

White paper September 2010

Sony Ericsson make.believe

# **Purpose of this document**

Sony Ericsson product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

# **Document history**

Version		
February 2010	First released version	Version 1
February 2010	Second released version	Revision 1
March 2010	Third released version	Revision 2
May 2010	Fourth released version	Revision 3
May 2010	Fith released version	Revision 4
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# **Sony Ericsson Developer World**

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# Product overview

### Xperia™ X10 mini – How're things?

In love? Insane? In Tokyo? Tell someone, with Xperia<sup>™</sup> X10 mini. A smart, compact phone with a unique touchscreen interface. Four icons of your choice in the corners of your home screen. Calls. Web. Music. YouTube<sup>™</sup>. Messages. Android<sup>™</sup> Market. Whatever you choose, it's there where you need it. Just a finger tip away.

#### No downtime, just life-time

Timescape™ shows you everything your friends are up to from Facebook™, messages and calls. In the home screen. And all in time order. No opening lots of applications, just all your mates in one place.

#### Hello infinite world

See all your favourite stars in cyberspace. Tap the infinite button in the music player and watch them shine on YouTube<sup>TM</sup>. Or maybe buy the tune on PlayNow<sup>TM</sup> service? Mix the music. Savour the sounds, and bury yourself in a blitz of your own tones.

#### **Get more**

Pop into the Android Market<sup>™</sup> and download apps for everything. Get the joke. Zoom around the universe, or record your race in real-time from a fitness app. Problem staying ahead of the field? No problem. Xperia<sup>™</sup> X10 mini gets you the latest updates direct.



# Facts – dimensions, weight, performance and networks

Operating system	Google™ Android™ 1.6 (Donut)	
Processor	600 MHz Qualcomm MSM7227	
Size	83 x 50 x 16 mm	
Weight	88 grams	
Available colours	Black Lime Red Pearl White Pink Silver	
Main screen		
Resolution	240x320 pixels (QVGA)	
Size (diagonal)	2.55 inches	
Scratch-resistant	Yes. (Front with minimum pencil hardness 4H.)	
Input mechanisms		
Touch screen	Capacitive (single touch)	
Text input	Quick text (Zi)	
Motion sensor	Accelerometer	
Memory	Memory	
Phone memory	Up to 128 MB	
Memory card support	microSD™, up to 16 GB	
Memory card included	2 GB	
Networks		
E10i	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900	
E10a	UMTS HSPA 850 (Band V), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900	
Data transfer speeds		
GSM GPRS	Up to 85.6 kbps	
GSM EDGE	Up to 236.8 kbps	
UMTS HSPA (upload)	Up to 2.0 Mbps (uplink, Cat 5)	
UMTS HSPA (download)	Up to 7.3 Mbps (downlink, Cat 8)	

Talk time (GSM)	Up to 4 hours
Standby time (GSM)	Up to 285 hours
Talk time (UMTS)	Up to 3 hours 30 min
Standby time (UMTS)	Up to 360 hours
Battery	950 mAh

### **Application overview list**

#### Sony Ericsson signature applications

Sony Ericsson Timescape $^{\text{TM}}$ 

Sony Ericsson Home application

Sony Ericsson Music player

Sony Ericsson Album application

Sony Ericsson FM radio

#### **Sony Ericsson services**

PlayNow<sup>™</sup> service\*\* TrackID<sup>™</sup> application Sony Ericsson Sync

#### **Google services**

Android Market™\*

Google Mail™

Google Calendar™

Google Maps™ with Street View

Google Media Uploader

Google Phone-top Search

Google Search widget

Google Talk™

Google Voice™ Search\*\*

YouTube™

#### **Games**

Edge

Peggle

#### Other applications

Facebook<sup>™</sup> application
Wisepilot<sup>™</sup> turn-by-turn navigation (free trial version)\*\*
Exchange ActiveSync® support with Dataviz<sup>™</sup> RoadSync<sup>™</sup>

<sup>\*</sup> Applications in the Android Market™ varies widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications are selected, is about 1 MB. This mean that on average, more than 100 applications can be downloaded and used without problems. With the ready availability of Android Market™ in the phone, it is also very easy to delete and later reinstall infrequently used applications.

<sup>\*\*</sup> The service is not available in all markets.

#### **Full feature list**

#### 1. Signature features

#### Sony Ericsson Timescape™

#### The place to meet your friends

The Timescape<sup>™</sup> application manages all your communication with one person in one place. Browse through your conversations the bright way to check out your Facebook<sup>™</sup> and your texts. Now they're all kept together so you don't have to open different applications to see what's going on.

#### Infinite button

#### Everything you want - from everywhere

Find out all about your friends in a flash. Press the infinite button in the phone book and smart filter everything that's going on with each person. In the Sony Ericsson Music player, the infinite button lets you explore more information about your favourite celebrities and artists.

#### **Sony Ericsson Sync**

#### Make your mobile life available on the web

Synchronise your phone data with Sony Ericsson Sync. Match your phone contacts with your contacts on Facebook<sup>™</sup>. All your synchronised phone data is right at your fingertips – in your account on www.sonyericsson.com.

#### **Sony Ericsson Home**

#### Your home screen - just like home

Where's best for you? Email top right? Music player bottom left? You decide. Put your favourites in thumb's reach. Use the unique touchscreen interface to drag 'n drop the icons into the corners of your home screen. Messages. Calls. Web. Music. YouTube™. Your favourite apps from Android Market™ or the PlayNow™ service\*. What you want, where you want.





<sup>\*</sup>The service is not available in all markets.

#### 2. Categorised features



#### **Camera**

5 megapixel camera Auto focus Geo tagging Photo and video light Photo flash (LED) Sony Ericsson Album application Video recording



#### Music

Album art
Bluetooth<sup>™</sup> stereo (A2DP)
Music player
Music tones (MP3/AAC)
PlayNow<sup>™</sup> application
TrackID<sup>™</sup> application



#### Web

Bookmarks
Pan & zoom
WebKit web browser
HTML 4.01
XHTML 1.1



#### Communication

Call list
Facebook™ application
Polyphonic ringtones
Sony Ericsson Timescape™
Speakerphone
Vibrating alert
Wisepilot™ turn-by-turn
navigation\* (free trial version)



#### Messaging

Conversations
Email
Instant messaging
Microsoft® Exchange ActiveSync®
Picture messaging (MMS)
Predictive text input
Text messaging (SMS)



#### **Design**

Auto rotate Picture wallpaper Touchscreen



#### **Entertainment**

3D games FM radio with RDS Infinite button Video streaming Video player



#### Organiser Alarm clock

Calculator
Calendar
Flight mode
Notes
Phonebook with dialer
Sony Ericsson Home with digital
clock widget
Stopwatch
Tasks



#### **Connectivity**

3.5 mm audio jack A-GPS Bluetooth™ technology Micro USB connecto NeoReader® barcode scanning app Sony Ericsson Sync USB mass storage USB support Wi-Fi™ (802.11 b/g)

Timer

<sup>\*</sup>The Wisepilot™ service may not be available in every market. For more information, go to www.sonyericsson.wisepilot.com

### 3. Google services



#### Google

Android Market™
Google Mail™
Google Calendar™
Google Latitude™
Google Maps™ with Street View
Google Media Uploader
Google Phone-top Search
Google Search widget
Google™ Sync
Google Talk™
Google Voice Search\*
Set-up Wizard
YouTube™

<sup>\*</sup> The service is not available in all markets.

# Technologies in detail

\*NOTE: The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Ericsson Developer World or your Sony Ericsson contact person where applicable.

## **Device-to-device communications (local)**

### Bluetooth™ wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile Audio/Video Remote Control Profile Generic Access Profile Handsfree Profile Headset Profile
Core version and supported core features	v2.0+EDR
Connectable devices	All products supporting at least Bluetooth spec. 1.2 and at least one of the profiles above

More information:

www.sonyericsson.com/developer

www.bluetooth.com

#### Wi-Fi™

Wi-Fi<sup>TM</sup> is a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. Wi-Fi hotspots exist in an increasing number of locations, for example, airports, hotels, cafés and bistros. Mobile phones that support Wi-Fi can facilitate high data transfer rates and lower calling costs.

Supported standards	Wi-Fi <sup>™</sup> certified. When applicable, 802.11g is prioritized over 802.11b.
Connectable devices	Wi-Fi™ access points
Frequency band	2.4 GHz
Data transmission rate	54 Mbps
Security	Open Open WEP Shared WEP WPA Personal and WPA2 Personal
Encryption	TKIP and AES
Power save	WMM-UAPSD QoS, WMM

## Messaging

### **MMS (Multimedia Messaging Service)**

MMS 1.0 is supported.

#### **Email**

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	USASCII UTF-8 UTF-16 ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO-2022-JP Japanese Shift_JIS Japanese BIG5 Traditional Chinese GB2312 Simplified Chinese KOI8-R Cyrillic Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and START-TLS
HTML mail	Yes (read only)

#### More information:

www.sonyericsson.com/developer

www.openmobilealliance.org

# **Positioning – location based services**

Supported standards:

OMA Secure User Plane Location (SUPL) v1.0

3GPP™ Control Plane location (incl. Emergency location)

# Multimedia

### **Audio & Video**

Audio Playback	Decoder format Audio decoding MPEG-1/2/2.5, audio layer 3 AAC, AAC+, eAAC+ AMR-NB  General MIDI (GM) GML SP-MIDI DLS (Mobile DLS supported) Linear PCM iMelody RTTTL/RTX OTA Ogg vorbis	Supported in file format MP3 (.mp3) 3GPP (.3gp); MP4 (.mp4, .m4a) 3GPP (.3gp); AMR (.amr) 3GPP (.3gp); AMR (.amr)  SMF (.mid) SMF (.mid) SMF (.mid); XMF (.xmf, .mxmf) XMF (.xmf) WAV (.wav) iMelody (.imy) RTTTL/RTX (.rtttl, .rtx) OTA (.ota) Ogg vorbis (.ogg)  Note: All listed audio file formats are supported ringtone file formats
Video Playback	Decoder format MPEG-4 Visual Simple Profile H.264 Baseline Profile H.263 Profile 0	Supported in file format 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp)
Audio/Video Streaming	Streaming transport	RTSP according to 3GPP™
Video encoding	Encoder format MPEG-4 Visual Simple Profile AMR-NB	Supported in file format MP4 (.mp4)
Audio encoding	Encoder format AMR-NB	Supported in file format AMR-NB (.amr)
DRM	DRM (Digital Rights Management) — features the rights and copy protection of downloaded content.	OMA DRM 1.0

# **Synchronisation (OMA DS)**

OMA Data Synchronisation protocol versions 1.1.2 and 1.2.

OMA Data Formats: vCard 2.1, vCalendar 1.0.

Related information:

www.sonyericsson.com/developer

### Web browser

Browser version	Android 1.6 Browser (WebKit version AppleWebKit/528.5+)
Navigation/rendering	Pan & Zoom* Landscape/portrait rendering* Full page PC rendering*  * Adobe™ Flash™ is not supported.
Search	Internet Search
Browser compliancy	HTML version. 4.01 HTML version. 5.0 (Canvas) XHTML Basic version 1.0 XHTML 1.1 CSS 2.1 ECMA-script 262 3rd edition JavaScript 1.7 HTTPXMLRequest AJAX DOM 2.0
Protocol compliancy	HTTP/1.1 TLS 1.0 and SSL 3.0 Gzip

Related information:

www.sonyericsson.com/developer

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