IN THE UNITED STATES PATENT AND TRADEMARK OFFICE.

| | | | | |
|---|---|---|---|---|
| Applicant | : | Hajoca Corporation | | |
| Serial No. | : | 88/577,254 | Examiner: | Chandel Boozer |
| Filed | : | August 13, 2019 | Law Office: | 124 |
| Mark | : | VODOX | | |

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

APPLICANT'S RESPONSE TO OFFICE ACTION DATED OCTOBER 4, 2019

Applicant respectfully disagrees with the Examiner's likelihood of confusion refusal based on the cited mark. Applicant submits that the marks are different in appearance, sound, meaning and commercial impression: (1) Applicant's mark is a coined term created entirely from Applicant's imagination. In contrast, the Cited Mark is an acronym composed of well-known and familiar terms, including VOD ("visual on demand" or "video on demand") and XS ("excess" and "experience solution," among others); (2) Consumers are highly likely to pronounce the marks differently - VODOX being two simple syllables – VŌ-DOX, and VODXS being five or more syllables – V-O-D-XS;  (3) Moreover, the meanings are very different in that Applicant's mark has no meaning and the Cited Mark contains the well-understood prefixes VOD ("visual on demand" or "video on demand") and XS - the former accurately describing the visual on demand feature of the goods associated with the Cited Mark;  (4) Additionally, the appearance of the marks is highly dissimilar in that the suffixes are very different and Applicant's mark includes two vowels versus only one in the Cited Mark.  (5) Finally, the degree of care exercised by consumers of the Applicant's Goods and the goods offered by Registrant is heightened to a degree that consumers will readily distinguish the marks.

1. The Marks are Dissimilar

Applicant respectfully contends that VODOX ("Applicant's Mark") for "faucets" (the "Applicant's Goods") does not have any resemblance in sound, appearance, meaning, or commercial impression to the mark VODXS (the "Cited Mark") for "faucets" (the "Cited Goods"). Although the Cited Mark application indicates faucets, the Cited Mark appears to be used in connection with faucets having a visual on demand display (see **Exhibit A**).

Nor is registration of Applicant's Mark likely to cause confusion, or to cause mistake, or to deceive. An examination of the relevant factors under TMEP §1207 and *In re E.I. du Pont de Nemours & Co.*, 177 USPQ 563, 567 (C.C.P.A. 1973), warrants the conclusion that Applicant's Mark cannot be said to so resemble the Cited Mark that it is likely to cause confusion, or to cause mistake, or to deceive given careful consideration of the differences between: (i) the marks themselves, especially in light of the differences in sound, appearance, meaning and commercial impression; and (ii) the sophistication of the relevant consumers.

A. The Appearance, Sound, Meaning and Commercial Impression of the Competing Marks is Highly Dissimilar

*The Cited Mark is composed of familiar components and the Applicant's Mark is unfamiliar.*

Applicant's Mark is a coined term without a readily understood meaning. Consumers are not familiar with any aspect of client's mark. It is an original term. Applicant's Mark was created entirely from Applicant's imagination and has no meaning in relation to Applicant's Goods. Coined terms are by their nature not familiar to consumers. Coined terms are typically held to a higher standard of distinctiveness whereas courts have found that a mark that is comprised of wording that is already known or familiar is highly distinguishable from the unfamiliar or coined. *See In re General Electric Co., 134 U.S.P.Q. 190, 192 (C.C.P.A. 1962).*

The Cited Mark is composed of well-known and familiar terms. The letters "VOD" are a known acronym for "Video on Demand" or 'Visual on Demand' (see **Exhibit B**). To support this premise, the Cited Mark is marketed in connection with the phrase "**V**isual **o**n **D**emand Experience Solution" (see **Exhibit A**). As such, "VOD" is well-known and familiar. In addition, "XS" is similarly a well-known and familiar acronym or abbreviation. The term XS is used widely as a means of describing higher quality, e.g., "excess," or "experience" as in "experience solution." For example, Apple's iPhone includes a model XS and SAP offers XS for its application services. *See* **Exhibit C**. Therefore, the Cited Mark is a known and familiar term and the Applicant's Mark is a foreign and imaginative term.

On numerous occasions, the C.C.P.A. and T.T.A.B. have held that consumers can easily differentiate between terms that are known and terms that are unfamiliar. For example, in *In re General Electric Co.*, 134 U.S.P.Q. 190 (1962), the Court determined consumers would easily differentiate between VULCAN and VULKENE for identical goods because they would recognize VULCAN as something well-known, while VULKENE is a coined word. Similarly, in *Faberge, Inc. v. Dr. Babor GmbH & Co.*, 219 U.S.P.Q. 848, 851 (T.T.A.B. 1983), the Board found no likelihood of confusion between BABOR and BABE, both for cosmetic products, and stated:

> we note that in a number of cases, the familiar versus unfamiliar
> comparison was made and while it may not have been the only factor
> which influenced those decisions, it was found to be highly significant
> in reaching the decision that confusion was unlikely to occur. The logic
> behind the decisions is clear. One recognizes instantly that which is
> familiar. Conversely, that which is unfamiliar would be given closer
> scrutiny and in this way could be distinguished from the familiar.

Confusion is therefore not likely due in large part to the fact that VODOX is a coined term and unfamiliar, and VODXS is familiar or well-known to consumers.

*The Appearance of Applicant's Mark is Entirely Different from the Appearance of the Cited Mark*

As noted above, the V-O-D in the Cited Mark is highly suggestive for the goods offered by the owner of the Cited Mark, namely, faucets with monitors or V.O.D. The terminology in the Cited Mark should therefore be considered weak and of less significance. The scope of protection to be accorded to the VOD portion of the Cited Mark should therefore not extend to preventing the registration of all other VOD prefix marks. *See Jarrow Formulas, Inc.*, No. 78937342 (T.T.A.B. Apr. 7, 2008) (not precedential) (CARNITALL for dietary supplements was held not to be confusingly similar with CARNITYL for nutritional supplements); *Cutter Laboratories, Inc. v. Air Products and Chemicals, Inc.*, 189 USPQ 108 (TTAB 1975) (held no likelihood of confusion for RESIFLEX for, among other items, surgical drainage tubes and STERI-FLEX for, among other items, sterilized tubing for use in anesthesiology); *Mead Johnson & Company v. Peter Eckes,* 195 USPQ 187 (TTAB 1977) (no likelihood of confusion between METRECAL for dietary products in the form of, among other items, wafers and MINIKAL for, among other items, wafers).

Applicant's Mark is VODOX. The Cited Mark is VODXS. On its face, the competing marks may share the letters VOD, however, the meaning of the VOD in the Cited Mark is well-known and understood.

Moreover, the addition of the contrasting suffixes creates two very different terms with distinctly different appearances. VODOX has the DOX suffix and VODXS has the XS suffix. The two Os in VODOX create the appearance of a unitary term, which is easily pronounced. In contrast, VODXS lacks the second vowel and instead incorporates a string of three consonants,

which asks the consumer to break the mark into various components – one of which is the acronym for "visual on demand."

*Consumers are Highly Likely to Pronounce the Marks Differently*

Applicant's Mark is pronounced VŌ-DOX, two distinct syllables. The Cited Mark is at least a five-syllable mark pronounced V-O-D-XS. The VOD portion in the Cited Mark is pronounced as an acronym. No other possible pronunciation is likely as there is no vowel after the D. Consumers attempting to sound out DXS would be tongue tied. As such, when spoken, the marks sound completely different. Therefore, the differences in the sound of the marks also weighs in favor of withdrawal of a finding a likelihood of confusion. Marks that are different based on pronunciation and meaning have been held to be not likely to cause consumer confusion. *See In re Paradyce Clothing Company, Inc.*, Serial No. 87562296 (TTAB October 1, 2018) [not precedential] (finding PARADYCE for clothing not confusingly similar to PAR-A-DICE for clothing due to differences in pronunciation and meaning).

*The Meaning of the Marks is Different*

Of similar weight, is that Applicant's Mark has no meaning and the Cited Mark has a meaning – specifically, the widely known terms "VOD" and "XS." In contract, Applicant's mark lacks a known meaning. The pronunciation of Applicant's mark similarly does not create a known meaning. Along those same lines, consumers pronouncing the Cited Mark would spell out V-O-D to create the known acronym with a familiar meaning. Therefore, the differences in the meaning of the marks also weighs in favor of no likelihood of confusion amongst consumers. *See In re Wasser Serial*, No. 87487916 (TTAB June 7, 2019) (finding FRANCIEPANTS for clothing not confusingly similar to FRANCY for clothing where meaning of FRANCIE/FRANCY component was different).

B.  The Degree of Care Exercised by Consumers of The Applicant's Goods and the Goods Offered by Registrant is Heightened

Given the commercial reality of the goods at issue, it is not just unlikely, but almost inconceivable that the respective relevant consumers would mistakenly believe that the parties' goods originate from the same source or that a connection or sponsorship exists when faced with the Cited Mark versus Applicant's Mark.

Applicant's Goods are plumbing supplies without monitors or visual displays.  The Cited Goods include a patented video streaming technology that includes sensors, Bluetooth, infrared, microphones, speakers, wi-fi and RFID, all geared to track and market products to a user of the product.  The Cited Goods provide analytical tracking and notifications, sales and rewards through the products in an intelligent washroom.

In determining whether the parties' goods are so related that a likelihood of confusion will result from registration, the practicalities of the commercial world should be guiding.  Consumers seeking to utilize the Applicant's Goods and the Cited Mark's goods exercise great care when choosing a desired product for a specific bathroom.  Consumers of Applicant's Goods are generally contractors and the public seeking certain vanity colors and tiles that take great care in choosing the right plumbing supplies.  In contrast, consumers seeking the products offered under the Cited Mark likely target commercial establishments with heavy foot traffic.  The Cited Goods are chosen specifically to provide a marketing tool in front of the bathroom user.  Therefore, the level of care necessary here obviates any potential for a likelihood of confusion. *See, e.g., In re NA.D., Inc.*, 754 F.2d 996, 999-1000, 224 U.S.P.Q. 969,971 (Fed. Cir. 1985) (no likelihood of confusion between NARCO and NARKOMED because only sophisticated purchasers exercising great care would purchase the relevant goods).

For all the foregoing reasons, Applicant respectfully requests that the Examining Attorney find that VODOX when used in connection with the Applicant's Goods is not likely to cause consumer confusion with the Cited Mark and pass the Application to publication.
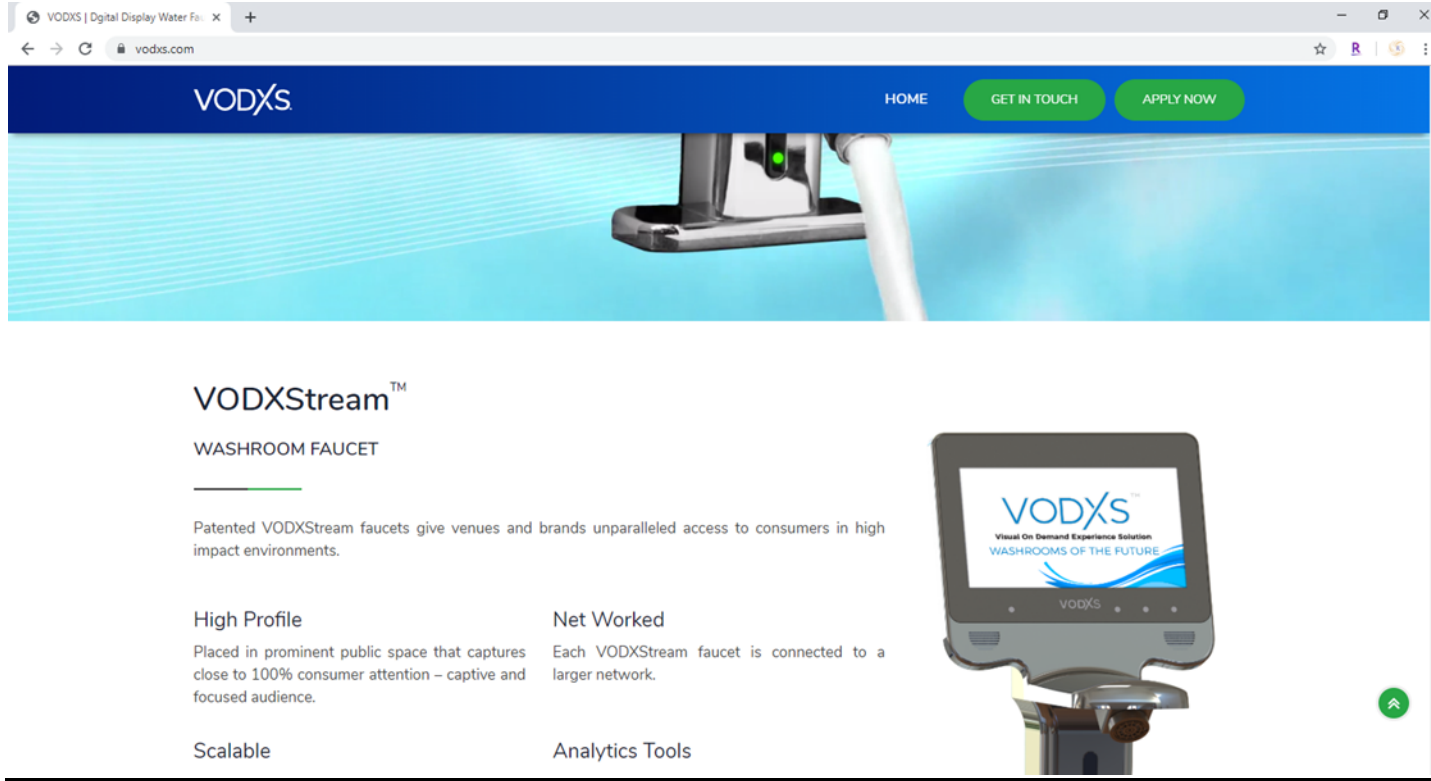
If any unresolved issues still remain, the Examining Attorney is respectfully requested to telephone the undersigned to resolve said issues.

Respectfully submitted,
Attorney for Applicant

By: /scottsisun/
Scott Sisun

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# Exhibit A

# Exhibit B

A Visual IVR extends the capabilities of a normal IVR by transforming it into a collaborative voice and visual on-demand web-based application for smartphones.

Without having to download an application or client, or require the user to register in some app store, a customer using a smartphone is offered the option to initiate a Visual IVR session. The Visual IVR approach no longer limits the customer to "dial pad only" interactions. With their smartphone screen, using a web-based interface synchronized with the IVR voice session, the customer now has access to an array of dynamic and interactive capabilities.

The Visual IVR session allows faster user navigation by simultaneously showing multiple options to the customer; it can also incorporate capabilities like:

# Exhibit C

# iPhone XS

From Wikipedia, the free encyclopedia
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**iPhone XS**
**iPhone XS Max**

Gold iPhone XS

| | |
|---|---|
| **Brand** | Apple Inc. |
| **Manufacturer** | Foxconn[1] (on contract) |
| **Slogan** | *Welcome to the big screens.* |
| **Generation** | 12th |
| **Model** | **XS:** A1920 A2097 |

| | |
|---|---|
| | A2098 (sold in Japan) |
| | A2100 (sold in China) |
| | **XS Max:** |
| | A1921 |
| | A2101 |
| | A2102 (sold in Japan) |
| | A2104 (sold in China) |
| **Compatible networks** | GSM, CDMA2000, EV-DO, HSPA+, LTE, LTE Advanced |
| **First released** | September 21, 2018; 13 months ago |
| **Availability by region** | **September 21, 2018**[show] |
| | **September 28, 2018**[show] |
| | **October 18, 2018**[show] |
| | **October 26, 2018**[show] |
| | **November 2, 2018**[show] |
| | **November 9, 2018**[show] |
| | **December 14, 2018**[show] |
| **Discontinued** | September 10, 2019; 44 days ago |
| **Predecessor** | iPhone X  iPhone 8 / iPhone 8 Plus |
| **Successor** | iPhone 11 Pro / iPhone 11 Pro Max |
| **Related** | iPhone XR |
| **Type** | **XS:** Smartphone  **XS Max:** Phablet |

| | |
|---|---|
| **Form factor** | Slate |
| **Dimensions** | **XS:**<br>H: 143.6 mm (5.65 in)<br>W: 70.9 mm (2.79 in)<br>D: 7.7 mm (0.30 in)<br>**XS Max:**<br>H: 157.5 mm (6.20 in)<br>W: 77.4 mm (3.05 in)<br>D: 7.7 mm (0.30 in) |
| **Mass** | **XS:** 177 g (6.2 oz)<br>**XS Max:** 208 g (7.3 oz) |
| **Operating system** | **Original:** iOS 12.0<br>**Current:** iOS 13.1.3, released October 15, 2019 |
| **System on chip** | Apple A12 Bionic |
| **CPU** | hexa-core (2.49 GHz Dual core Vortex, 1.52 GHz Quad core Tempest) |
| **Modem** | Intel PMB9955 (XMM7560[a]) |
| **Memory** | 4 GB LPDDR4X[7] |
| **Storage** | 64, 256 or 512 GB |
| **Removable storage** | None |
| **Battery** | **XS:** 3.81 V 10.13 W·h (2658 mA·h) Li-ion |

| | |
|---|---|
| | **XS Max:** 3.80 V 12.08 W·h (3174 mA·h) Li-ion |
| **Display** | **XS:** 5.8 in (150 mm), 2436×1125 px<br>**XS Max:** 6.5 in (170 mm), 2688×1242 px<br>**All models:** 458 [ppi](#), [Super Retina](#): Custom-built [OLED](#) HDR, true blacks, wide color gamut, 625 cd/m² max. brightness (typical), with dual-ion exchange-strengthened glass and [3D Touch](#) |
| **Rear [camera](#)** | 12 MP (1.4 μm) (1/2.55") Sony Exmor IMX333-Inspired, quad-LED flash, $f$/1.8 aperture, Optical image stabilization (both wide-angle & telephoto) quad-LED flash, autofocus, IR filter, Burst mode, 6-element lens, 4K video recording at 30 or 60 FPS or 1080p at 30 or 60 FPS, Slow-motion video (1080p at 120 FPS or 240 FPS), Time-lapse with stabilization, Panorama (up to 63 megapixels), Portrait Mode, Portrait Lighting, Facial recognition, Digital image stabilization, Dual Optical image stabilization, Stereo audio recording |
| **[Front camera](#)** | 7 MP, f/2.2 aperture, burst mode, exposure control, face detection, auto-HDR, auto image stabilization, Retina flash, 1080p HD video recording<br><br>Portrait Mode, Portrait Lighting, and Animoji |

| | |
|---|---|
| | (Same as iPhone X, XR) |
| **Sound** | Stereo speakers |
| **Other** | [FaceTime](#) audio- or video-calling, [IP68](#) IEC standard 60529 (splash, water, and dust resistant), [Qi](#) wireless charging, [USB-C](#) to [Lightning (connector)](#) fast charging |
| **[Hearing aid compatibility](#)** | M3, T4[8] |
| **Website** | [iPhone XS - Apple](#) at the [Wayback Machine](#) (archived September 9, 2019) |

This article is part of [a series](#) on the

# iPhone

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- [SE](#)

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- [7 / 7+](#)
- [8 / 8+](#)

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The **iPhone XS** and **iPhone XS Max** (stylized and marketed as **iPhone Xs** and **iPhone Xs Max**; Roman numeral "X" pronounced "ten")[9][10] are smartphones designed, developed and marketed by Apple Inc. They are the twelfth-generation flagships of the iPhone, succeeding the iPhone X.[11] Apple CEO Tim Cook announced the devices alongside a lower-end model, the iPhone XR, on September 12, 2018, at the Steve Jobs Theater at Apple Park. Pre-orders began on September 14, 2018, and went on sale on September 21.[12]

The XS Max is the first plus-sized iPhone in the new bezel-less form factor, as the iPhone X did not have a larger variant. On release the XS and XS Max had starting prices of $999/$1099 in the US, £999/£1099 in the UK, €1149/€1249 in Europe, RMB8699/RMB9599 in China and ₹99900/₹109900 in India. The iPhone XS (and XS Max) was discontinued on September 10, 2019, after the announcement of the iPhone 11 and 11 Pro.

## Contents

## Design[edit]

The XS has a design visually near-identical to the X but includes upgraded hardware, featuring the A12 Bionic chip built with a 7 nanometer process.[13] It also features a 5.85-inch (149 mm) OLED display and contains dual 12-megapixel rear cameras and one 7-megapixel front-facing camera. The XS Max features the same hardware and cameras, but has a larger 6.46-inch (164 mm) OLED display and battery (3,174mAh).[14] It was also noted by the media that the XS received a smaller battery than that of the X (dropping to 2,658 mAh from 2,716 mAh).[15] The XS' battery is a new single-cell L-shaped battery, while the iPhone XS Max battery remains two cells like the iPhone X.[16] Additionally, Apple states that iPhone XS lasts up to 30 minutes longer than iPhone X, while iPhone XS Max lasts up to 1.5 hours longer than iPhone X.[17]

Apple claims that the devices have faster Face ID technology.[18] It was also announced in June 2019 at WWDC that Face ID on iPhone XS, iPhone XS Max, iPhone XR and iPhone X would be made up to 30% faster with iOS 13, which was released on September 19, 2019.[19]

The XS and XS Max are rated IP68 for dust and water resistance under IEC standard 60529, with Apple specifying a maximum depth of 2 meters and up to 30 minutes of submersion in water.[20] This is an improvement over the IP67 water resistance of the iPhone 8 and X.[21] Apple has performed tests in various liquids including chlorinated water, salt water, tea, wine, beer and juices.[22]

Unlike the XR, both iPhone XS devices have optical zoom.[23]

The XS and XS Max support dual SIMs through a nano-SIM and an eSIM. In mainland China, Hong Kong, and Macau, however, the XS Max comes with a dual nano-SIM tray (and no eSIM). The XS does not have a dual nano-SIM tray, so the eSIM functionality is enabled for use in Hong Kong and Macau, but not in mainland China.[24][25][26]

The wireless charging coil is now made of copper to reduce charging time and power loss.[27][28]

## Rear camera upgrades[edit]

iPhones, starting with the iPhone 6S and iPhone 6S Plus, iPhone SE, iPhone 7 and iPhone 7 Plus, iPhone 8 and iPhone 8 Plus, and iPhone X, have had their main camera: a 12MP (1/2.94") sensor size with a 1.22 µm pixel size.[29][30]

Starting with the iPhone 2018 lineup (iPhone XS, iPhone XS Max and iPhone XR), these iPhones have an updated 12MP (1/2.55") sensor size with a 1.4 µm pixel size,[31] the same sensor and pixel size as the primary cameras of the Samsung Galaxy S10,[32] Samsung Galaxy S9[33] Samsung Galaxy

S8 [34] Samsung Galaxy S7,[35] Pixel 2,[36] Pixel 3a and Pixel 3a XL,[37] Pixel 3 and Pixel 3 XL.[38] Moto X4 [39]

## Issues[edit]

### Charging issues[edit]

Users reported problems charging the iPhone XS and XS Max with a Lightning cable. The device failed to charge if it had been on for a while and would only begin to charge if the screen was turned off.[40] This would occur due to a software bug with Apple's "Disable USB accessories when locked" setting, a feature intended to prevent unknown devices from accessing a user's content within an iPhone. The press dubbed the issue "chargegate".[41][42][43][44][45] The issue was resolved with the release of iOS 12.0.1 on October 8, 2018.[46]

### Excessive smoothing in selfies[edit]

Customers have also reported seeing unrealistic smoothness on their skin when taking a selfie by an automatic filter.[47] Observers have noted that this face-smoothing effect is likely (and unintentionally) caused by the new Smart HDR camera feature on the XS and XS Max. This technology combines multiple photos of varying exposures to increase dynamic range on the iPhones' photos, but can also lead to less pronounced facial imperfections and decreased highlights in selfies. Some speculated this was the result of a hidden "beauty mode" (an actual feature in some smartphones) and dubbed the issue "Beautygate." There has been a general dispute in the community as to whether the camera actually "intends" to "perfect" faces or if they just appear that way as result of a better quality camera.[48]

Apple said that these results were due to the Smart HDR algorithm incorrectly selecting the blurrier long exposure as its base frame instead of the sharpest short exposure. The issue was resolved with the software release of iOS 12.1 on October 30, 2018.[49][50]

### Reception and connectivity issues[edit]

Some iPhone XS users have had issues with LTE, Wi-Fi reception and Bluetooth connection. A radio expert claims a faulty antenna is to blame.[51] Apple has contacted users for help with their investigation.[52] iOS 12.0.1 addresses an issue where Bluetooth could become unavailable.[53]

## Timeline of iPhone models[edit]
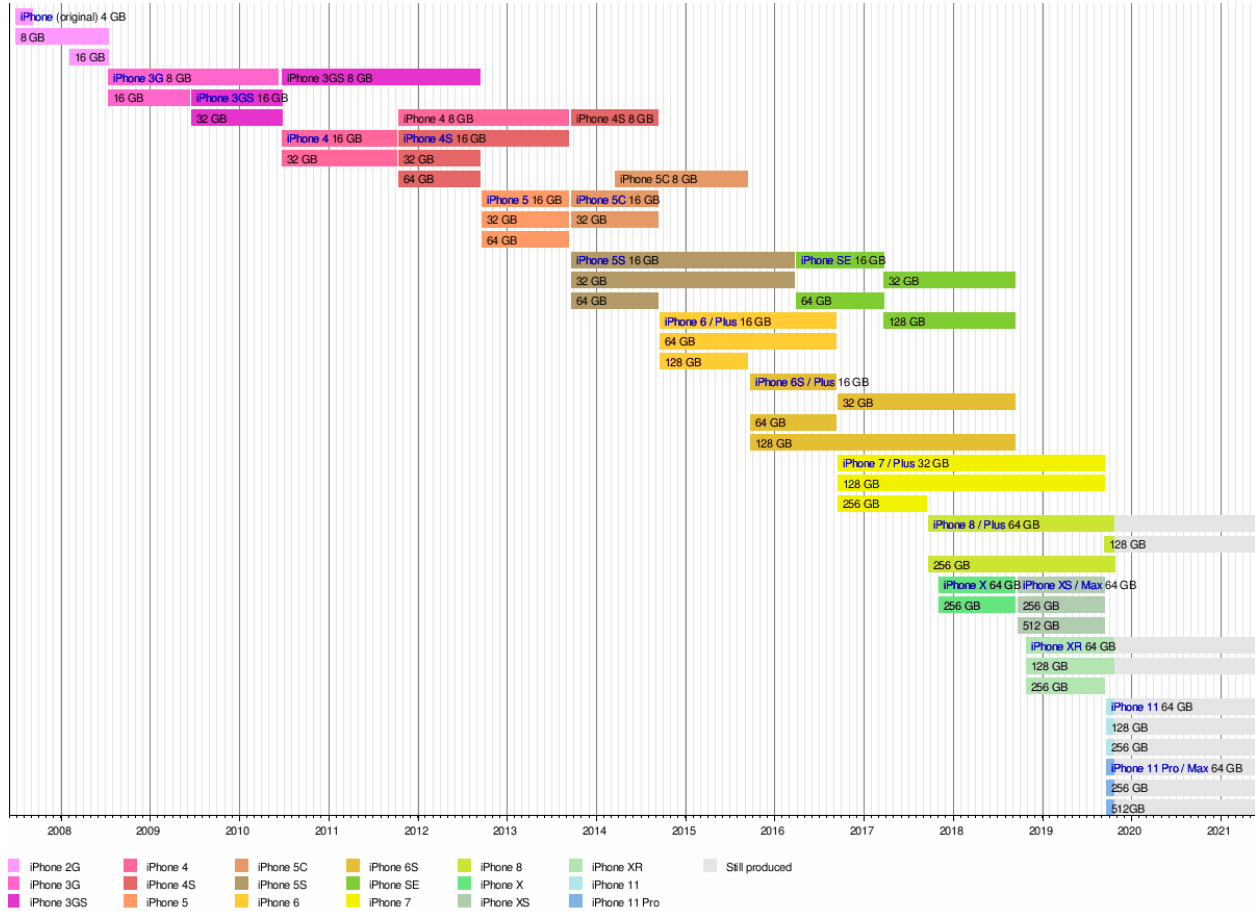
*Sources: Apple Newsroom Archive*[54]

# See also[edit]

- [Comparison of smartphones](#)
- [History of iPhone](#)
- [iPhone XR](#)
- [List of iOS devices](#)

# Notes[edit]

1. **^** The chip marked PMB9955 is believed by many sources to be an XMM7560.[2][3][4][5][6]

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3. **^** *"iPhone XS Max Review – The New Way of Life - Compare Phones". Compare Phones.*

4. **^** *Daniel Yang & Stacy Wegner. "Apple iPhone XS Teardown". www.techinsights.com.*

5. **^** *Abazovic, Fuad. "iPhone XS has Intel modem inside".*

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12. **^** *Hern, Alex (September 12, 2018). "Apple launches iPhone XS, XS Max and XR – as it happened". The Guardian. Retrieved September 12, 2018.*

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17. **^** *"iPhone XS - Technical Specifications". Apple (United Kingdom). Retrieved August 1, 2019.*

18. **^** *Miller, Chance (September 12, 2018). "iPhone Xs & iPhone Xs Max feature faster Face ID performance, Apple claims". 9to5Mac. Retrieved November 18, 2018.*

19. **^** *"iOS 13 Preview - Features". Apple. Retrieved August 1, 2019.*

20. **^** *"iPhone XS - Technical Specifications". Apple. Retrieved September 20, 2018.*

21. **^** *Crook, Jordan. "Apple introduces the iPhone Xs and iPhone Xs Max". TechCrunch. Retrieved September 12, 2018.*

22. **^** *Hall, Zac (September 12, 2018). "iPhone Xs and iPhone Xs Max announced: 6.5-inch model, new gold finish, much more". 9to5Mac. Retrieved November 18, 2018. iPhone Xs and iPhone Xs Max are splash- and water-resistant rated IP68 and protect against everyday spills including coffee, tea and soda.*

23. **^** *Kelly, Gordon. "Apple iPhone XS Vs iPhone XR: What's The Difference?". Forbes.*

24. **^** *"iPhone XS - 技术规格". Apple (in Chinese). Retrieved September 16, 2018.*

25. **^** *"iPhone XS - Technical Specifications". Apple. Retrieved September 16, 2018.*

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27. **^** *Rossignol, Joe (August 20, 2018). "2018 iPhones May Feature Faster and More Efficient Wireless Charging With Switch to Copper Coil". MacRumors. Retrieved November 18, 2018.*

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42. ^ Belam, Martin (October 1, 2018). *"iPhone XS and XS Max: 'chargegate' sees some devices fail to charge"*. the Guardian.
43. ^ *"Apple has revealed a fix for its huge charging problem"*. The Independent.
44. ^ JAMES HETHERINGTON (October 1, 2018). *"Less than two weeks after launch, the iPhone XS and XS Max have a major problem"*. Newsweek.
45. ^ Antonio Villas. *"Some iPhone XS owners are reporting that their new iPhones have problems charging"*. Business Insider.
46. ^ *"Apple's iOS 12.0.1 update fixes slow reception, charging issues on iPhone XS"*. The Verge. Retrieved October 17, 2018.
47. ^ *"Some people are saying Apple's new iPhone selfie camera automatically smooths your skin in photos — and they're calling it 'beautygate'"*. Business Insider. Retrieved October 6, 2018.
48. ^ *"iPhone XS beauty-gate"*. cnet.
49. ^ Kelly, Gordon (October 23, 2018). *"Apple Quietly Admits To iPhone Selfie Issue"*. *Forbes*. Retrieved November 18, 2018.
50. ^ Patel, Nilay (October 23, 2018). *"Apple iPhone XR review: better than good enough"*. *The Verge*. *Archived* from the original on November 15, 2018. Retrieved November 18, 2018. Apple told me that the forthcoming iOS 12.1 update, currently in public beta, will address the issue of the front camera

*appearing to smooth out skin by picking a sharper base frame for Smart HDR, but I wasn't able to test it yet.*

51. **^** *Andrew J Shepherd.* *"[UPDATED] iPhone XS and XS Max mostly fail to impress in lab-tested RF power output".* *Retrieved January 28,2019.*
52. **^** *Clover, Juli.* *"Apple Looking Into LTE Connectivity Issues Affecting Some iPhone XS and XS Max Owners".* *www.macrumors.com. Retrieved January 28, 2019.*
53. **^** *"About iOS 12 Updates".* *Apple Support. Retrieved January 28,2019.*
54. **^** Apple Inc. (2007-2018). iPhone News - Newsroom Archive. Retrieved September 28, 2018.

# External links[edit]

Wikimedia Commons has media related to *iPhone XS* and *iPhone XS Max*.
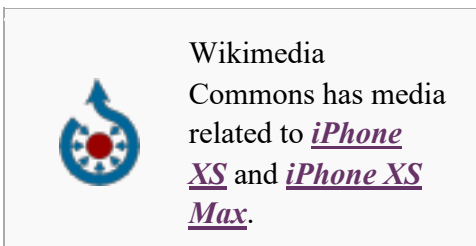
- iPhone XS – official site

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# Introducing…SAP HANA Extended Application Services (XS)

Posted by [Ronald Silberstein](#) on April 25, 2013

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You may have heard of SAP HANA being called a "platform", or described as a key part of the "Real-Time Data Platform" from SAP. However, for many, SAP HANA equates to a next generation database. Well, SAP HANA is actually all of those things and more. SAP HANA Extended Application Services (or, just **XS** for short) is a key aspect of SAP HANA as a platform.

XS is a small-footprint application server, web server, and basis for an application development platform – that lives *inside* SAP HANA. To be clear, XS is not a completely separate technology that happens to be installed on the same hardware server as SAP HANA; XS is actually an extension of, and tightly integrated into, the SAP HANA database. SAP began developing XS nearly three years ago, and there are several applications developed by SAP that are built on XS (one example, SAP Operational Process Intelligence). With the release of SAP HANA SP5, XS is available for customers and partners who wish to develop their own SAP HANA-based applications. In fact, SAP HANA Product Management and development are interested in feedback from your development experiences, which that can be used to inform our requirements management process.

The rationale for XS is mainly twofold: enable SAP HANA-based application development and deployment while minimizing architectural layers; and performance – tight integration with the SAP HANA DB ensures optimal performance. With XS, you have the ability to create applications that have an http-based end-user UI (e.g., browser, mobile apps), which run directly on SAP HANA, without additional external

servers or system landscape components. This simplified system architecture means low TCO, as complexity of administering or dealing with other heterogeneous components is eliminated. Furthermore, advantages such as efficient inter-process communication inside one overall system, same data types, etc. provide performance advantages that no other application server can match when SAP HANA is the DB.

SAP HANA even includes its own repository for content life-cycle management for all kinds of development artifacts and objects. The scope of applications that can be built using XS is pretty open: it is available for a wide range of application types, from lightweight small web-based applications to more complex enterprise applications. The following diagram describes the basic approach:
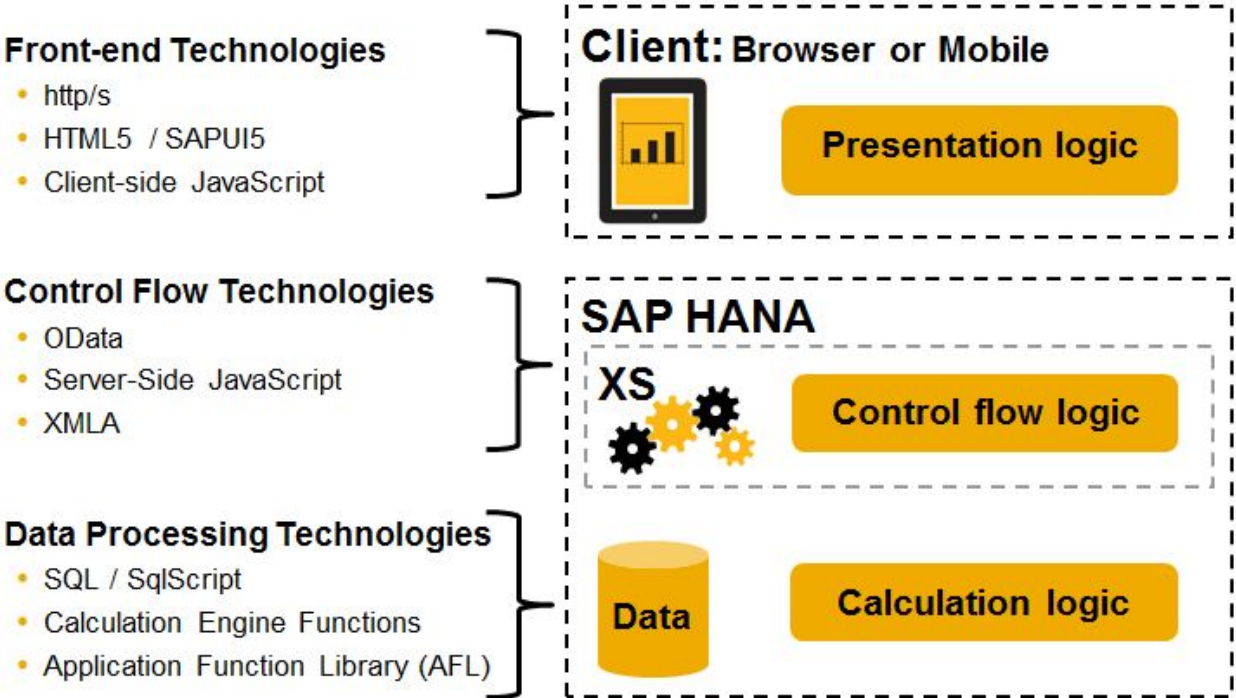


The programming model when working directly with XS dictates that applications are designed in the following manner: front-end processing should generally be delegated to the browser (or mobile device) using HTML5 and client-side JavaScript. By far the vast majority of application logic, business logic, calculations, or any data-intensive operations should be implemented using SQL, SqlScript, or Calculation Engine (CE) functions. This way, the "heavy lifting" of application processing is performed in the DB, close to the data, and where SAP HANA is optimized for performance.

This leaves a relatively modest role for the application server / web server part of the architecture (XS): mainly handling control flow logic, the "glue" that is necessary to tie together the user interface with back-end DB processing. The technologies available for this purpose are server-side JavaScript, OData (Open Data Protocol), or XMLA (eXtensible Markup Language for Analysis). Using the Developer Perspective of the SAP HANA Studio, all of the aforementioned technologies can be utilized to build custom SAP HANA-based applications of all kinds.

Anyone interested in knowing more, or digging deeper, will find [Tom Jung's blog](#) on this topic quite helpful. Additionally, the development guide for SAP HANA provides covers XS: [Help.sap.com/HANA_Appliance](#) > *Development Information* > *SAP HANA Developer Guide.*