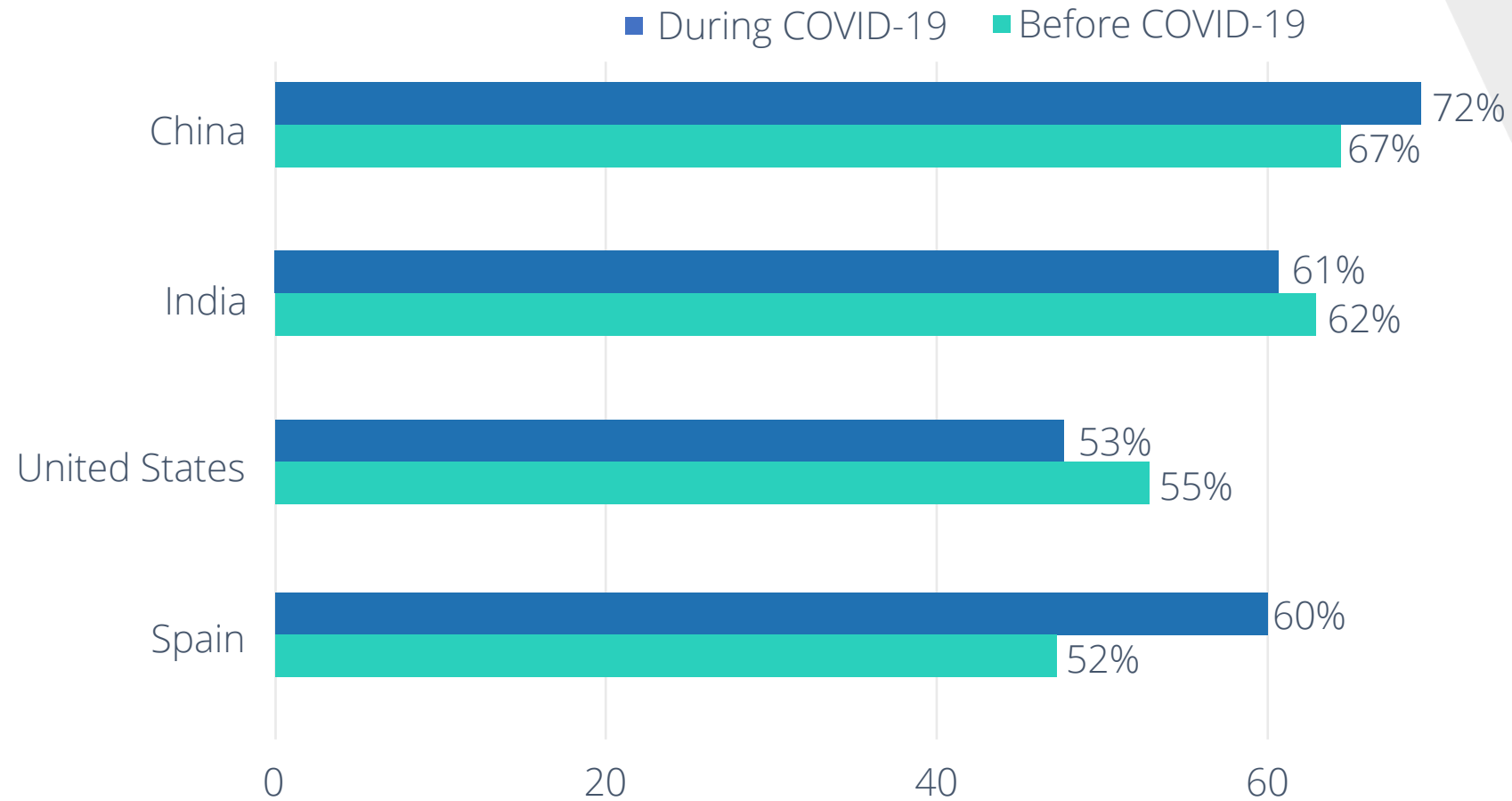
Formally, let $M = 10^9 + 7$. It can be shown that the answer can be expressed as an irreducible fraction $\frac{p}{q}$, where p and q are integers and $q \not\equiv 0 \pmod{M}$. Output the integer equal to $p \cdot q^{-1} \pmod{M}$. In other words, output such an integer x that $0 \leq x < M$ and $x \cdot q \equiv p \pmod{M}$.

Output

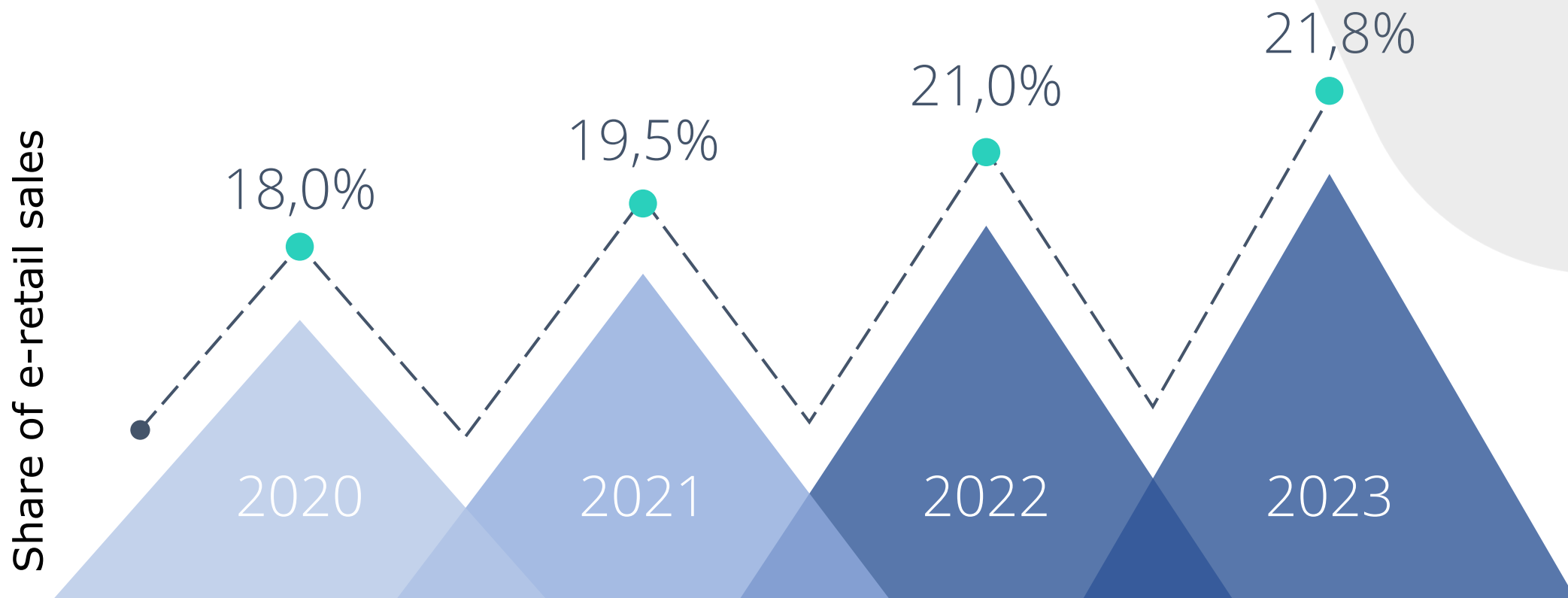
```
#include <bits/stdc++.h>
using namespace std;
const long long max = 5005, mod = 1000000007;
long long mod_expo(long long a, long long b) {
    long long res = 1;
    while (b > 0) {
        if (b % 2) res = (res * a) % mod;
        a = (a * a) % mod;
        b /= 2;
    }
    return res;
}
long long mod_inv(long long a) { return mod_expo(a, mod - 2); }
long long dp[max][max];
void solve() {
    long long n;
    cin >> n;
    vector<long long> p(n + 1), h(n + 1);
    for (long long i = 1; i <= n; i++) {
        long long x, y;
        cin >> x >> y;
        p[i] = (x * mod_inv(y)) % mod;
    }
    for (long long i = 0; i <= n_
```



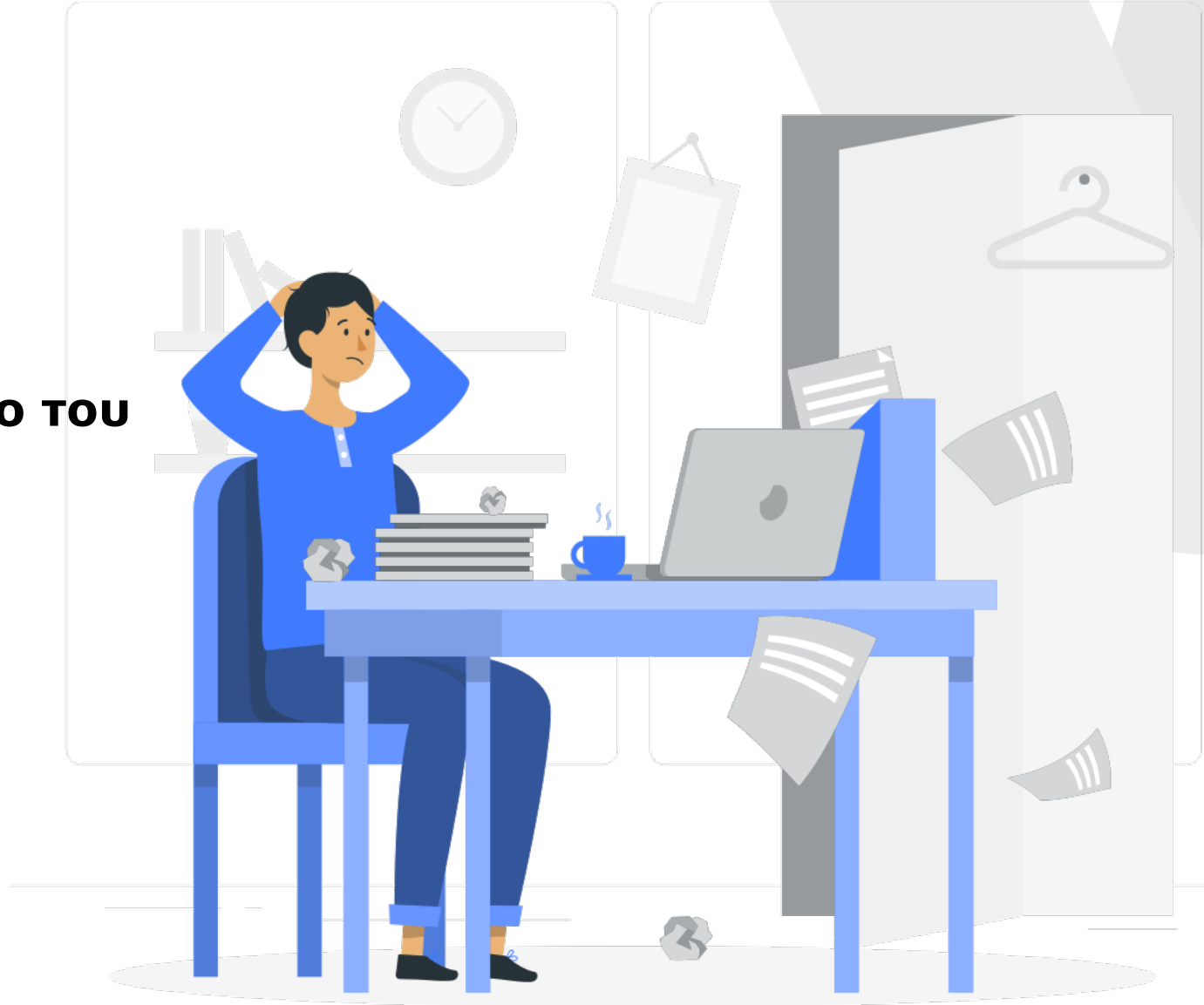
Η πανδημία καταλύτης για το ecommerce



Οι επιχειρήσεις επένδυσαν στον **ψηφιακό μετασχηματισμό**, ενισχύοντας τις διαδικτυακές τους παρουσίες για να ανταποκριθούν στις αλλαγές που επήλθαν από την πανδημία.



Οι προκλήσεις στον χώρο του E-commerce σήμερα



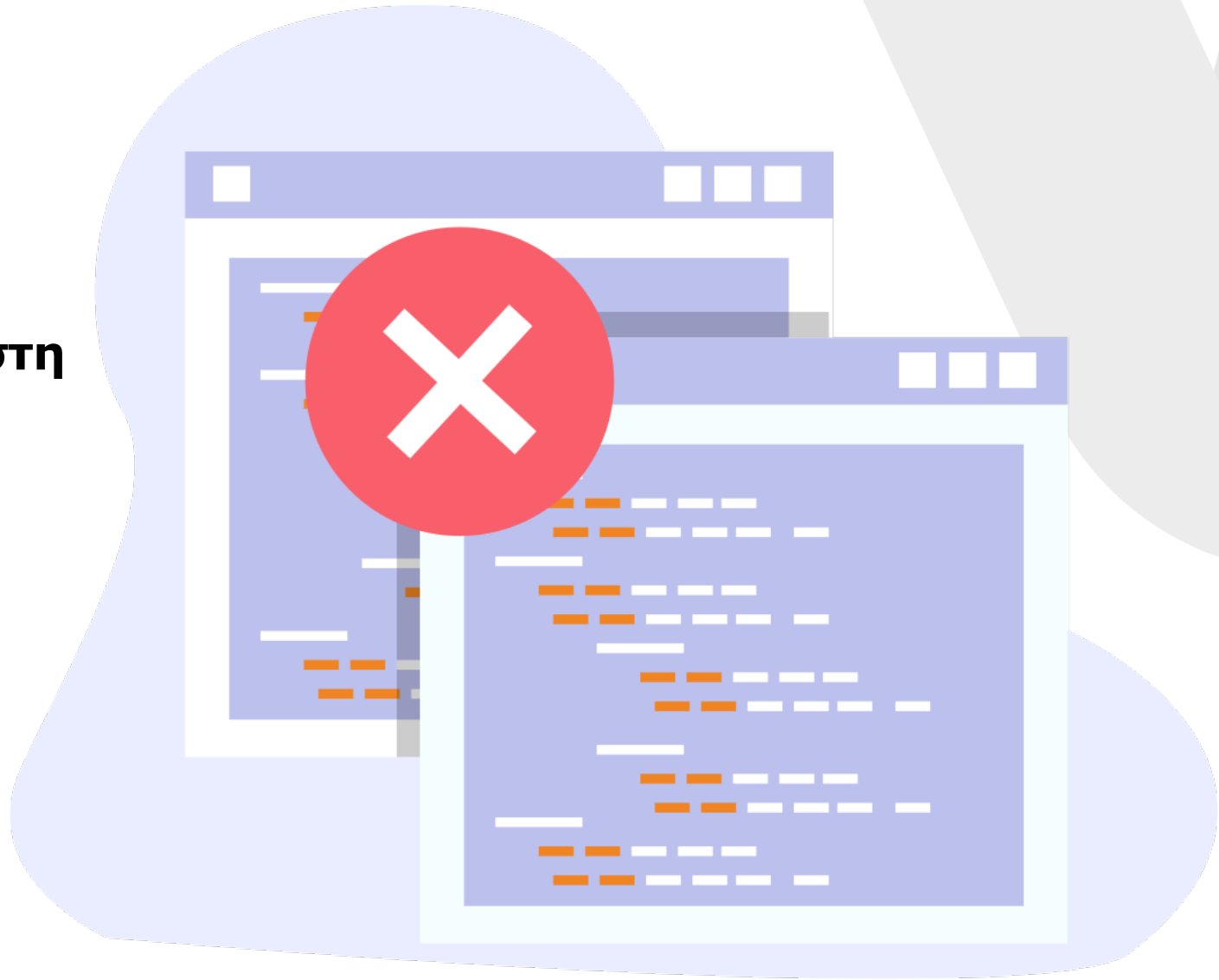
Last mile



Έλλειψη τεχνολογικών εργαλείων



Φτωχή εμπειρία χρήστη



Κουλτούρα και Δεξιότητες



Η ενσωμάτωση του **ΑΙ**
στον χώρο του
e-commerce έχει φέρει
σημαντικά εργαλεία
που βελτιώνουν την
εξυπηρέτηση
των πελατών.



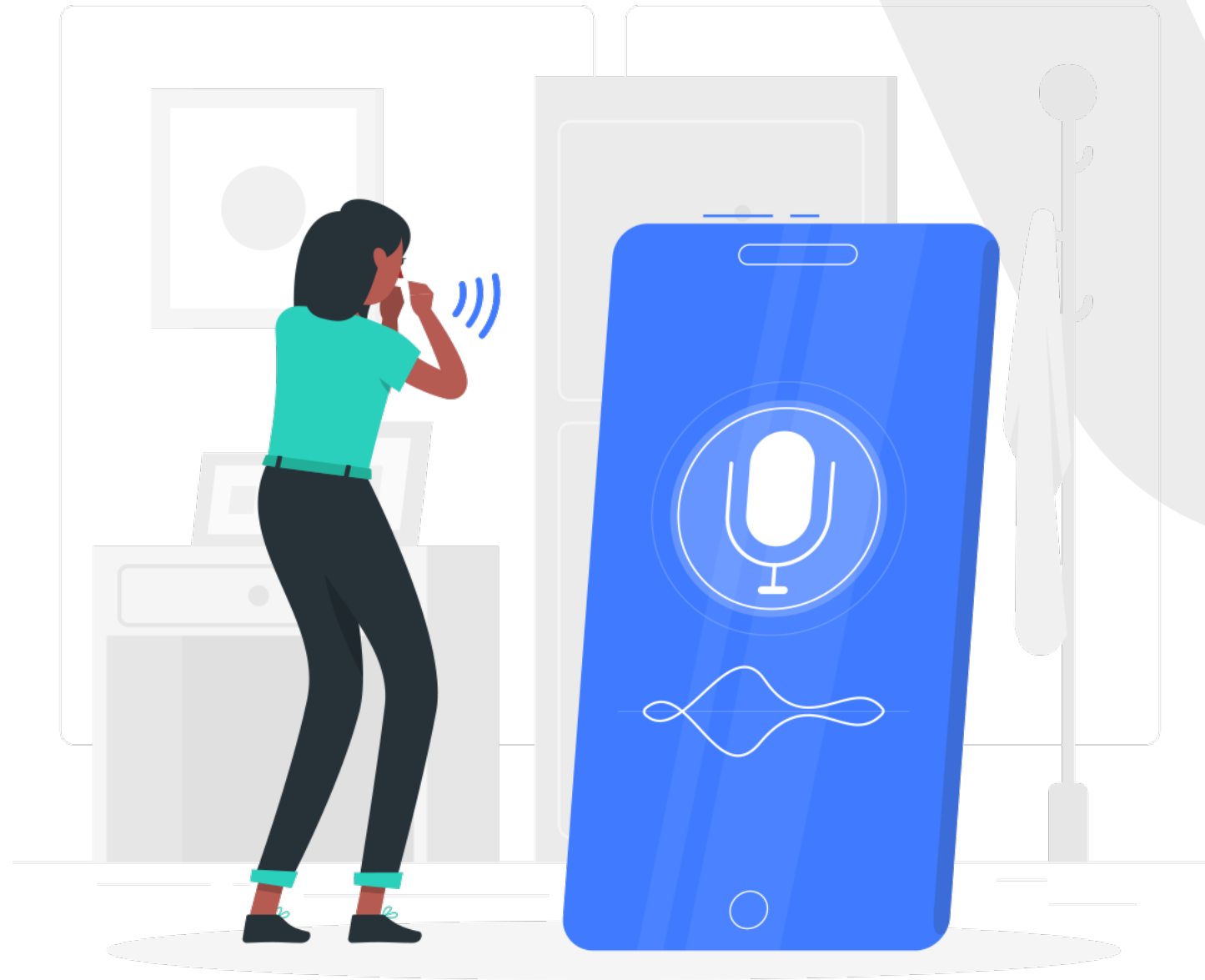
Product Personalization



Chatbots



Voice Ordering



Dynamic pricing





Analytics

Loyalty Programs

Personalization

Campaigning

Couponing

Gamification

Mobile wallets

360 AI E-commerce platform

AI recommendation

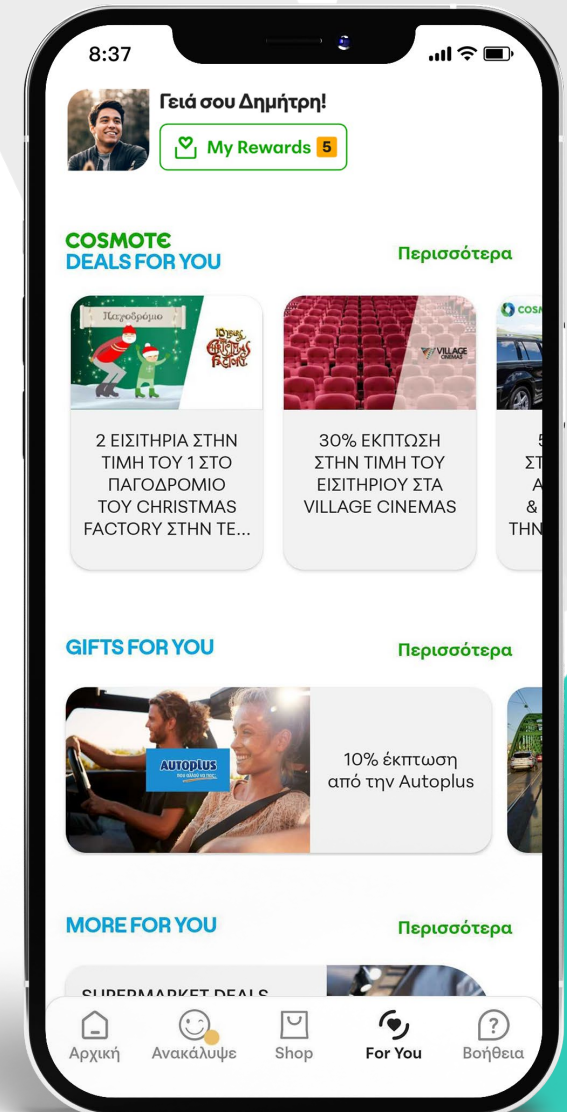
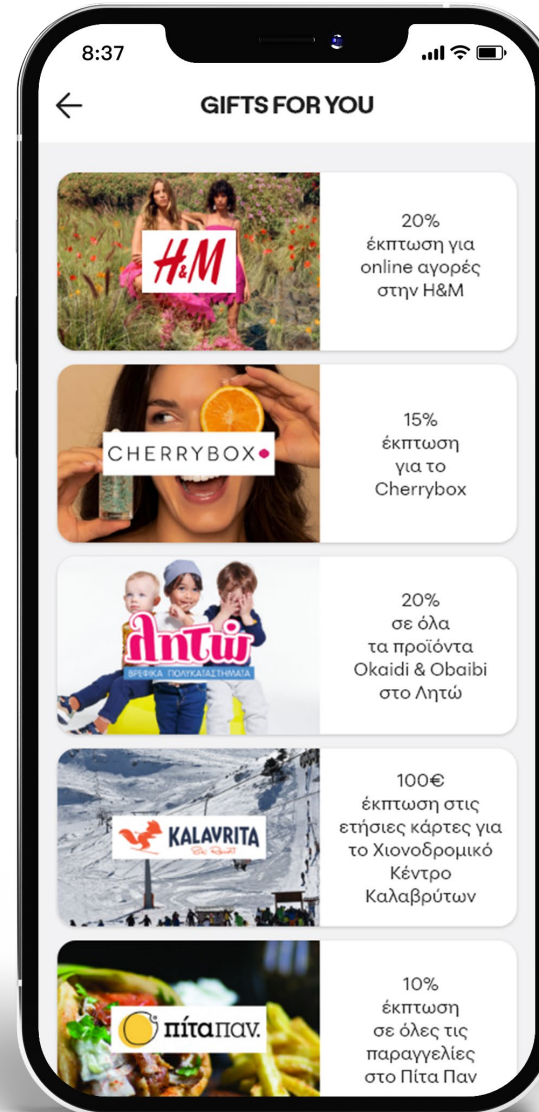
Voice ordering

SMB marketplace

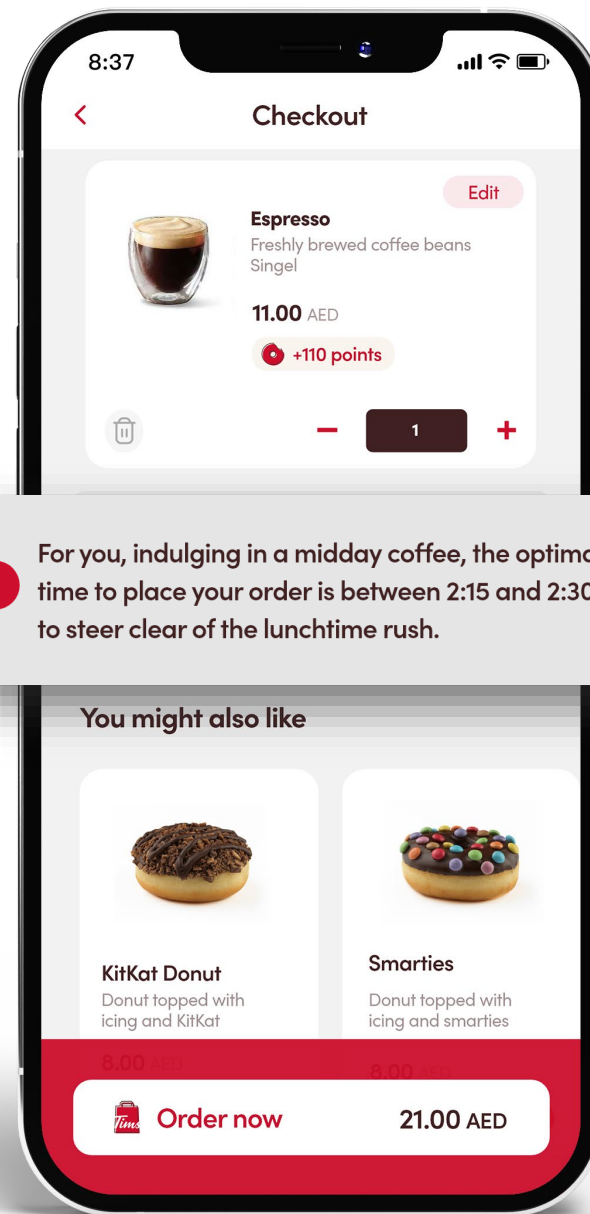
E-ordering

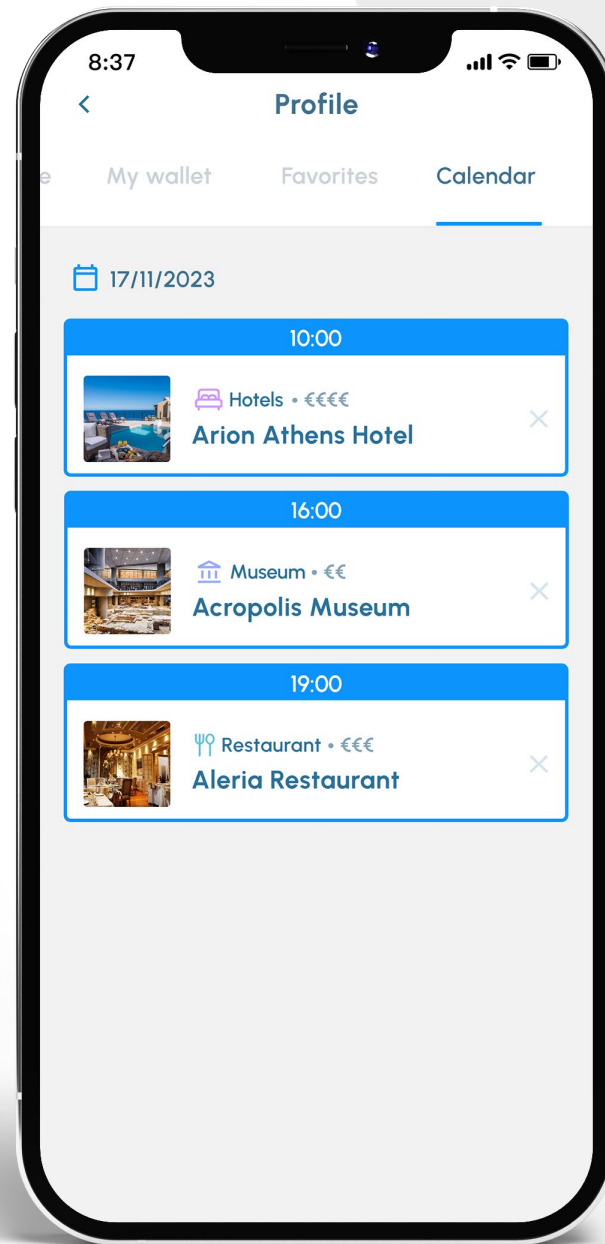
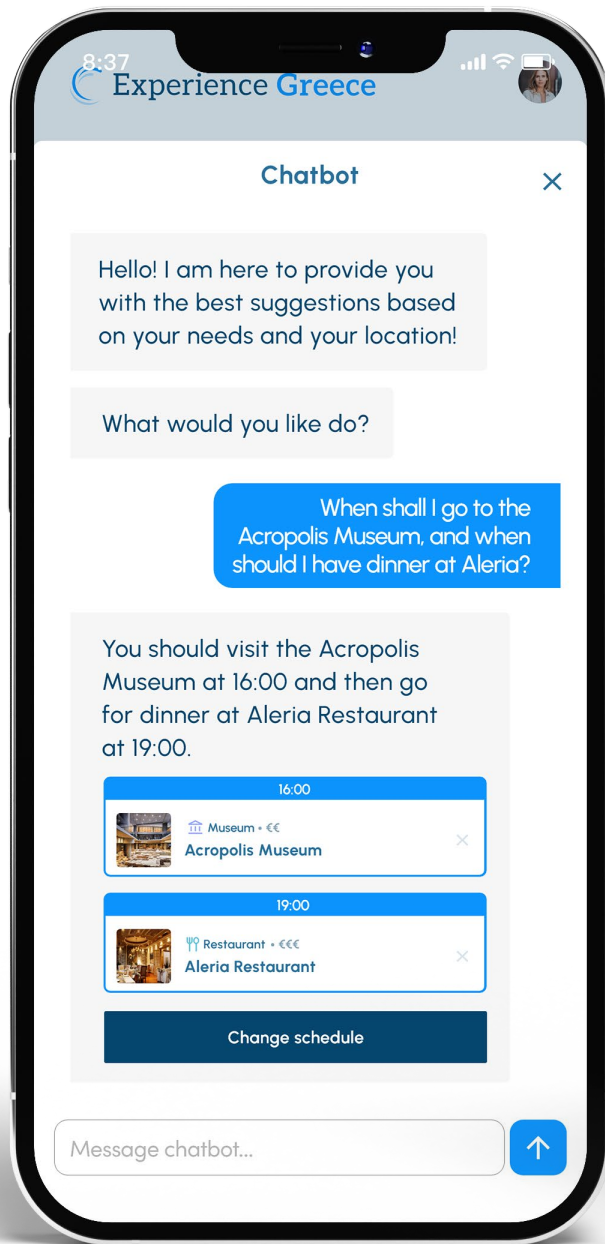


Προγράμματα Loyalty και Rewards

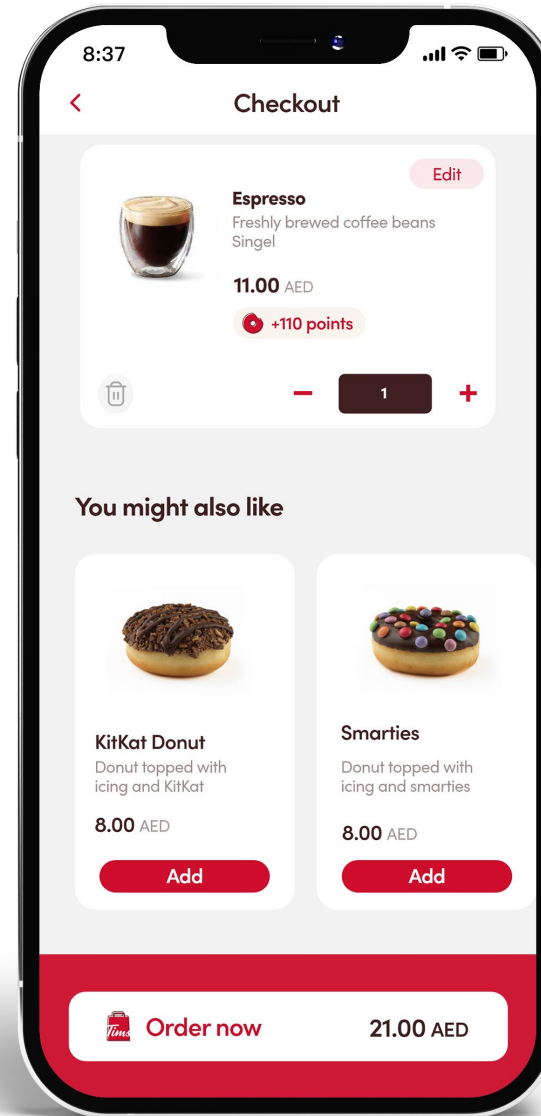


Mobile Wallets +

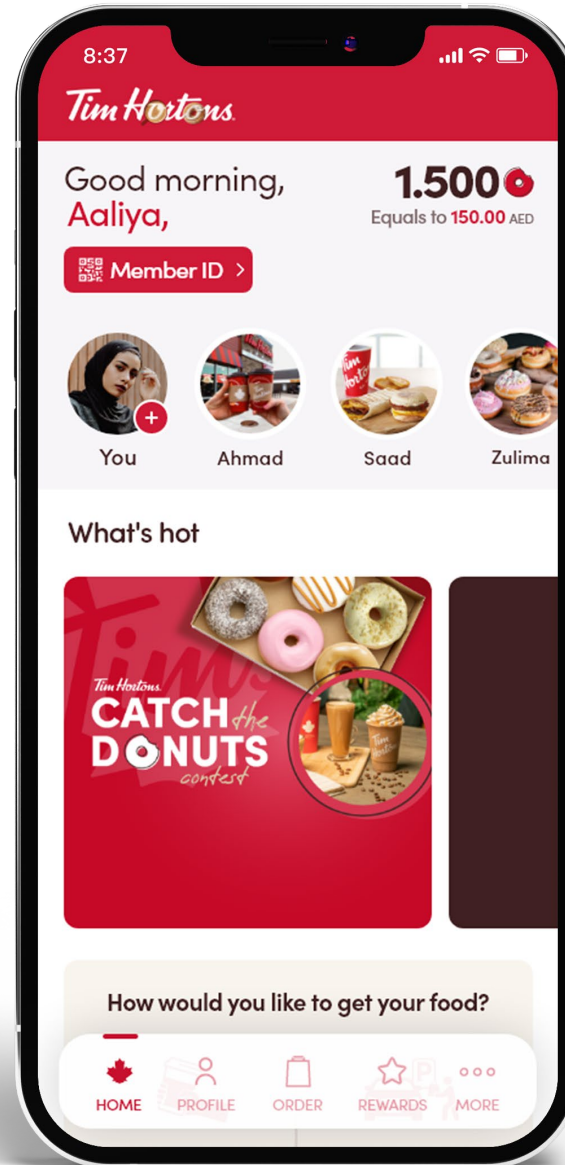




AI recommendations



Tim Hortons Loyalty & E-Ordering A Case study



Η **Warply** σχεδίασε, ανέπτυξε και διαχειρίζεται το Πρόγραμμα loyalty και το online commerce platform για την Tim Hortons σε όλα τα Ηνωμένα Αραβικά Εμιράτα, **6 χώρες και 300 καταστήματα.**

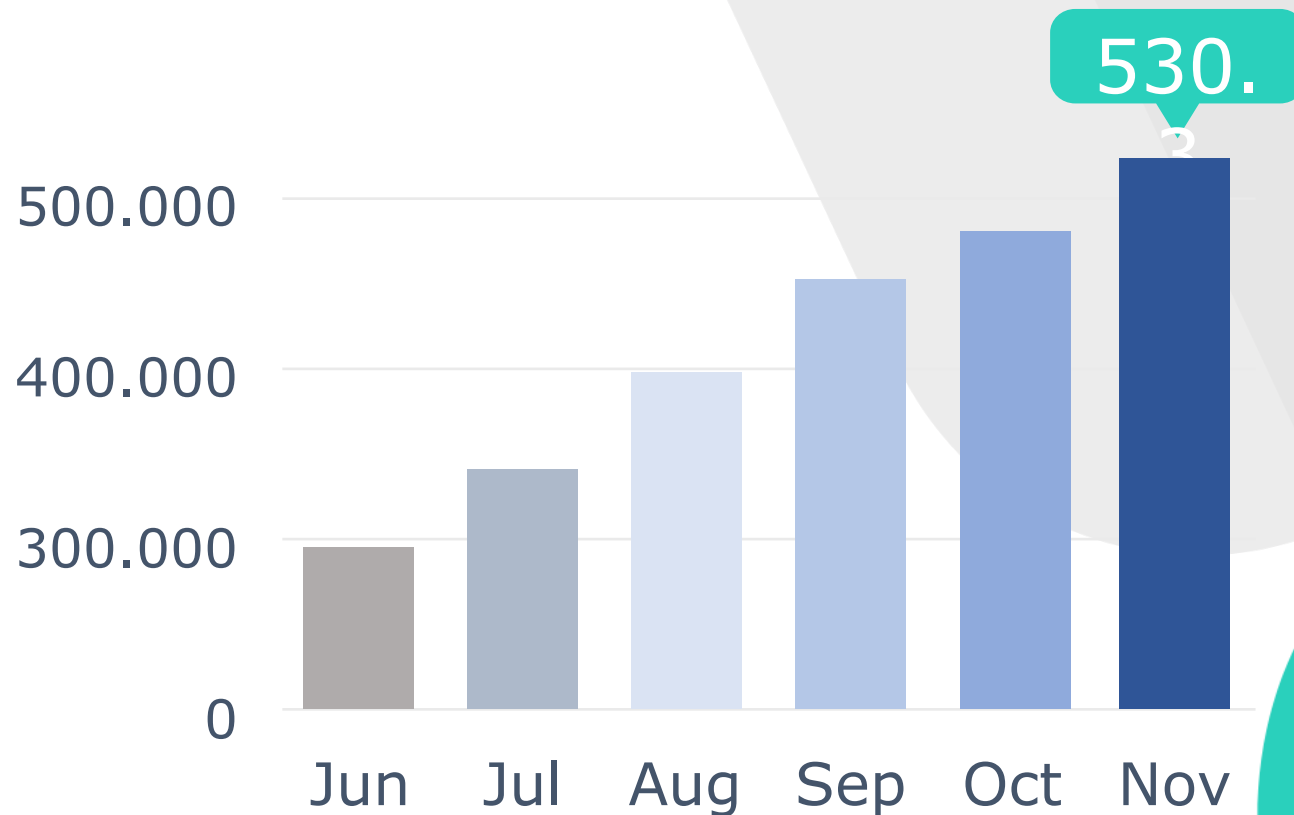
Tim Hortons®

Part of Apparel Group



Σε μόλις 6 μήνες,
ξεπεράσαμε τους **530.000 users**
με **65% να είναι ενεργοί**
με παραγγελία ανά μήνα.

Επίσης είχαμε **+ 1 επιπλέον**
αγορά ανά χρήστη και αύξηση
20% στο μέσο καλάθι.



65% ενεργοί χρήστες



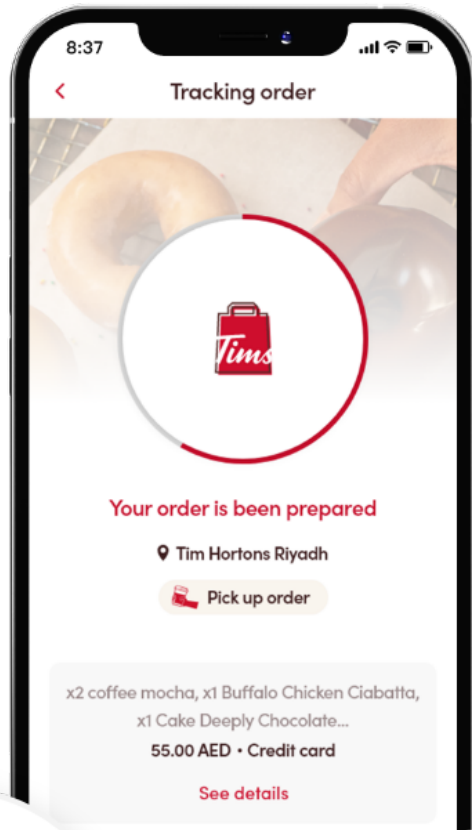
Οι χρήστες συγκεντρώνουν **πόντους σε όλες τις χώρες των Ηνωμένων Αραβικών Εμιράτων**, δημιουργώντας μια ενοποιημένη εμπειρία Loyalty.



10,075 

Equals to **100.70** AED

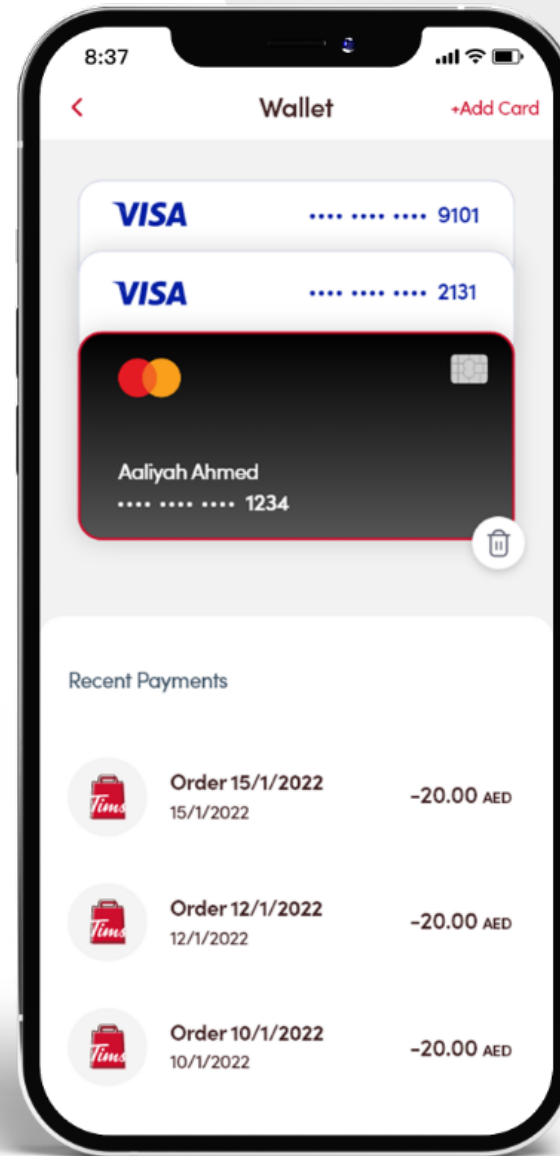







Pick up



Curbside

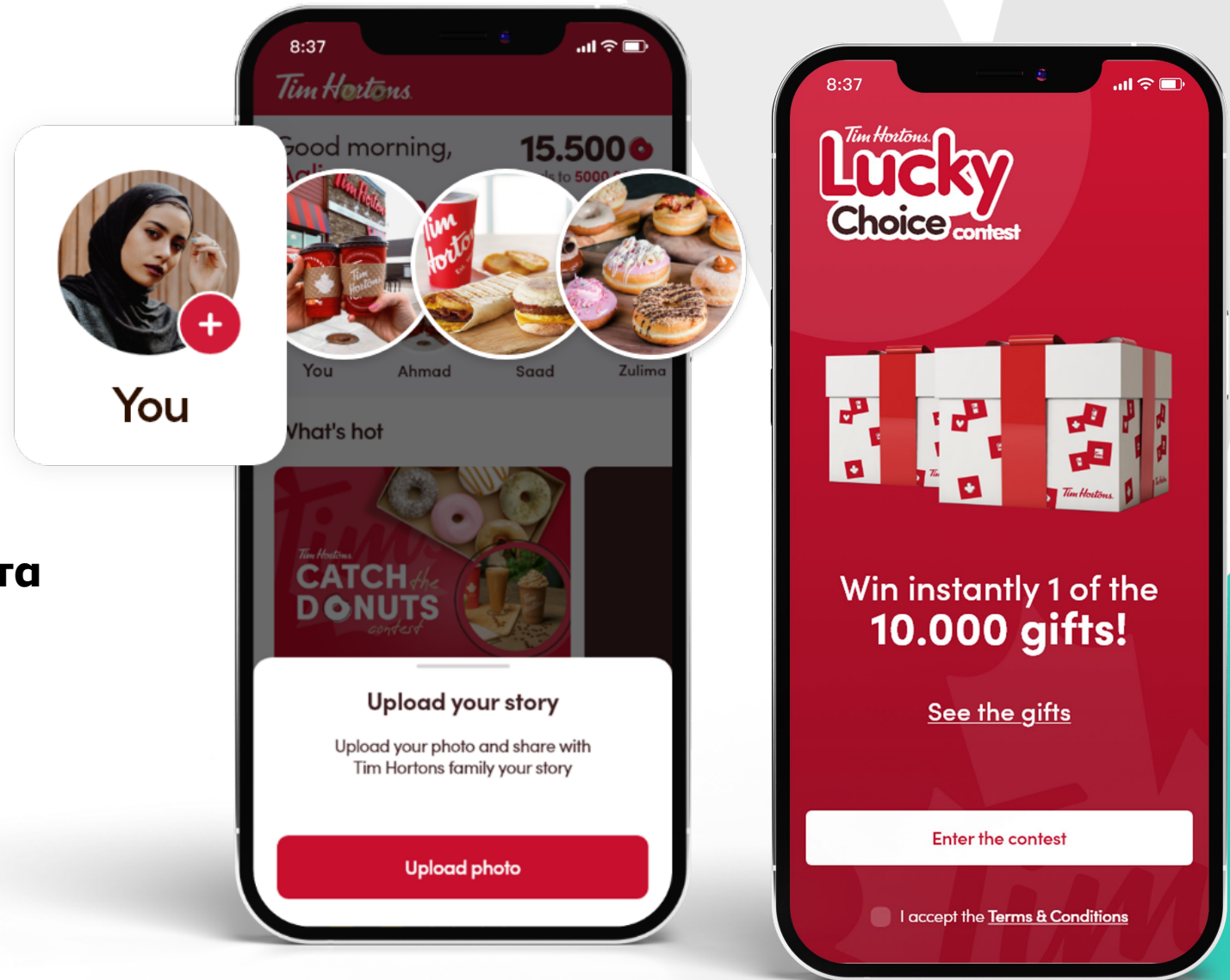


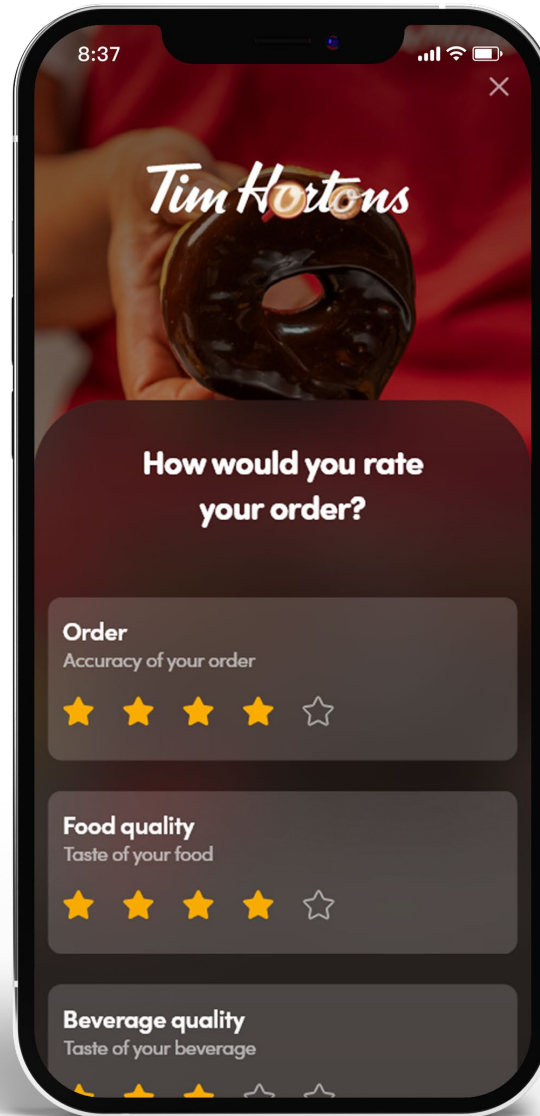
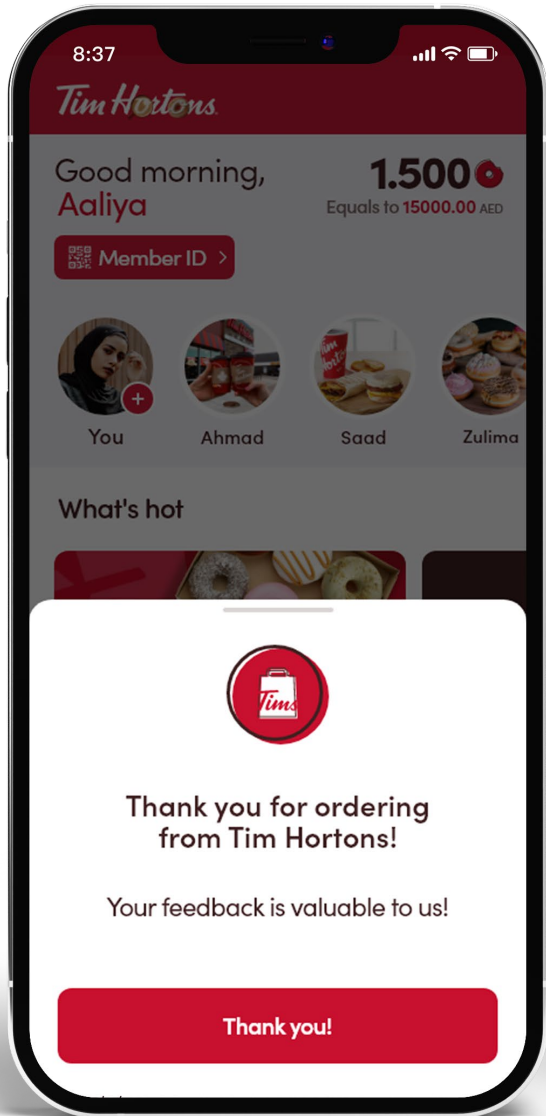
Recent Payments

	Order 15/1/2022 15/1/2022	-20.00 AED
	Order 12/1/2022 12/1/2022	-20.00 AED
	Order 10/1/2022 10/1/2022	-20.00 AED



Αλληλεπίδραση με την Κοινότητα







Ευνοούνται τα sm - Η Τεχνητή Νοημοσύνη αποτελεί το **κλειδί για πιο προσαρμοσμένες και κερδοφόρες επιχειρηματικές πρακτικές** στον τομέα του e-commerce.



Thank You



/warply



info@warp.ly



@warply



/warply



warply