



PHILMARK
GROUP

THE HARD PATH OF TECHNOLOGY

14 APRIL 2023 – 19 MAY 2023

«WEB APPLICATION IN
BUSINESS ENVIRONMENT»

19 MAY 2023: 14.00 – 17.00

SPEAKER

GIULIA
ZINANNI

YOUR TODAY SPEAKER

Giulia Zinanni

- 1 year of experience as a web developer

- Front-end developer working with:

HTML



HTML



Typescript

CSS



CSS



Bootstrap



JavaScript



Angular



- Involved in projects for Intesa San Paolo Bank, Infocert (Certification Authority and digital trust service provider) and Bper Bank

KEY POINTS

- [Definition of Digital Transformation](#)
- [Benefits and drawbacks of DT](#)
- [The role of Web Applications](#)
- [Case study](#)
 - [Netflix](#)
 - [BabyConnect](#)
- [Conclusion](#)



WHAT IS DIGITAL TRANSFORMATION?

Definition

Digital Transformation (DT) is the process of using digital technologies to **create new, or modify existing, business processes, culture, and customer experiences** to meet changing business and market requirements.

It involves integrating digital technologies and solutions into every area of a business. This is as much a cultural change as a technological one as it requires organisations to make fundamental shifts in the ways they operate and how they deliver customer experiences and benefits.

WHAT IS DIGITAL TRANSFORMATION?

Digitisation \neq Digitalisation \neq Digital Transformation

Digitisation → The process of converting information from analog to digital.

Digitalisation → Using digital information (provided by digitisation) to make working easier, without changing the entire business.

Digital Transformation → It is about changing the way business gets done and creating completely new classes of business. A fundamental rethinking of customer experience, business models, and operations.

KEY FACTORS



- Ongoing process
- Continual adaptation to a constantly changing environment
- Customer-driven approach (increased customization and customer satisfaction)
- Digital-first approach
- No “one size fits all” approach to digital transformation.

WHY DO FIRMS NEED DT?

- Exploring and developing new, potentially disruptive, business models in order to stay competitive and generate new revenue.
- Firms benefit from DT, especially those sectors that interface with a customer, consumer or user, even public bodies to be more effective in the service offered, to make employees work better and save public money.

WHY DO FIRMS NEED DT?

Posteitaliane **PT**

- Mobile banking
- Online shipping
- Online payments
- Investments
- Digital identity to access e-government services (SPID)

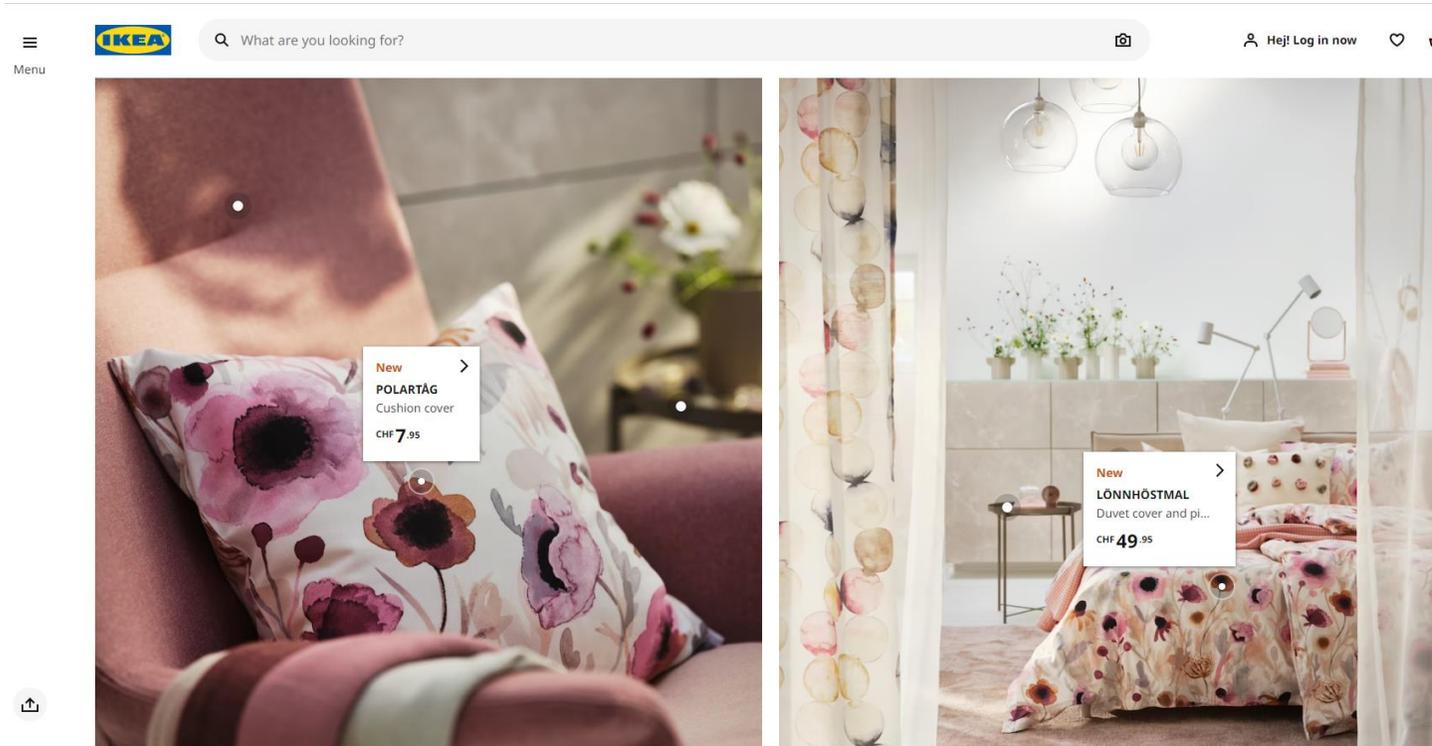
The screenshot displays the Posteitaliane website interface. At the top, there are navigation links for 'PRIVATI', 'PROFESSIONISTI E PICCOLE IMPRESE', and 'POSTE ITALIANE'. On the right, there are links for 'ASSISTENZA' and 'AREA PERSONALE'. Below this is a yellow navigation bar with the 'Posteitaliane' logo and several service categories: 'CORRISPONDENZA E SPEDIZIONI', 'CONTI CARTE E FINANZIAMENTI', 'RISPARMIO E INVESTIMENTI', 'PREVIDENZA E PROTEZIONE', 'SERVIZI AL CITTADINO', and 'SERVIZI ONLINE' (which is highlighted). A search icon is also present in the yellow bar.

The main content area is divided into four columns of services:

- POSTALI:** Spedisci online, Seguimi, Certitel catasto web, Filatelia, Acquista francobolli, Francobollo Facile, Ritiro Digitale.
- FINANZIARI:** BancoPosta online, La tua Postepay, Buoni e Libretti online, Prestito BancoPosta Online, Paga bollettino, Paga F24, Ricarica Postepay, Ricarica telefonica.
- ALTRI SERVIZI:** Dillo a Poste Italiane.
- ASSICURATIVI:** Area riservata assicurativa, Check-up, Gestione TFR, Quotazioni, Crea la tua pensione, Network salute, Preventivi Poste Assicura, Preventivi Poste Vita.

At the bottom, there is a footer with the text 'Hai bisogno di aiuto?' and four icons with labels: 'CHIAMACI', 'SCRIVICI', 'VIENI IN POSTE', and 'FAQ'.

WHY DO FIRMS NEED DT?



E-commerce and retail are now increasingly linked to online sales platforms and the omnichannel approach.

Ikea is one of the most representative companies that has taken the path of digital transformation in this sector.

Augmented and virtual reality technologies are innovative service that improves the customer's shopping experience.

ORGANISATIONS NECESSARY SKILLS

- The organisation as a whole must adopt a supportive culture
- Change-oriented mindset
- Organisational values such as innovativeness, willingness to learn, tolerance for failure
- Internal knowledge to share with employees, who are active participants in the change process
- Ability to rapidly change and rethink the company's business model, reconceptualizing it to get maximum value and take advantage to become competitive



THE ROLE OF A LEADER

To build a competitive business company, a good leader should:

- Invest in training and skills development programs, such as certification courses and online resources accessible to employees
- Building learning and development pathways so individual employees can gain core skills in areas like cloud computing, artificial intelligence (AI), data science, machine learning and web development
- Developing mentorship programs to provide employees with guidance and support
- “Leaders need to focus on creating an environment where employees can access the right tools and resources needed for personal growth”

DT BENEFITS

Improved Performance



- Profitability, customer retention, return on investment (ROI), and sales growth.
- Digital solutions reduce time-consuming processes, improve employee efficiency and reduce job stress by enabling access to work from anywhere, anytime, regardless of location.
- Organisations can automate or reduce manual tasks, allowing for faster product updates and response times.

DT BENEFITS

User Experience

- Digitalized business foster the DT of societies by offering more services, convenience, and benefits.
- Utilisation of technologies and digital transformation techniques can reshape the value proposition of customers by extending, enhancing and redefining the experience.
- The user experience does concern internal users too, namely collaborators or employee as they use the new technologies in their daily life.



DT BENEFITS

Emerging Roles

- The digitalisation of companies engenders new labour needs and thus creates new job opportunities.
- Chief Digital Officer → a leader who combines business acumen with digital expertise to help organisations drive digital transformation via an enterprise-wide digital vision and strategy.
- Chief Data Officer, Data Scientist or Data Analyst → management and governance of digital data.
- Chief Information Officer (CIO) → oversees the people, processes and technologies within a company to ensure they deliver outcomes that support the goals of the business.

DT DRAWBACKS

Resistance to Change

- Employees entrenched in traditional processes could be reluctant to incorporate new technology
- It could be experienced as a threat to one's job security
- It affects a worker comfort zone
- Digital disruption could be seen as a damage



DT DRAWBACKS

Digital Skills Gap

- The inability to access skilled professionals with the proper knowledge and experience in emerging technologies
- This leaves business at a competitive disadvantage
- Managers worldwide report difficulty finding qualified digital talent
- Lack of digital skills negatively impacts the organisation



THE ROLE OF WEB APPLICATIONS

Definition

- A web application (or web app) is an application software that runs on a web server
- Web applications do not need to be downloaded since they are accessed through a web browser, such as Google Chrome, Mozilla Firefox or Safari
- Client-server architecture →
 - the user is the client that makes a request via web browser
 - a web server is a computer software and underlying hardware that accepts requests and sends responses via HTTP or HTTPS (the network protocols created to distribute web contents to client user agents)
 - data is stored on a database and retrieved by a remote server
- Web site (static content) vs web app (user interaction)

THE ROLE OF WEB APPLICATIONS

Front-end vs Back-end

- Web applications generally use different programming languages for their user-facing front ends (or “client sides”) and for their back ends (“server sides”)
- The client-side script deals with user interface functionality like buttons and drop-down boxes. When the end user clicks on the web app link, the web browser loads the client-side script and renders the graphic elements and text for user interaction.
- Scripts for applications’ front ends are written in languages like:
 - HTML (markup language),
 - CSS (stylesheet)
 - JavaScript (programming language)
- Front-end libraries (i.e., Bootstrap) and frameworks (i.e., Angular, React) can be added to improve the project development organisation, its features and web app interactivity



THE ROLE OF WEB APPLICATIONS

Front-end vs Back-end

- The web application server processes the client requests (i.e., data request triggered by clicking the submit button) and sends back a response
- This layer is in charge of retrieving data from database
- Languages such as Python, Java, PHP are commonly used in server-side programming



THE ROLE OF WEB APPLICATIONS

Benefits

- Web applications do not need to be downloaded since they are accessed through a network. Users can access a web application via web browser, such as Google Chrome, Mozilla Firefox or Safari.
- The use of browsers allows the application to be compatible with most standard computers and operating systems
- The application does not take up memory on a computer's hard drive and is accessible from nearly any computer or device
- Multiple users can even use the same application at the same time, allowing for simultaneous participation. Teams working in different locations can access shared documents, content management systems, and other business services through subscription-based web applications

THE ROLE OF WEB APPLICATIONS

Benefits



- A web app can be accessed 24/7 provided that you have an internet connection. Web applications therefore include online forms, shopping carts, video streaming, social media, games, and e-mail
- As they are accessible via web browser, there is no need for end-user to maintain it
- Web applications automatically receive software and security updates, meaning they are always up to date and less at risk of security breaches
- Scalability which is the ability to handle a large number of users at a time without any downtime or malfunction, increasing or decreasing the available resources when needed

NETFLIX

- Netflix started as an online DVD rental/delivery company
- The first company to think about delivering content via streaming technologies was not Netflix, but rather its old competitor Blockbuster. In the early 2000s, Blockbuster formed a team to explore the possibility of having its content library available to its customers online. However, as most people still had dial up internet connections and with broadband just beginning, streaming did not function well
- When Netflix pivoted from its lucrative DVD mail order business to a service that relied on streaming first, internet connections have improved throughout the world and its customers could watch many of its movies and shows online clearly and completely

NETFLIX

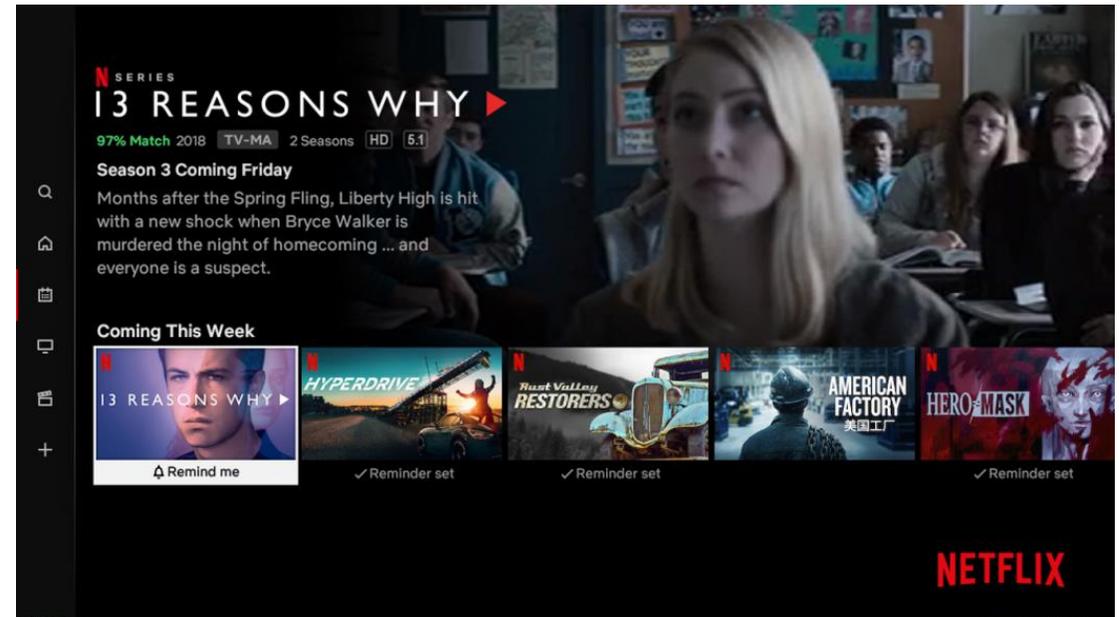
- In the early 2000s, Reed Hastings and Marc Rudolph, the co-founders, understood it was time to develop a new plan to cover customers' demands. "We never spent one minute trying to save the DVD business"
- Digitisation gave Netflix the ability not only to stream video content directly to customers, but also to gain unprecedented insight into viewing habits and preferences
- In 2010, Netflix's app was launched for iOS
- Now Netflix is a case study and an example for the competition, as their combination of digitalisation with content marketing completely reinvented the cable era.

CASE STUDIES

NETFLIX

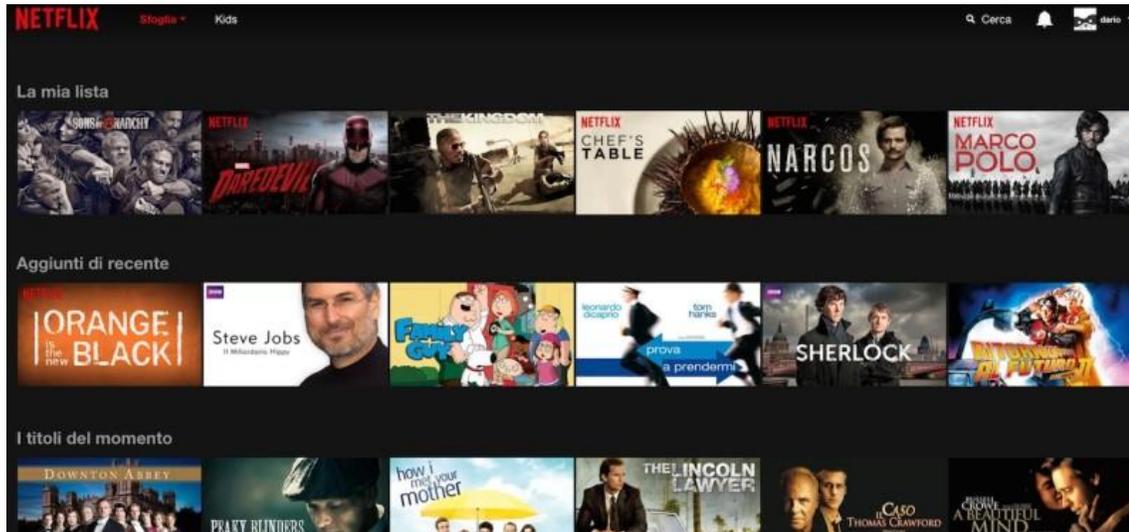
Today Netflix is one of the most popular streaming platforms, with more than 200 million users worldwide.

Its founders were smart enough to open their minds and look ahead, embracing the innovation of the digital transformation.



CASE STUDIES

NETFLIX



- The user has the chance to scroll through all the movies and tv series available.
- Movies are easy to find as they are grouped by film genre and user preferences (customer-driven approach)
- The user can make a collection of his/her favourite movies (user interaction)
- It is possible to watch films with other users simultaneously (shared resources)

CASE STUDIES



- BabyConnect is a management system that includes a web component and a mobile app for Baby&Job, a company that provides company nursery schools
- Aim → every school can manage its own educational services and at the same time it offers families the possibility to be connected in real time with the kindergarten, accessing the app through any kind of device
- Technologies used for the application →
 - FE: HTML5, CSS3, BOOTSTRAP, JQUERY, JQUERY UI
 - BE: .NET CORE 2, API RESTFUL
 - DB: MYSQL
 - SERVER: WIN 2019

CASE STUDIES



- The application can be accessed using six different **roles**, each one with its own **permissions** →
 - Super administrator has no constraint
 - Administrator can access the administrative section. He/she can receive/send messages
 - Coordinator can see every kindergarten he/she has been assigned to. He/she can receive/send messages and can edit the management section
 - Teachers can see the kindergarten he/she has been assigned to. He/she can receive/send predefined messages and can edit the management section which he/she has been assigned to
 - Pediatrician can see the kindergarten he/she has been assigned to and all the children. He/she can only edit the pediatrician area
 - Parents can see their own account and edit their information, but not their child's

CASE STUDIES



- The first thing a user is going to see is the login form, in which email and password have to be entered.
- There is the possibility to retrieve the password if it has been forgotten by simply clicking on the link

A screenshot of the BabyConnect login form. At the top is the BabyConnect logo. Below it are two input fields: 'Email' with an envelope icon and 'Password' with a lock icon. A blue button labeled 'Accedi' is positioned below the fields. At the bottom left, there is a 'Ricordami' label and a radio button with 'NO' next to it. At the bottom right, there is a link that says 'Password dimenticata?'. A green arrow points to this link.

CASE STUDIES

Once logged in, the user can see all the educational activities that have been approved in the selected school (it is not visible for parents' accounts)

The screenshot displays the 'ATTIVITA' EDUCATIVA' section of a web application. At the top, it says 'In questa sezione è possibile visualizzare le attivita' educative'. Below this, there's a search bar for 'My Testing School' with a dropdown menu showing suggestions: 'Grotte Portella - Comune di Frascati', 'Pietra Porzia - Comune di Frascati', 'Università La Sapienza', and 'My Testing School'. To the right, there's a search button labeled 'Cerca' and a 'Nuova Attività' button. The main content area shows a list of activities. The first activity is 'Laboratorio sensoriale' with a 'Visualizza dettagli' link, an age range of 'Eta': da 12 a 36 mesi, and a status of 'APPROVATO'. The second activity is 'Tinture Naturali' with a 'Visualizza dettagli' link, a description: 'I bambini hanno potuto osservare e manipolare gli elementi naturali. finalizzati all'estrazione del colore naturale. In un secondo momento hanno partecipato all'estrazione del colore e sperimentato attraverso il movimento le tracce lasciate da questo su una superficie cartacea', an age range of 'Eta': 18-36, and a status of 'APPROVATO'. At the bottom, there's a pagination indicator showing '1' and a status '1 - 3 di 3 elementi'.

CASE STUDIES

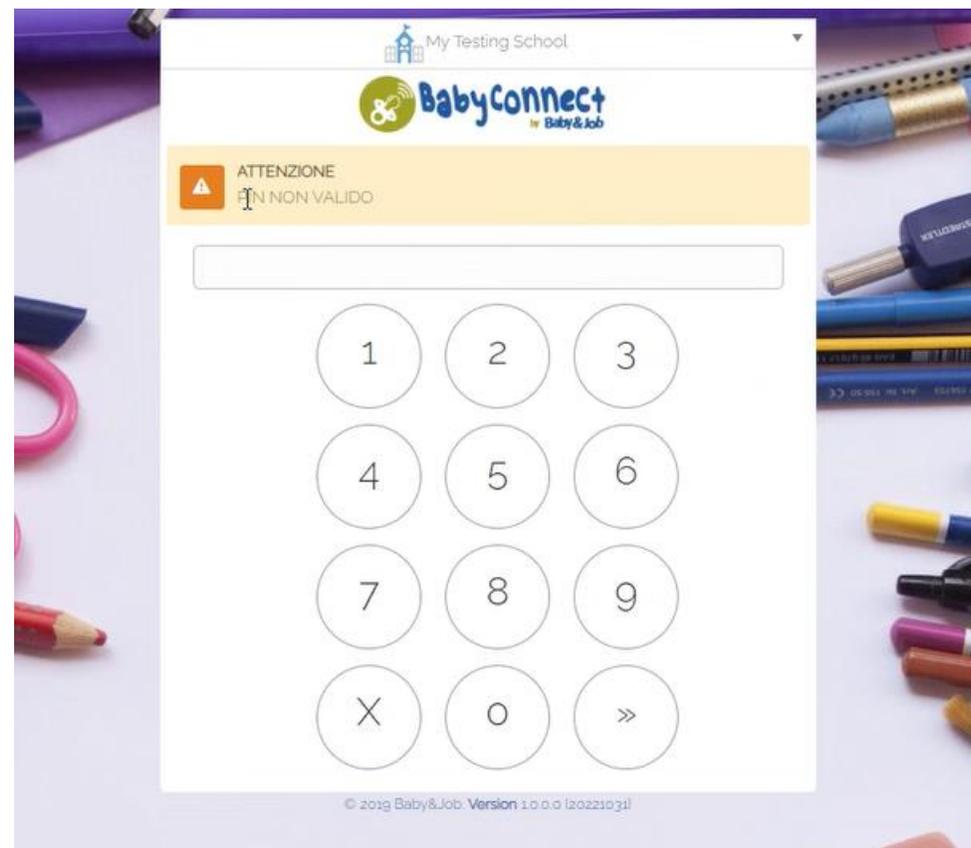
- Every team member has his/her own datasheet
- Every child has his/her own datasheet which can be filled with his/her medical history. Allergies and vaccines can be specified as well as a disability if present

The screenshot displays a web application interface for managing medical data. At the top, a header bar contains the text 'Dati Sanitari'. Below this, a vertical sidebar on the left lists various data categories with corresponding icons: 'Scheda Vaccini' (house icon), 'Scheda Anamnestica' (two people icon), 'Scheda Allergie e Intolleranze' (allergy icon), and 'Scheda Disabilità' (wheelchair icon). A dropdown menu is open, showing these four options, with 'Scheda Vaccini' currently selected and highlighted. The main content area features a table with four rows of vaccine records. Each row starts with a red circular status indicator, followed by the vaccine name, a 'SI' status, an 'ND' status, and a three-dot menu icon. The vaccine names listed are ANTIPOLO SALK, DIFTERITE, HIB (HAEMOPHILUS B), and PERTOSSE ACELLULARE. Below the table, there is a section titled 'Certificati' with a plus icon in a circle and a search bar containing the text 'NOME'.

Status	Vaccino	Stato 1	Stato 2	Opzioni
●	ANTIPOLO SALK	SI	ND	...
●	DIFTERITE	SI	ND	...
●	HIB (HAEMOPHILUS B)	SI	ND	...
●	PERTOSSE ACELLULARE	SI	ND	...

CASE STUDIES

- In the datasheet, parents and delegates get registered and receive a pin through which they can access the application and ask for picking up the child
- For security reasons, if they lack the code, that action is forbidden



CASE STUDIES

Modifica Laboratorio



DATI LABORATORIO

CALENDARIO LABORATORIO

DOCUMENTI



YOGA

Periodo iscrizione

03/04/2023

28/04/2023

Numero minimo iscritti

3

Numero massimo partecipanti

10

Numero lezioni

5

Importo

10,00 €

Numero massimo rate

0

Note

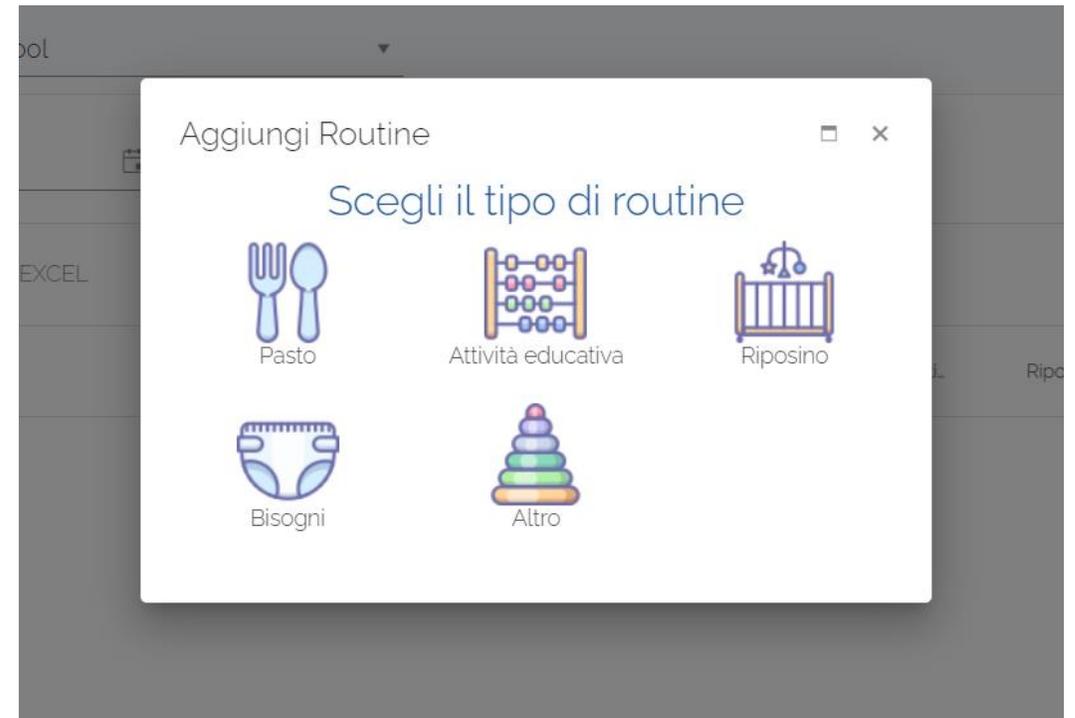
Note

Seleziona Bambini

- Depending on the role and permissions, it is possible to check school sections, create seasonal menus, add new laboratories or other educational activities.

CASE STUDIES

- The activities carried out by the children are recorded through the Routine management area, accessible by SupedAdmin, Coordinator and Educator roles.
- Using the NEW ROUTINE button, multiple children's activities can be recorded, choosing the type of activity, among the following choices (see the picture).



CASE STUDIES

There are specific sections in which entry and exit or absence can be recorded.

In case of an unplanned absence, parents will get a notification to make them aware of such situation.

Ingresso/Uscita - Step 2/2

Uscita - Seleziona Bambini

Ricerca veloce: _____

<input type="checkbox"/>	Nominativo	Classe	Frequenza	Utenza
<input type="checkbox"/>	 Benincasa Adriano	MATERNA	MEDIUM TIME	Utente Aziendale
<input type="checkbox"/>	 Benincasa Federico	MATERNA	FULL TIME	Utente Aziendale

17/07/2020 13:06

Salva

Assenze

Seleziona Bambini

Ricerca veloce: _____

<input type="checkbox"/>	Nominativo	Classe	Frequenza	Utenza
<input type="checkbox"/>	 Barbieri Niccolò	MATERNA	FULL TIME	Utente Privato
<input type="checkbox"/>	 Baroni Anita	MATERNA	FULL TIME	Utente Privato
<input type="checkbox"/>	 Busto Alice	MATERNA	FULL TIME	Utente Privato
<input type="checkbox"/>	 Carzani Bianca	GRANDI	MEDIUM TIME	Utente Privato
<input type="checkbox"/>	 Capitani Camilla	MATERNA	FULL TIME	Utente Privato

Periodo assenza

17/07/2020 17/07/2020

Note

test

Salva

CASE STUDIES

In the Routines management section, teachers can add activities, meals, naps and physiological needs of every child.

This area can be checked in real time by parents, in the daily report.

Aggiungi Attività educativa - Step 2/3

Data
17/05/2023

Inizio 10:00 Fine 11:00

Tipo Attività educativa
Laboratorio sensoriale

Note

Visibile al genitore

Indietro Continua

Aggiungi Riposino - Step 2/3

Data
17/05/2023

Inizio 16:04 Fine 16:34

14:05
14:10
14:15
14:20
14:25
14:30

Continua

CASE STUDIES

Another important section is the one dedicated to annual payments that can be consulted by school members and electronic invoices, that have enhanced invoice reporting. Moreover, it helps the administration keeping up with payments.

ELENCO PAGAMENTI - ANNO EDUCATIVO 2022/2023

In questa sezione è possibile visualizzare l'elenco dei pagamenti per ogni struttura

My Testing School

Nuovo Pagamento

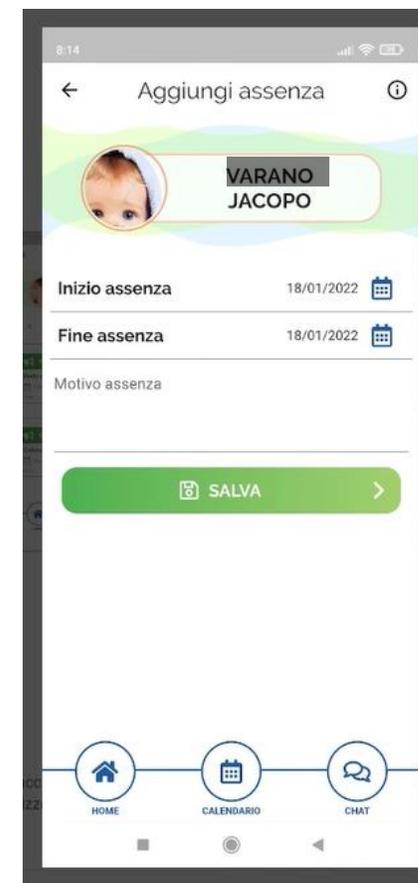
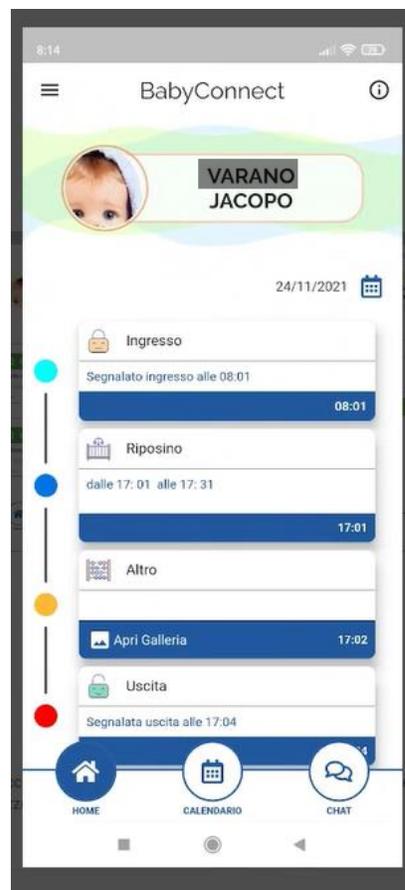
SCADUTI 24 DA CONFERMARE 0 DA PAGARE 7 PAGATI 0

EXPORT Ricerca bambino: Tutti

Nominativo	Genitore	Tipo Pagamento	Descrizione Pagamento	Totale	Scadenza	Visib.	
+ PUGLIELLI DAVIDE	SILVIA BOLOGNESI	Retta mensile	Retta mese giugno 2023	102,00 €	05/06/2023	👁	⋮
+ FERRARI EVA	MARIANNA GIORGINI	Retta mensile	Retta mese giugno 2023	102,00 €	05/06/2023	👁	⋮
+ PUGLIELLI DAVIDE	SILVIA BOLOGNESI	Retta mensile	Retta mese luglio 2023	102,00 €	05/07/2023	👁	⋮

CASE STUDIES

All the features that have been mentioned so far are accessible via desktop as well as via mobile app. It makes it easier for parents to stay up to date with their children's activities and keep in touch with teachers and school administration.



CONCLUSION

- Transforming business can be challenging, though digital transformation is not an option for a firm if it wants to stay competitive.
- Companies can take advantage of DT as it increases productivity and fosters new business culture, based on continuous adaptation to a constantly changing environment, a customer-driven approach and workforce enablement.
- Business benefits from the use of web application as they are always accessible from any device and do not need to be downloaded.
- Web apps helps both employees and customers. The former has the chance to work more rapidly and efficiently, the latter can access information wherever and whenever they need.

CONCLUSION

“When there are changes in the business environment either you act fast and adapt to the situation or don’t change with the situation. If you access the situation correctly and perform the switch, you can be the biggest, boldest and on the right track. But if you access the situation wrong and do not make the switch, then you may be the closest to extinction.”





THANKS FOR YOUR ATTENTION