Multi-experience Development Platform (MXDP)

Terms and Concepts

What is MXDP?

According to Gartner A Multi-experience Development Platform (MXDP) offers development teams an opinionated and integrated set of front-end development tools (which the user deals with directly) and "backends for frontends" services. Its purpose is to enable distributed and scalable development (both in teams and architecture) of fit-for-purpose apps across digital touchpoints and interaction modalities. Undoubtedly, this type of platform enhances the beneficiary's experience and provides comprehensive and seamless digital solutions through multiple digital channels.

Using MXDP

It allows developers to develop applications for new digital touchpoints and platforms. The primary purpose of MXDP is to maintain a cohesive user experience by developing a multi-experience strategy that seamlessly integrates all touchpoints and enables a unique user experience. This platform is more coherent than the user experience that focuses on meeting user's needs in a high quality and less complex manner. Figure (1) illustrates how an MXDP strategy unifies development activities to deliver a multi-experienced user journey across different combinations and permutations of modalities and digital touchpoints.

Multi-experience

Touch	Gestures	Chat	Voice	Vision	Other

CX   **EX**

Multi-experience Development Platform

Developer Tools

| IDE/Plugins |
| Design Tool |
| CLI |
| SDKs |

MX Services

| Microapps | Runtime | Outer APIs |

Platform Services

| Offline Sync | Notifications | Location |
| User Mgmt. | Storage | Workflow |

Custom Services

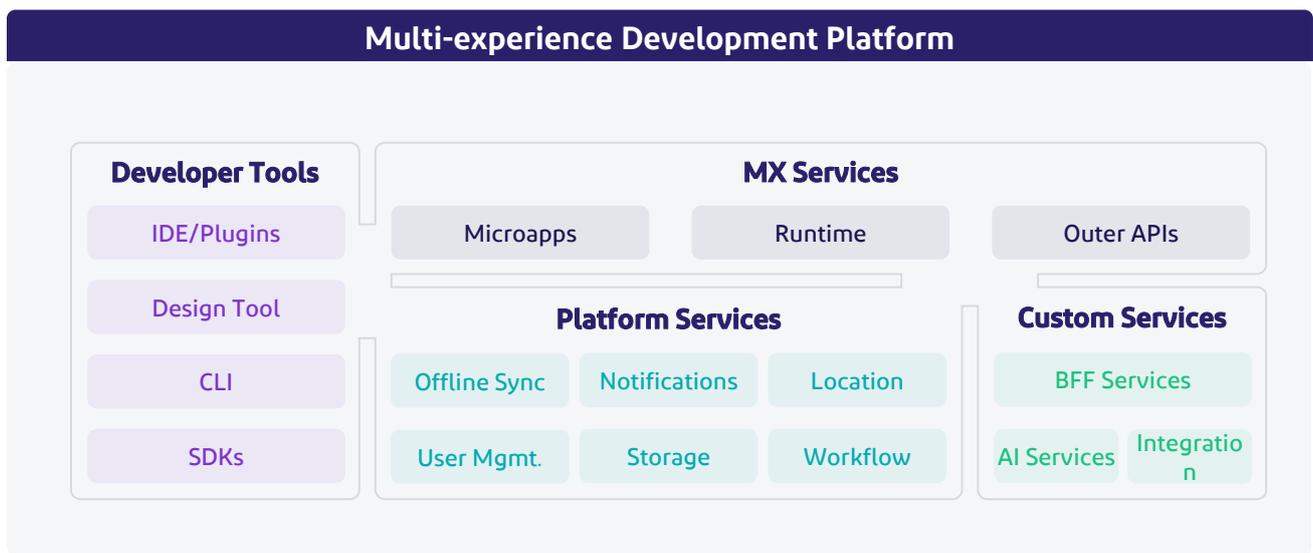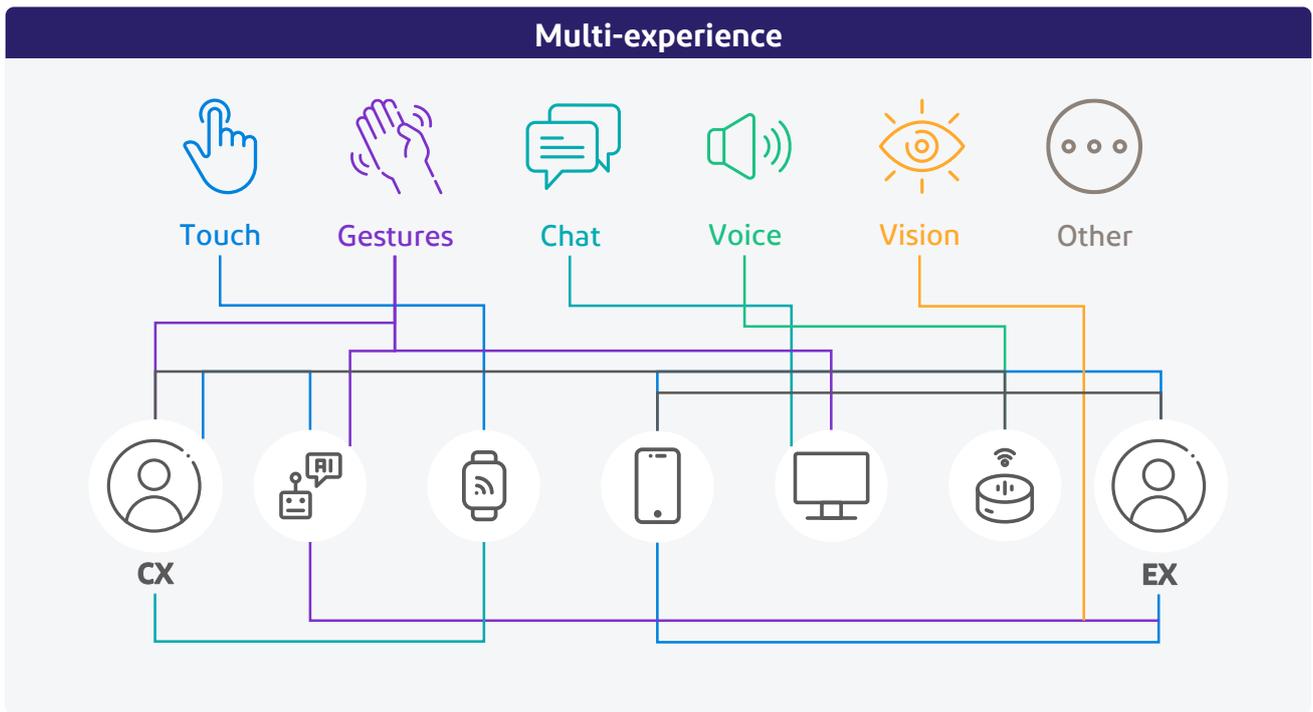| BFF Services |
| AI Services | Integration |

Figure (1): How an MXDP strategy unifies development activities

MXDP tools cover the whole app lifecycle from its design, development, testing, and distribution to maintenance, management, and user data analysis. It should also include and support cross-platform development of mobile apps, responsive web apps, including, for example but not limited to chatbots, voice apps, wearables and Internet of Things (IoT) apps, and augmented-reality (AR) and mixed-reality (MR) apps.

It is important to differentiate between omnichannel, which offers the same original user experience across all platforms, and multi-experience, whose purpose is to connect platforms to provide an optimized user experience that is as close as possible to the user.

The impact of MXDP on Government entitiesies

Government entitiesies have the opportunity to invest in MXDPs, which offer a wide range of benefits that can enhance service delivery, efficiency, and user engagement. Additionally, it can facilitate their digital transformation journey. MXDP unifies front-end application development activities across various types of apps, ensuring that the user experience (UX) is seamless, persistent, and enjoyable. This, in turn, supports users throughout their life journey. MXDPs also ensure maximum reuse and accelerate development velocity.

Below are some key ways in which MXDPs can impact government sectors:

Enhanced Service Delivery: Empowering governments to create seamless applications across multiple devices and platforms, such as smartphones, tablets, and desktop computers. This enables government entitiesies to provide more accessible services to users, as they can access these services using their preferred devices.

Increased Efficiency through streamlining the processes by centralizing development efforts and reducing the time and resources required to create and maintain applications. This can result in cost savings and enable governments to allocate resources more effectively.

Greater Accessibility by adhering to accessibility standards and ensuring that individuals with disabilities can use applications and services. This can create more inclusive services and a better overall experience for all users.

Enhanced Collaboration among government teams is crucial for effective development processes. This can result in improved communication, streamlined workflows, and, ultimately, a higher-quality end product.

Enhanced Security with built-in security features that can help governments protect sensitive information and adhere to data protection regulations. This can help build trust in government services and safeguard user's privacy.

MXDP User Cases

International:

Government entitiesies have successfully implemented MXDPs to improve service delivery and user engagement in various use cases. This report will discuss the most significant ones that have had a positive impact on Service Delivery.

01   **Singapore Government Technology Agency (GovTech):** The GovTech agency in Singapore has developed an MXDP called Moments of Life (MOL) which serves as a one-stop platform for citizens to access a wide range of government services. The MOL app allows users to perform a variety of tasks, including applying for government schemes, booking appointments, and accessing health records. It unifies multiple touchpoints into a single coherent service journey.

02   **United States Department of Agriculture (USDA):** The USDA has launched Farmers.gov, an MXDP which aims to provide farmers with a comprehensive platform to access a range of government services. This unified platform includes a mobile app, a website, and a chatbot. Farmers can use it to access a range of services, including loans, insurance, and conservation programs.

03   **Australian Taxation Office (ATO):** The ATO has created an MXDP known as myGovID, which offers a secure digital identity for users to access government services. With the myGovID app, users can easily log in to multiple government services using a single set of credentials.

04   **United Kingdom Government Digital Service (GDS):** The GDS has created an innovative solution called GOV.UK, which is a comprehensive MXDP platform that enables users to access a diverse range of government services. This platform comprises a website and a mobile application that allow users to perform various tasks, including renewing their passport, paying taxes, and accessing health information.

05   **Indian Government:** The Indian government has developed an MXDP called UMANG (Unified Mobile Application for New-age Governance) that offers a one-stop solution for citizens to access a wide range of government services. This innovative MXDP application is designed to help users perform tasks such as paying utility bills, booking railway tickets, and accessing government schemes.

National at Saudi Arabia:

The majority of the use cases listed showcase how MXDPs have helped governments in Saudi Arabia enhance service delivery and user engagement through a unified platform for accessing government services. However, it is crucial to acknowledge that the successful implementation of an MXDP requires careful planning, user research, and collaboration with stakeholders to guarantee that the platform caters to the users' needs and is accessible to all.

Ministry of Interior (MOI): MOI has launched Absher, an MXDP platform that offers businesses a unified and streamlined approach to accessing a range of government services. This platform includes both a mobile app and a website, providing businesses with the convenience of performing tasks such as visa applications, commercial registration renewals, and labor record access all in one place. Moreover, the platform offers users access to a wide range of government services, including passport renewals, traffic fine payments, and health record access. It offers different touchpoints and modalities, such as voice and touch, to provide an immersive experience.

Zakat, Tax and Customs Authority (ZATCA): ZATCA has launched an innovative solution called ZATCA e-Services. This cutting-edge MXDP platform offers taxpayers a unified and user-friendly interface to access a wide range of government services. The platform includes a mobile app and a website that enable taxpayers to perform various tasks such as filing their tax returns, paying their taxes, and accessing their tax records.

Ministry of Health (MOH): MOH has created an innovative solution called Mawid, which is an MXDP that offers a comprehensive platform for users to access healthcare services. The Mawid app is designed to enable users to book appointments with healthcare providers, view their medical records, and receive notifications about their appointments.

Ministry of Education (MOE): MOE has developed an MXDP called Madrasati that offers a comprehensive solution for teachers, students, and parents to access educational services. The Madrasati app is designed to streamline the educational process by allowing teachers to manage their classes, students to view their grades and assignments, and parents to track their children's progress. It provides one-stop solution for multiple touchpoints.

Opportunities and Challenges

Opportunities:

Adopting MXDP has various benefits, as it reduces time to market, eliminates potential security risks, and provides better control over actual deployment. The most significant advantages are shown below:

Enhance the process of digital transformation, project management, and indicators identification of creative aspects

Enable delightful application user experiences that seamlessly and persistently span multiple devices and augment human senses (i.e., touch, vision, auditory)

Smoothen development experiences, resulting in more engaged and empowered developers

Reduce the number of development teams and personnel by allowing cross-platform development

Reduce the cost of development

Simplify the construction and composition of complex front ends that speed-up application development and deployment

Challenges:

Lack of portability of applications across MXDPs

Platform licensing costs, especially for consumer-facing use cases

Training and education costs for platforms affecting the learning curve

Preference for open-source cross-platform software stacks

Within most organizations, the user experience (UX) discipline is still maturing in skills and methodologies, and a multi-experience (MX) approach to architecture and development is typically lacking. Hence, Investing in both areas together can improve business value and agility.

Global Statistics:

According to a new report by Grand View Research, Inc.

GRAND VIEW RESEARCH

The global multi-experience development platforms market size is expected to reach **24.64** billion USD by **2027**

According to a recent global research firm Gartner prediction

Gartner.

One of every four enterprises will be using a multi-experience development platform (MXDP) to reflect company's solutions **75%** of Companies Utilize MXDP by **2026**

References

Market Guide for Multi-experience Development Platforms - Gartner | Hype Cycle for User Experience, 2022 - Gartner | Towards a model-driven approach for multi-experience AI-based user interfaces - Software and Systems Modeling

For continuous development purposes, please fill out the following survey

🌐 Survey

SCAN HERE

For more digital studies, please follow the link below

🌐 Digital Studies

SCAN HERE

هـيـئـة الحكـومـة الرقـمـيـة
Digital Government Authority