

NOKIA
Connecting People

Nokia Point & Find
VAR Training Manual
and Reference Guide



Nokia Point & Find VAR Training Manual and Reference Guide

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Welcome & Introduction: Nokia Vision and Commitment

Welcome & Introduction:

Nokia Vision and Commitment



Nokia Welcome from CEO Olli-Pekka Kallasvuo

There are more than six billion of us on this planet. We are all different and we value many different things in life. To some people, what matters is staying in touch and sharing experiences; others want to provide for their families and get ahead in their careers; some just want to have fun and live for the moment. More often than not, what matters to you is a unique combination of all of these.

At Nokia we increasingly see mobile communications helping everyone connect to the things that matter most in their lives. And because that's important in itself, that means being connected any time and in any place.

Connecting people in new and exciting ways means giving everyone the power to choose when and how to stay in touch with those important things, so that they can make the most out of every moment. The majority of the people on this planet already have a mobile device, but we are entering an age where soon a whole world of smart services will be a part of each person's life.

So imagine an entire planet where people, places and information are seamlessly connected; where communications devices and services are such an integral and indispensable part of our lives, they really do become second nature.

This is how we see the world and the role of communications in making it happen. On the following pages we hope you'll get some idea of how Nokia is making this come to life.

Olli-Pekka Kallasvuo
Nokia CEO

Nokia is the global leader in mobile devices

Nokia is the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries.

On a global scale, Nokia dominates the mobile device market with 39% market share in 2008. Nokia is one of the top global brands in the world—ranked the fifth best brand in the world by Interbrand in 2008, for the second consecutive year—with market leadership in many important international markets. More than one billion people place their trust in Nokia devices and services each and every day.

Nokia is committed to lead in mobile Internet services

Nokia is about enhancing communication and exploring new ways to exchange information. Nokia's strategy is to build trusted consumer relationships by offering compelling and valued consumer solutions that combine beautiful devices with context enriched services for music, games, messaging, maps, next-gen search, interactive experiences, and mobile marketing solutions.

Nokia in brief

Nokia is the world's number one manufacturer of mobile devices by market share and a leader in the converging Internet and communications industries. Nokia also provides comprehensive digital map information through NAVTEQ, and sells equipment, solutions and services for communications networks through Nokia Siemens Networks.

2008 Nokia facts and figures

- Head office in Finland; R&D, production, sales, marketing activities around the world
- World's #1 manufacturer of mobile devices, with estimated 39% share of global device market in 2008
- Mobile device volume 468 million units
- Net sales EUR 50.7 billion
- Operating profit EUR 5.0 billion
- Strong R&D presence in 16 countries
- R&D investment EUR 6.0 billion
- Sales in more than 150 countries



The Nokia Point & Find concept: Connect real life to the digital world

- Connect the physical and digital worlds
- Make real life objects interactive
- Connect physical objects to related digital content and services—in a manner that is easy and convenient for people on the go to access

Point Find

Real life physical objects *Related digital content and services*

Buildings Location-based Web info and content

Products Web-based transactions

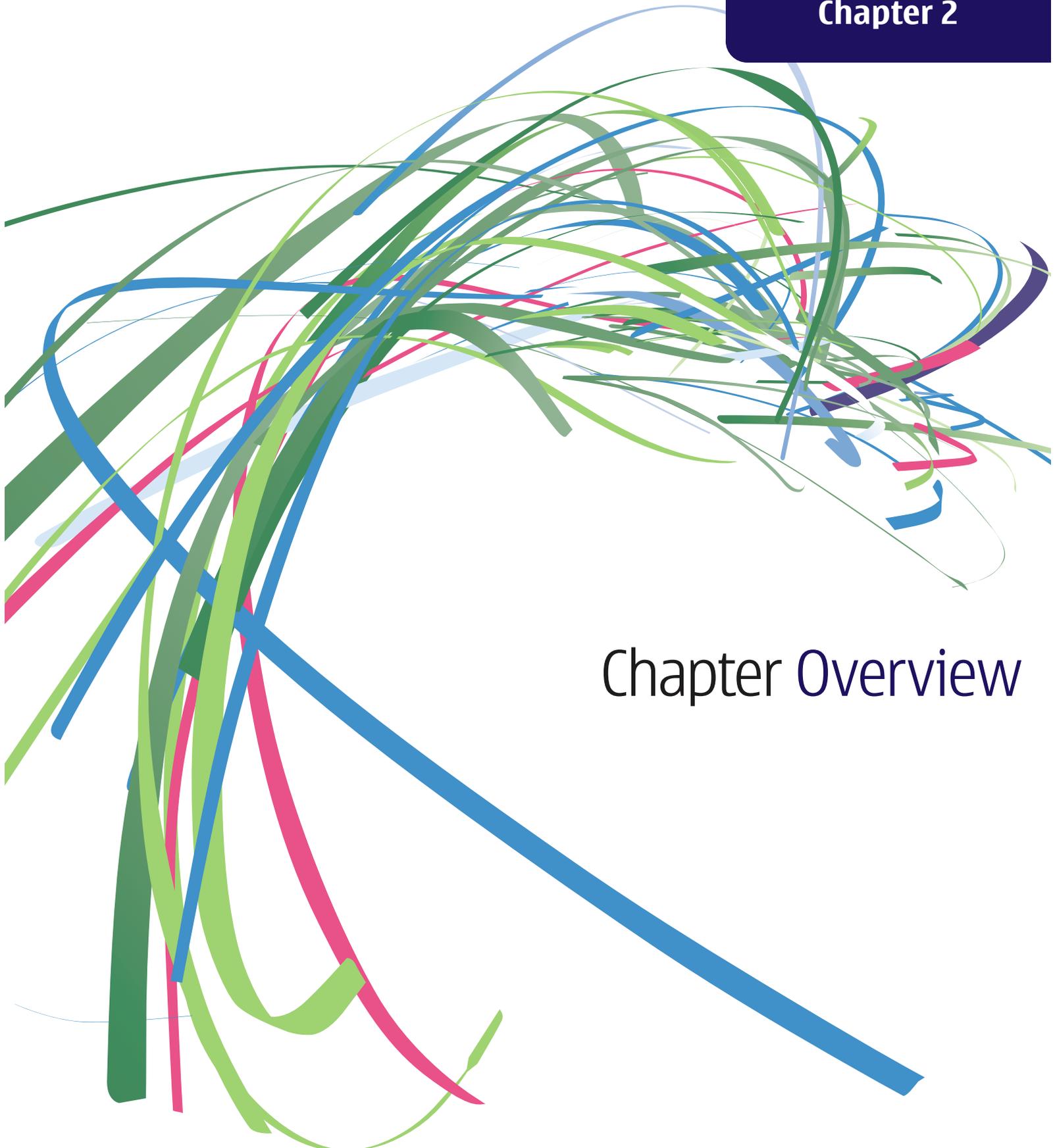
Logos SMS text and email messages

Billboards Initiating phone calls

Magazine Ads, Articles Streaming video and audio

Other LBS: Locations, maps and directions

The Nokia Point & Find **vision** is to become a next-gen services business that leads in mobile access to content, services, and transactions.



Chapter Overview

Chapter Overview



This Guide helps VARs develop and sell Nokia Point & Find services

This manual and guide book teaches VARs how to:

- Create, develop, and manage Nokia Point & Find services.
- Effectively talk about, understand, and sell Nokia Point & Find services.

Nokia Point & Find Training Manual and Reference Guide—for VARs

The Nokia Point & Find VAR Training Manual and Reference Guide is designed primarily for use as a stand-alone training manual and reference book, developed for VARs involved in the sales and development of Nokia Point & Find services.

Chapter briefs

1. Welcome and Introduction

Includes a letter from Nokia CEO Olli-Pekka Kallasvuo on the Nokia vision; a brief intro to Nokia as a global company/brand; and a description of the Nokia Point & Find concept and vision.

2. Chapter Overview

Provides a content overview and a brief on each chapter.

3. The Nokia Point & Find Story

Provides an overview of the Nokia Point & Find concept and service, along with the big-picture market opportunity in mobile Internet services; additional background and market context for the Nokia Point & Find service; essential terms and concepts; and detailed examples of the solutions and services made possible by Nokia Point & Find.

4. Using the Nokia Point & Find Client App

Provides detailed instructions on how people use the Nokia Point & Find client application, including detailed info on the client application's user interface, functions, controls, and options.

5. Intro to Creating Nokia Point & Find Worlds

Provides an introduction and overview of the Nokia Point & Find development process and the two, easy-to-use development tools, the Nokia Point & Find Management Portal, and the Nokia Point & Find client application.

6. Publishing Worlds with the Management Portal

(Publisher's Manual) Provides detailed information on how to use the Nokia Point & Find Management Portal to create, manage, and customize Nokia Point & Find services.

7. Tagging Objects with the Nokia Point & Find Client Application

(Publisher's Manual) Explains how to use the Nokia Point & Find client application to tag the objects of your world.

How to use this manual

For most VARs new to Nokia Point & Find, this manual is designed to be followed in a sequential manner, starting with chapter 1 and proceeding through to chapter 7.

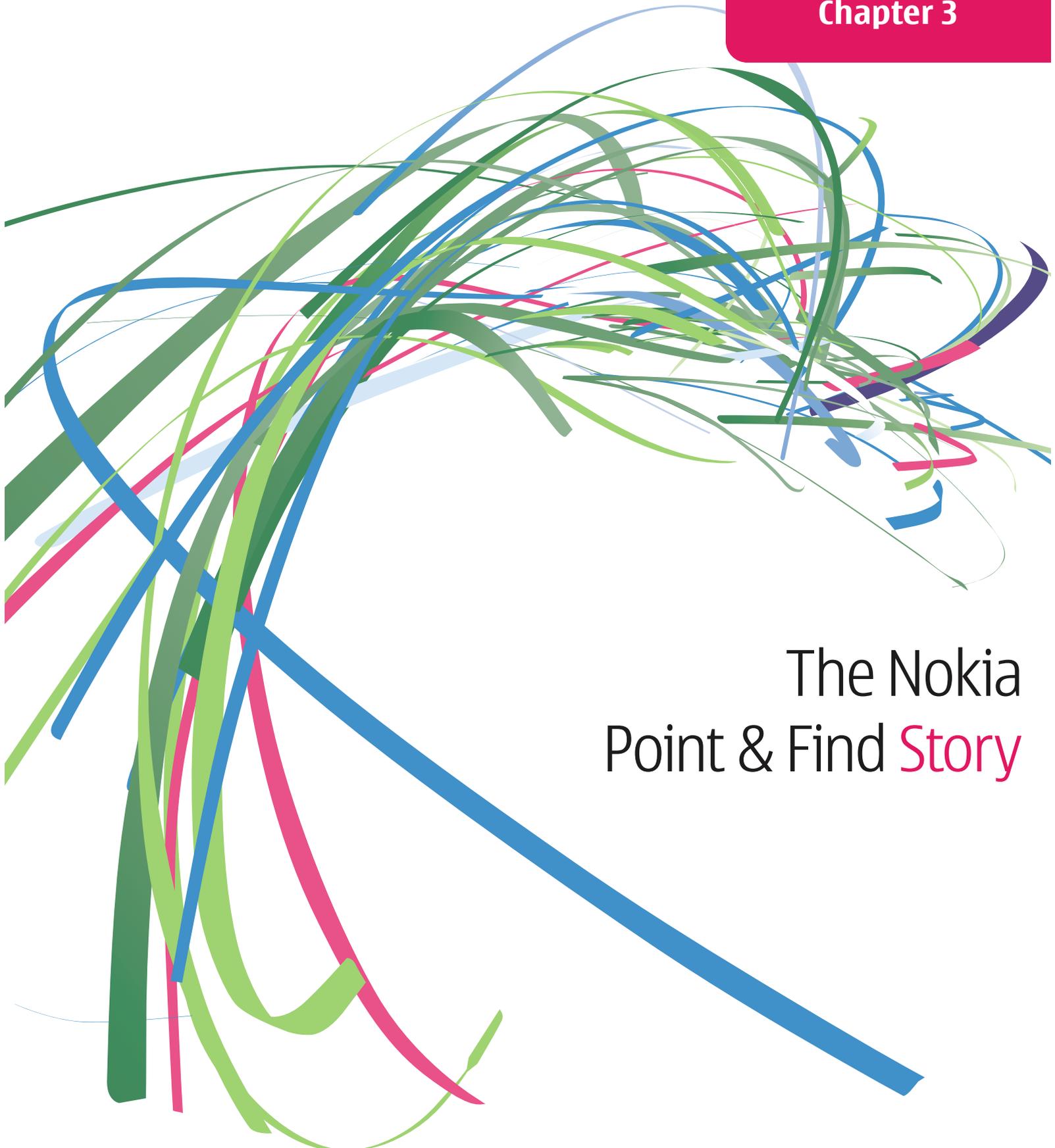
Chapters 1, 2 and 3 (Welcome, Chapter Overview, and the Nokia Point & Find Story) will provide you with an understanding of the big picture of Nokia Point & Find before you learn how to develop a full Nokia Point & Find experience.

With **Chapter 4** (Using the Nokia Point & Find Client App), you need a Nokia Point & Find capable mobile device to work with; let this manual be your guide as you use the mobile device to experience first hand the Nokia Point & Find client application, including its functions and user process; download, install, and use the client application, and become familiar with its interface and options.

Chapter 5 (Intro to Creating Nokia Point & Find “Worlds”) provides an overview of the Nokia Point & Find development process; and an introduction to the two development tools, the Nokia Point & Find Management Portal, and the Nokia Point & Find client application.

Chapter 6 (Publishing Worlds with the Management Portal) is intended for study while sitting at an Internet-connected PC and working with the online Management Portal; this chapter is a manual for using the Management Portal to build Nokia Point & Find “worlds” (experiences).

Chapter 7 (Tagging Objects with the Nokia Point & Find Client Application) is intended for study while using the client app on a mobile device and provides detailed instructions on how to “tag” objects using the Nokia Point & Find client application.



The Nokia
Point & Find **Story**

The Nokia Point & Find Story



Mobile discovery on demand

Nokia Point & Find is a new mobile information service and mobile marketing solution.

With Nokia Point & Find, people on the go use their internet-enabled camera phones to easily find and conveniently connect to sought-after digital content.

Easy, intuitive, on the spot mobile services

With object recognition mode, people simply point their phones at real life objects and quickly find relevant information and services.

For example:

- A man on the street points his camera phone at a movie poster and immediately is presented with one-click access to local show times, reviews, and trailers. He can even purchase tickets with just a few clicks.



1. Point

Users point their phone at real life objects like this movie poster.

2. Find

Users find what they are looking for, like local showtimes, reviews and trailers. Relevant and useful content is delivered to their phones quickly and simply.



- A visitor to a museum points their phone at an object on display and quickly accesses related multimedia content – such as a video or audio interview with the artist or a critic – as well as invitations to special events, and information on related art in the museum and elsewhere in the city.
- A child at home (or at a friend’s house, or in a store) points their phone at a favorite toy and can instantly enter related contests, download coupons, send SMS text or email messages with product info to friends, and browse and purchase related products.
- A man in a department store points his phone at the barcodes on products and finds product details, availability, discounts and promotions, price comparisons, and info on matching accessories.
- A woman on the go in the city points her phone at a cool new car and instantly discovers the car’s make, finds the closest dealership, and schedules a test drive.

Nokia Point & Find connects people on the go to what they’re looking for exactly when and where they want, using their trusted mobile devices—delivering compelling new mobile interactive experiences and instant gratification to consumers.

Nokia Point & Find

In the know,
when you’re **on the go**

The big picture on the mobile information services market

Mobile is poised for another phase of substantial growth:

- Mobile subscriptions continue to experience aggressive growth.
- The demand for mobile broadband is expanding exponentially.
- Consumer depth of engagement for on-line mobile is growing.
- The mobile audience has proven highly responsive to ads.
- Mobile advertising extends marketing and advertising reach to unique new audiences.

Custom interactive experiences

Each of the scenarios on the left is an example of what we call “custom interactive experiences” – see “Essential terms and concepts,” page 3.6.



Delivering relevant info and services at the point of discovery

Consumers are demanding next-generation content and services delivered via their mobile devices, so they can access whatever they want, wherever they may be. Developments in interactive technology have disrupted and revolutionized how consumers are engaging with digital content and services.

Consumers are increasingly looking for more control, influence, and **access** to when, where, and how they are informed, entertained, and connected.

What will become “the Google of mobile”?

Who will lead in mobile information and services access? What technologies and companies will come to dominate this critical field? The market opportunity is huge and the rewards for the winners promise to be extremely lucrative.

As Google has become the leader in standard PC web search, the goal of Nokia Point & Find is nothing less than to lead in mobile access to information, content, transactions, and services.

A Nokia Point & Find scenario



Nokia City Guide and Body Worlds Promo World

A couple arriving in London for a visit have the Nokia Point & Find application installed on their mobile device.

On the first morning of their visit, the couple walks down the street and they see a billboard for the Body Worlds exhibit, *The Original Exhibition of Real Human Bodies*, at London's cool O₂ bubble venue. With the Nokia Point & Find app running, they select and load the **Body Worlds Show**

Nokia Point & Find “world” onto their device, which downloads in seconds; they then point their camera phone at the billboard and—without even one click—they are instantly presented with:

Body Worlds Show at O₂ bubble

- *Buy Discount Tickets*
- *Watch Body Worlds video trailer*
- *Read Show Reviews*
- *See Map and Directions*
- *Explore Similar Events*

And then—with just a few clicks—they watch the video trailer, read a review, and purchase tickets to the show for that night.

In the afternoon, while enjoying a walk about town, they open the Nokia Point & Find app on their phone and select **City Guide** as a Nokia Point & Find world to explore, which downloads to their device in seconds. The couple points the camera phone at an impressive building and Nokia Point & Find instantly identifies the historic site and presents a variety of related information and service options—each available with just a click or two:

The Royal Observatory

- *Basic Info and History*
- *Visiting Hours*
- *Tours and Attractions*
- *Map of the Grounds*
- *Planetarium Showtimes and Tickets*

The couple is fascinated to learn that the Greenwich Meridian Line that geographically divides East and West runs across the Observatory courtyard; this line is the Prime Meridian of the world with a longitude of 0°. They decide they’ll come back and take the Royal Observatory tour tomorrow.

Later the couple is deciding where to eat. They point their phones at the window fronts and entrances of nearby restaurants, and Nokia Point & Find identifies each restaurant and presents a rating, current reviews, menus (in a language of their choice) – plus an option to make reservations. With this valuable knowledge at their fingertips, the couple easily finds a suitable restaurant and enjoys a fine evening dining out.



Essential Nokia Point & Find terms and concepts



Nokia Point & Find worlds

A Nokia Point & Find **world** is a unique interactive experience designed to connect a set of select objects (or labels) with customized digital results.

The **World Carousel** is the menu of Nokia Point & Find worlds available on a Nokia Point & Find enabled mobile device.

Mobile users can access these interactive experiences (and receive information, content, and services) by choosing a world from the World Carousel, then simply pointing their camera phones at one of the objects defined in that world (with automatic object recognition), or by reading an object's barcode, or by navigating smart directories and using text-entry search, as well.

An **interactive experience** allows access to contextually relevant digital information, content and services via a mobile device. (See pages 3.2 and 3.3 for examples of interactive experiences.)

Users explore a **world** and access a world's interactive experiences (content and services) by:

- pointing their phone at objects (object recognition)
- scanning a barcode
- navigating smart directories
- searching via text-entry search

The Nokia Point & Find **Management Portal** is the tool used to develop and manage Nokia Point & Find worlds.

Objects (or Targets, when tagging)

Examples of **objects** include: a particular building, product, logo, billboard, movie poster, museum exhibit, car, toy, specific pages of a magazine, etc. When tagging objects (see below), the objects are sometimes referred to as **targets**.

Labels

Labels name and identify objects and images (for example: "red teapot"). Labels also name and refer to non-object information and results (for example: "about us").

Tags

Nokia Point & Find uses **tags** to identify the real-life objects of a world and to define the information and options users find when an object or label has been recognized or selected.

Nokia Point & Find tags:

- Identify the objects of a Nokia Point & Find world
- Define what information is presented to users when an object of a world is identified or selected (the digital content and services available as result options)
- Are created using the Nokia Point & Find client application on an enabled mobile device
- Are managed with the Nokia Point & Find Management Portal (web-based application)

A tag includes:

- A **label** – naming an object or result
- **Actions** – URL-based information (and other http-based commands) that define actions available when an object is recognized or selected, including: opening a web page; sending an SMS or email message; placing a phone call; and streaming audio or video.
- An **image** of a world object (not part of all tags)
- **Metadata** – data abstracted from an image for object identification (GPS location, Cell ID, etc.)

Essential terms and concepts recap

You tag the objects (targets) of a Nokia Point & Find world using the Nokia Point & Find client app on a mobile device.

These tags automatically upload from the mobile device client app to the Point & Find Management Portal.

You use the Nokia Point & Find Management Portal web-based application to manage the tags of your world, including the result options and actions made available when a world's objects or labels are recognized or selected.

A Nokia Point & Find tag = **label + actions + (image + metadata)**

These Nokia branded Nokia Point & Find worlds will always be provided as a free service to consumers.

Nokia branded worlds

Nokia is seeding the Nokia Point & Find World Carousel by building and marketing a number of Nokia branded worlds. These worlds will demonstrate the capabilities of the Nokia Point & Find service, help jump-start market awareness and adoption, and inspire 3rd party Nokia Point & Find world development.

Nokia's initial branded Nokia Point & Find worlds are: Movies, Shopping, City Guide, Cars, and 2D Barcode.

Movies

Point at movie posters and find local show times, reviews, trailers, and purchase tickets. Initially launched in the UK and the US.



Shopping

Point at products' barcodes and find detailed product info, accessories, and price comparisons.

City Guide

Point at buildings, attractions, storefronts, restaurants, etc., and discover the identity of the object and related info and services. (City Guide is a "factory pre-installed world" available to all Nokia Point & Find users globally. Initial capabilities include tagging and instant recognition to give early adopters a try at user-generated content.)

2D Barcode

2D Barcode world is also a "factory world" that makes it possible for any Nokia Point & Find user to read 2D barcodes (with embedded information) that are available for public Nokia Point & Find access. (Barcode reading is available on select mobile devices.)

How Nokia Point & Find works

Overview

Nokia Point & Find is based upon real time image processing and automated object recognition technology, utilizes an innovative visual interface, and provides smart directory capabilities and text-entry search.

With Nokia Point & Find's automatic object recognition, when a camera phone using the Nokia Point & Find client app is pointed at an object, the Nokia Point & Find system uses a variety of the device's technologies (including the camera and GPS positioning) to evaluate the object. Then, by searching through a database of the world's objects that have previously been tagged, Nokia Point & Find identifies the item and returns a set of links to associated info, content, and services – all in real time and on the phone.

Powerful automatic visual object recognition

With Nokia Point & Find's object recognition capabilities, people on the go easily access information and services related to a world's tagged objects by simply pointing their camera phone at an object they are interested in. Nokia Point & Find automatically recognizes a world's tagged objects in real time and delivers identifying information and links to related services and content.

Nokia Point & Find's automatic visual object recognition mode requires no physical tags or codes on objects, and users avoid clumsy mobile typing or guessing keywords to find what they want.

Full 1D and 2D barcode recognition

While one of Nokia Point & Find's unique strengths is its object recognition – which works without any physical tags or codes on objects – Nokia Point & Find technology is also fully capable of recognizing 1D barcodes and 2D QR codes 1-10.

Smart directory navigation and text-entry search

Smart directory navigation works in conjunction with object recognition or 1D barcode scanning, facilitating easy and intuitive user navigation to deeper levels and different areas of a world. When object recognition or barcode scanning identifies an object, results can include nested smart directories of information and content.



Nokia Point & Find Versions

While initially the Nokia Point & Find client application is being rolled out for higher end smart phones (like the Nokia N95 8GB and N97), Nokia will be releasing versions of the Nokia Point & Find client application for S60 and S40 devices, some of which don't have the capacity to handle the demanding task of real-time visual object recognition. On these devices, people will explore a selected Nokia Point & Find world by using smart directory navigation and text-entry search, with no object recognition capabilities.

Smart directory navigation and text-entry search (*continued*)

Smart directory navigation and text-entry search are also effective as the primary ways to navigate and explore a world, without using Nokia Point & Find's object recognition capabilities at all.

GPS and Cell ID for location-based services (LBS)

Nokia Point & Find uses GPS and Cell ID technologies to provide sophisticated location based services. By identifying a user's specific location with GPS, or a more general location based on Cell ID, Nokia Point & Find returns location-specific results and services.

For example, a person in London pointing at a movie poster will receive different results than a person in San Francisco pointing at the same poster. In a dense city environment, Nokia Point & Find uses the GPS location to more efficiently evaluate nearby objects and provide identification and location-relevant results quickly, in real time.

A range of result actions

Nokia Point & Find initially identifies an object and then provides its name (its "label," part of its tag – see Terms, page 3.6), as well as a list of contextually relevant results that offer a variety of actions.

Nokia Point & Find result actions will:

- Open web pages
- Initiate/place phone calls
- Stream video and audio
- Send SMS text messages
- Send email messages

Future technologies and capabilities

The technology roadmap for Nokia Point & Find includes integrating future technologies to enhance and evolve Nokia Point & Find capabilities and to remain on the leading edge of providing context enriched mobile services.

Nokia also plans to release a touch-screen interface version of the Nokia Point & Find client app for its new flagship N97 device (second half of 2009 release).

Factors for success – Nokia Point & Find benefits

Early stages

Mobile marketing services are in their early stages of mainstream adoption. Several hurdles currently hinder faster adoption and greater consumer participation.

A US study by Wacom found that:

- Accessing mobile functions is too complicated for 85% of users.
- 95% of consumers admitted to being frustrated when trying to use the new data-centric applications, including calendars, email, and pictures.
- 83% of users preferred to access applications on a PC rather than a mobile phone. (Consumers favored the traditional computer with its full keyboard and mouse control rather than the usually complex and clumsy keyboards and menus on mobile phones.)

A new, better, and easier user process

Nokia Point & Find is easy and convenient for people to use.

- People select a world, point at objects, and find relevant results.
- Nokia Point & Find has an intuitive and easy-to-use visual real-time interface.
- Initial relevant results are returned to people without even one click (object recognition) – people simply point at objects and find what they want.

Sought-after and highly relevant results

With Nokia Point & Find, people find highly relevant results that they are looking for, without the need for guessing at keywords or annoying mobile typing.

Powerful and easy-to-use tools for development

The Nokia Point & Find Management Portal is a powerful, self-serve, web-based tool used to develop and manage Nokia Point & Find worlds – without any programming required.

And using the Nokia Point & Find client application to tag objects is about as simple as taking photos.



Nokia Point & Find delivers breakthrough mobile services

Nokia Point & Find:

- Simplifies the mobile user's experience of essential search functionality.
- Integrates capabilities and features of multiple mobile device functions—camera, Internet connection, and GPS—into one application.
- Increases the speed and relevance of mobile search and information discovery by dramatically reducing the complexity of the user process.

Strategically positioned: Nokia Point & Find effectively meets new customer demands for control, influence, and accessibility of mobile content and has the potential for significant adoption.

Unique strengths of Nokia Point & Find worlds

- Easily and conveniently delivers content at point of need and discovery
- Initial object identification and relevant results without even one click
- No typing or keywords required (with object recognition)
- Multiple result action options, including web, phone, multimedia, and messaging
- Full barcode recognition
- Nokia backing, vision, and commitment to R&D and future technology evolution
- Professional services for publishers who don't elect to use the self-serve approach
- Customer support to address the needs of users and publishers alike

Noki Point & Find delivers solutions across segments

Nokia Point & Find services offer exciting new business opportunities across segments and verticals.

Publishing
Retail
OOH
Museums
Auto

Events
Entertainment
Real estate
Agency
and more...

Nokia Point & Find transforms mobile access to info and services

By innovatively connecting the physical world to digital resources, Nokia Point & Find enables companies, brands, agencies, promoters and organizations to create engaging interactive mobile experiences and services that deliver targeted content and purchase opportunities to their audiences via their trusted mobile devices.

Nokia Point & Find scenarios: publishing

Seamlessly connect print with online experiences

By innovatively connecting real-world objects and images to digital resources, Nokia Point & Find enables publishers to create engaging interactive experiences that deliver targeted content, advertising, and purchase opportunities to their publications' readers—whether the reader is at home, in a cafe, or on a bus—via their trusted mobile devices.



Nokia Point & Find works with print “as is”

With Nokia Point & Find technology, there is no need for the publisher to print any special codes or tags in their magazine to enable Nokia Point & Find services, which is a significant advantage over other technologies that require special tags or codes printed throughout a publication.

Scenario 1

A reader points his camera phone at a BMW car advertisement in **944 magazine**—and without even one click—their phone immediately presents:

BMW Convertible Coupe

- *Find Local Dealership*
- *Schedule Test Drive*
- *Request DVD Brochure*
- *Enter Contest to Win a Car*
- *Call to RSVP for Showroom Party*
- *Subscribe to 944*

The person initiates a call to the local dealership, schedules a test drive, and RSVPs for the dealer’s new model release party.

Scenario 2

A person paging through an entertainment magazine simply points her mobile device at an ad or a review of a music CD or artist, and she is right away presented with:

Peter Gabriel

- *Listen to New Single*
- *Buy Latest CD*
- *See Tour Schedule*
- *Join Fan Club*
- *News and Photos*
- *Buy Ring Tone*

She listens to the new hit single on her mobile phone, then signs up for the artist’s fan club.

Scenario 3

A reader points her device at a pair of stylish shoes in a fashion magazine ad or pictorial. Nokia Point & Find identifies the shoes and instantly displays:

Jafo Venetian Pumps (leather, \$79.99)

- *Check Available Sizes*
- *Matching Accessories*
- *Photo Gallery (shoes worn with outfits)*
- *Comparison Pricing*
- *Purchase Shoes*

The reader/mobile user quickly learns what they want about the product (they have size 8 in stock) and finds a matching belt to purchase along with the shoes.



Leapfrog into a valuable new digital customer relationship

Nokia Point & Find brings print advertising and editorial to life with a rich overlay of personalized digital information, content, and services available to consumers via their trusted mobile devices. Publishers can deepen their level of editorial engagement with readers, increasing loyalty and retention, while adapting to the digital world.



Reader benefits

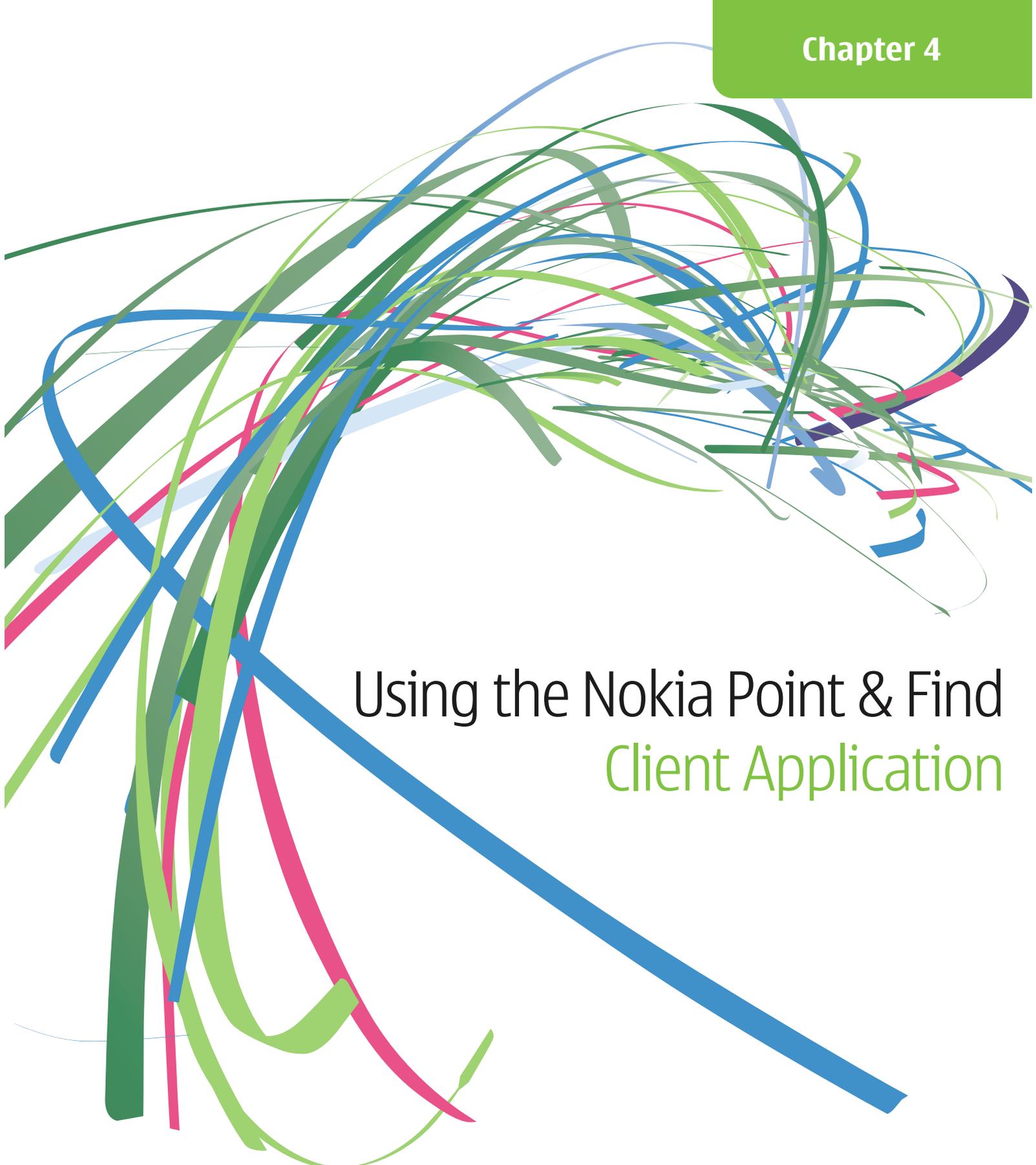
Readers of Nokia Point & Find enabled publications can easily use their mobile device to:

- Vote for artist/gadget/restaurant of the week/month/year
- Request free samples or coupons – connected to any page, ad, article, topic, artist or celebrity in a publication
- RSVP for sponsored events, parties, lectures, signings, etc.
- View menus and catalogs from restaurants and companies in a publication
- Schedule events into personal calendars and invite friends
- Call a business

Publisher benefits

Publishers can deliver supplemental content and advertising to on-the-go readers which:

- Engage audiences with print media in an innovative way
- Provide direct audience response channel for advertising and editorial content
- Provide additional advertising accountability and metrics
- Enable instant buying at the point of discovery (online, mobile, retail)
- Open up new avenues of revenue
- Bridge different media channels
- Standout among publications
- Enhance print publications
- Attract new audiences
- Strengthen customer relationships



Using the Nokia Point & Find Client Application

Using the Nokia Point & Find client application

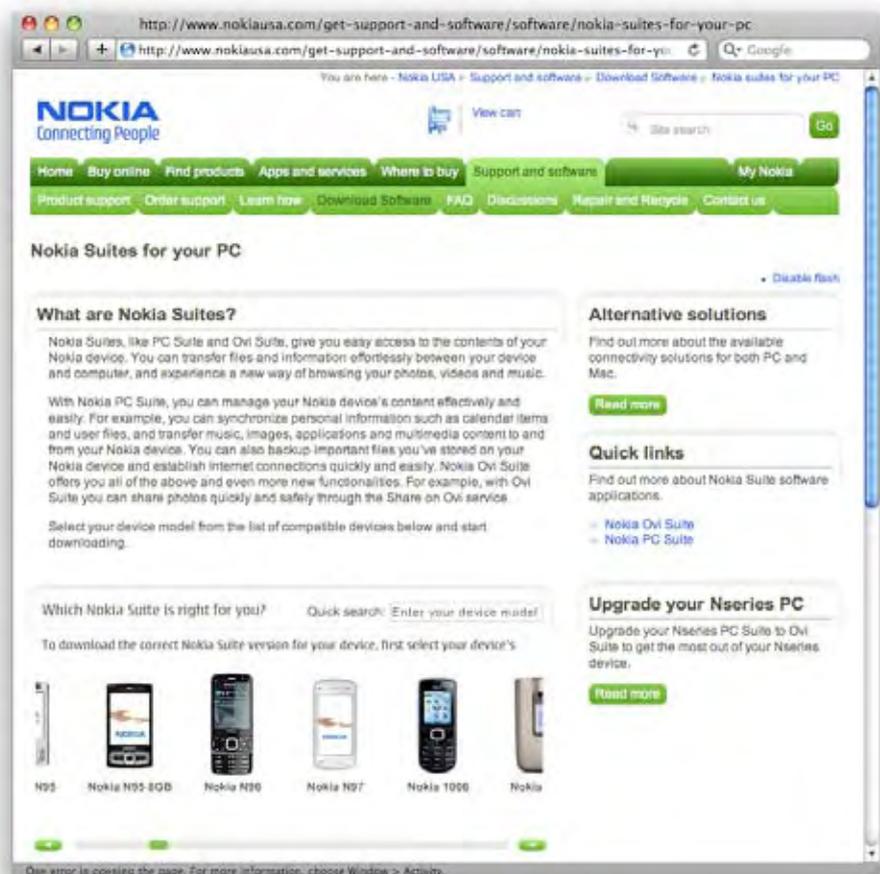
Before starting to use the Nokia Point & Find client application, you need to install the client application onto your mobile device.

Users in the US must first install the Nokia PC Suite software onto a PC to facilitate the client app installation process.

Setup & installation of the client application

Step A: Install Nokia PC Suite software on your PC (for US)

1. From an internet-connected PC, use a web browser and go to <http://www.nokiausa.com/A41423655...>



Installation from CD

The CD included with Nokia devices can also be used to install the PC Suite software. Follow the prompts and instructions on the CD.

2. Select your mobile device from the list of available supported devices...

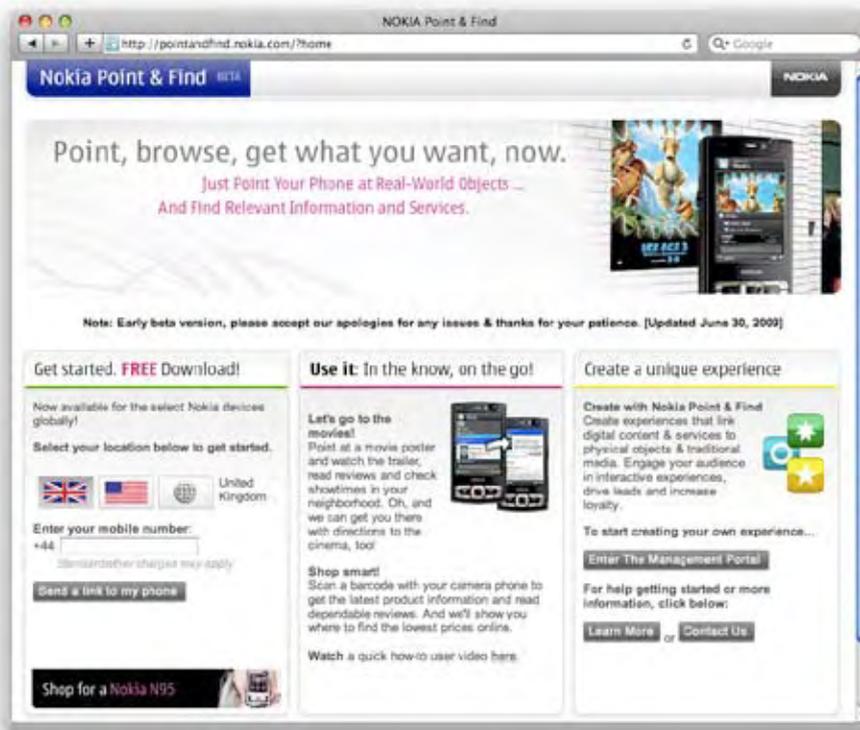


Note on supported Nokia Point & Find devices
While versions of the Nokia Point & Find client application are available for a number of different devices – including S60 and S40 devices (in the future, a wide range of additional devices and manufacturers will be supported) – we focus on the Nokia N95 device in this VAR Training and Reference Guide. Some of the processes explained will vary for other devices based on their design, controls, and features.

3. Download and install the **PC Suite** (or Ovi Suite) to your computer, following the instructions and prompts provided.

Step B: Download the client application

1. After installing the PC Suite software on your internet-connected PC, use a web browser and go to the Nokia Point & Find landing page at <http://pointandfind.nokia.com...>



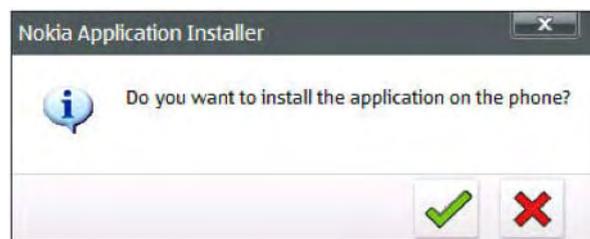
2. Follow the instructions to get a free download of the **Nokia Point & Find client app** appropriate for your location and device.
3. In some cases, you will be prompted to save the file to your desktop. In other cases, you will enter your mobile device phone number and a message will be sent to the device with a link for the download direct onto your mobile.

Step C: Install the client application to your device

1. After downloading the client app to your PC, use the USB cable (or Bluetooth) to connect the mobile device to your PC.
2. On the device screen, select **PC Suite...**



3. On your PC's screen, double click on the **Nokia Point & Find installer file** you saved to your PC's desktop.
4. Click the **check mark** (yes) when prompted to install the application on the phone...



5. Select **Phone memory** and follow the prompts to begin installation...



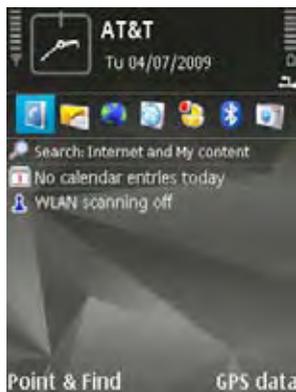
6. The application will install onto your device.

Step D: Add a Nokia Point & Find shortcut to your device*

1. Follow these steps on your N95 interface to add a Nokia Point & Find shortcut to your device's home screen:

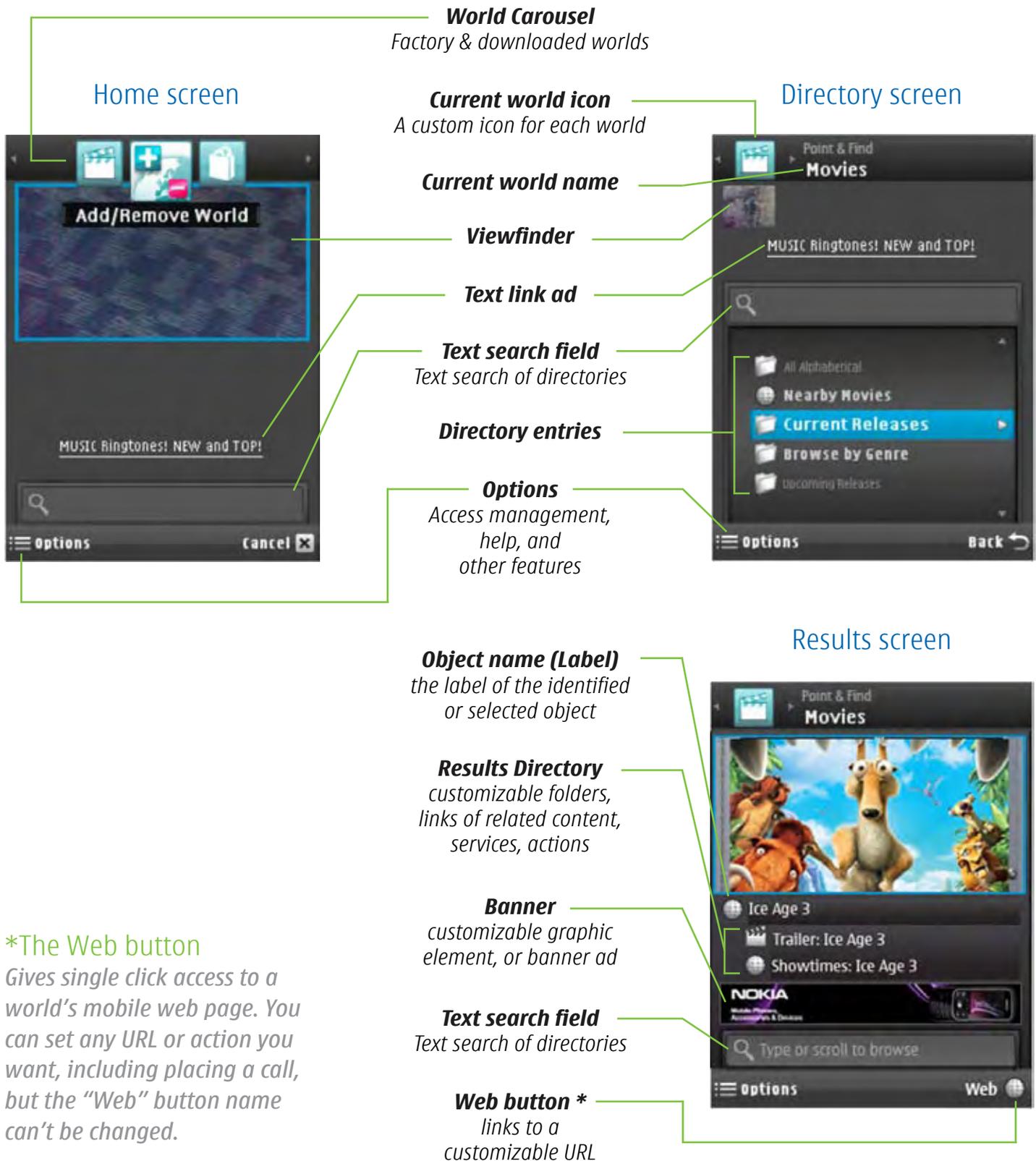
Menu > Tools > Settings > General > Personalization > Standby > Shortcuts

2. Then select **Nokia Point & Find** from the list presented...



* **Note on adding shortcuts**
The menu steps shown on the left are for the Nokia N95 model; different devices will vary.

Exploring the client application's user interface



Using the Nokia Point & Find client application

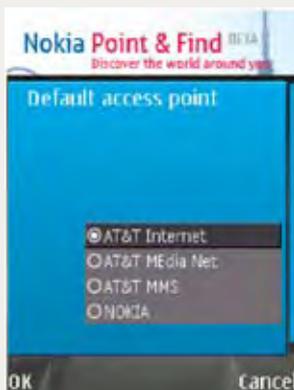
Now that you have installed the client application onto your mobile device and become familiar with the interface, you're ready to use the client app to explore Nokia Point & Find worlds.

Launch the client application

1. To launch the application, navigate through the device's Applications Menu to Nokia Point & Find and select it, or use the left soft key (if set per above for the N95—see *step D on page 5.5*) to launch the Nokia Point & Find application.
2. You'll see the Nokia Point & Find client app **splash page**...



3. Then you'll select your default **access point** for Nokia Point & Find to use for Internet access...



Browse saved worlds and select a world to explore

1. Use the navigation key to scroll to the top of the interface to the World Carousel and browse the icons of your saved Nokia Point & Find worlds.
2. Select a world to explore by highlighting its icon and pressing the center (select) key.

Add/Remove world function

Use the “Add/Remove” world function to add worlds to your World Carousel, or to remove them.

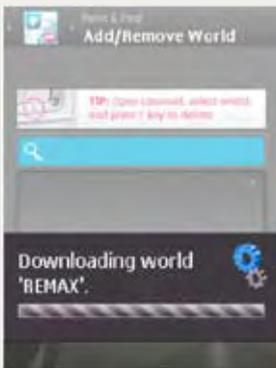
1. Move through the icons of the World Carousel at the top of the interface (using the scroll keys) and select the **Add/Remove World** icon...



2. To **add a world**, enter the name of the world you want to add, making sure the name is spelled exactly. Then select it by pressing the center key. You can also select a world from the directory if the world has been added to the add/remove directory list...



3. The world will download...



4. And then it will appear in the World Carousel...



5. To **delete a world**, select the world from the list and hit the "C" key.

Point at objects for automatic visual recognition

1. After selecting and loading a world to explore, point the camera phone at objects of interest, so they appear in the device's Viewfinder, similar to how you'd focus on objects to take a photo.

For example, point at a movie poster, ideally from a few feet away and straight on – or within a 30 degree angle on either side – with the poster filling most or all of the Viewfinder....



2. When an object is recognized, the object's label (name) is shown, displayed below the Viewfinder with label name and sub-results, if available.

Browse result options and choose from a range of relevant info and actions

When more than one result is displayed, use the navigation key to scroll down to choose a result. Press the center key to select the result and to access the link or action.

Capture barcodes

1. Focus the Viewfinder on a product barcode. The Viewfinder will adjust focus until a "Product Information" result appears.

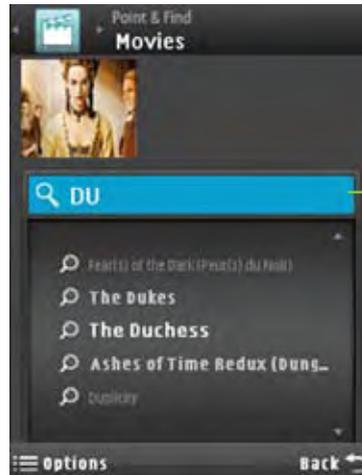


Capturing 1D barcodes
The 1D barcode reader is only available in Shopping World.

2. Press the center key to reveal more information on the product, pricing, and comparisons.

Searching within a world with text-entry search

1. Enter a text string into the text search field to search for matches in the world's directory...

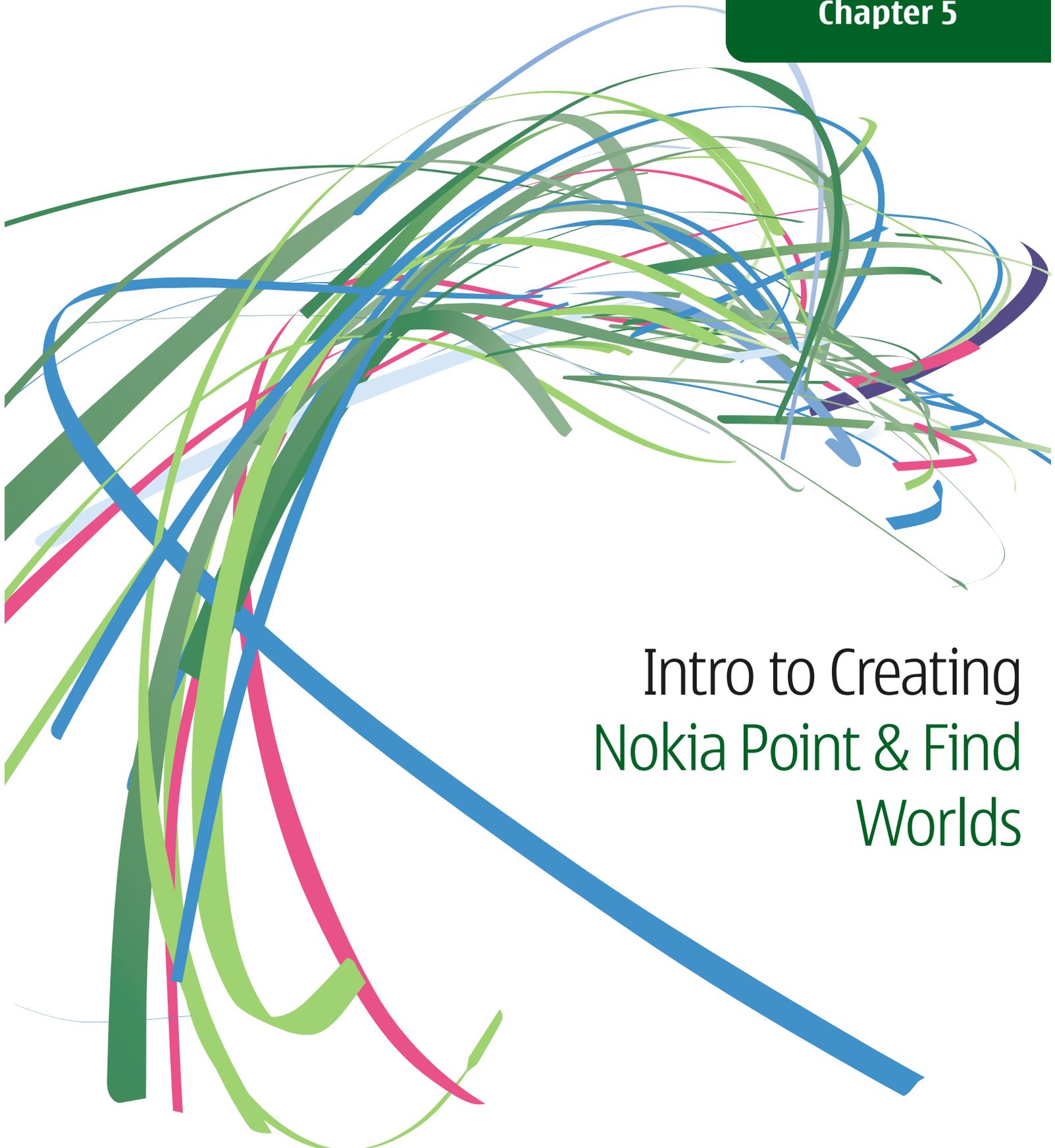


Text search field

2. Select a result to see details and more options...



Results Directory



Intro to Creating Nokia Point & Find Worlds

Intro to Creating Nokia Point & Find Worlds



Publishing worlds with two easy-to-use tools

With the Nokia Point & Find Management Portal and the Nokia Point & Find client application, you will create, configure, customize, and manage Nokia Point & Find worlds.

These powerful tools are easy to learn and use, and no programming is required for any part of the publishing process.

The online Nokia Point & Find Management Portal

Primary Management Portal functions:

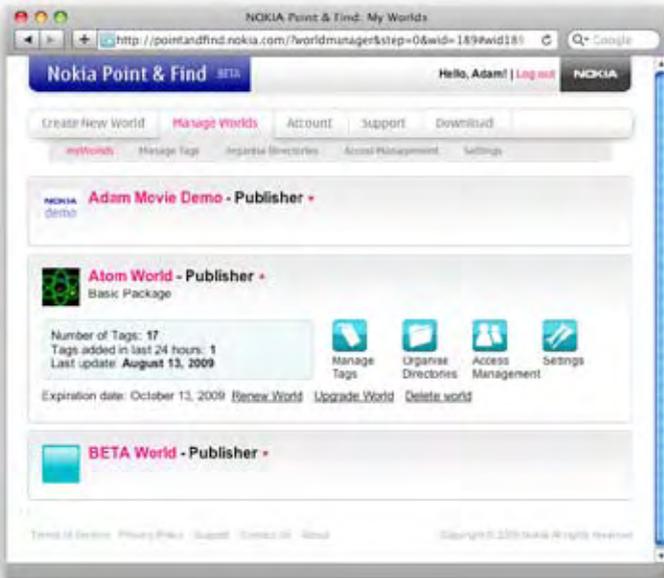
- Create and name worlds
- Customize world settings, including the world's icon, default search URL, and LBS options
- Manage access rights, establishing who can view your world and collaborator access levels
- Organize directories and labels for quick and intuitive world navigation by users, and for efficient tagging by publishers
- Manage tags and result URL actions
- Associate objects to customized results including the following actions:
 - Connect to a URL
 - Activate a video
 - Place a phone call
 - Send an SMS, MMS, or email message

The Nokia Point & Find client application

You tag objects using the client application; it's about as simple as taking photos. Tags automatically upload to your world's database, which you access and manage via the Management Portal.

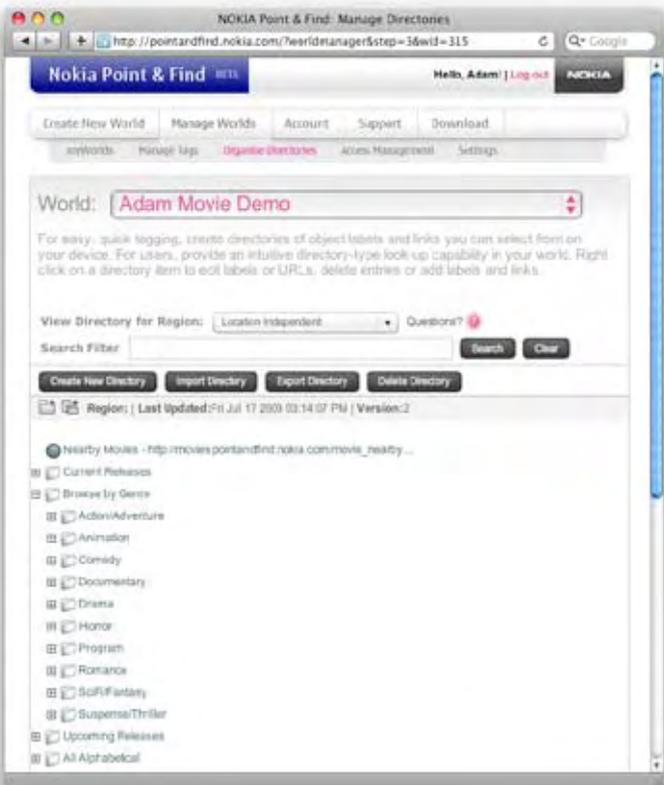
Nokia Point & Find
Management Portal

Create and manage worlds with the online Nokia Point & Find Management Portal on a PC.



Nokia Point & Find
Client Application

Tag objects using the Nokia Point & Find client application on an enabled mobile device.



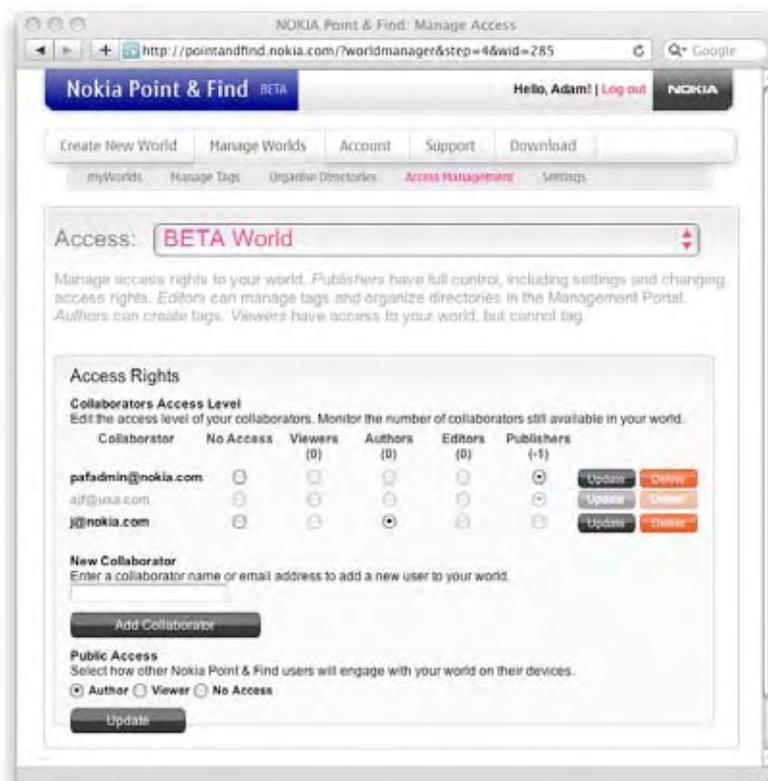
Overview: steps to publish a Nokia Point & Find world

1. Register for an account, and create and name your world using the Management Portal...

Easier and quicker than Web sites!
Nokia Point & Find worlds are much easier and quicker to build than web sites.



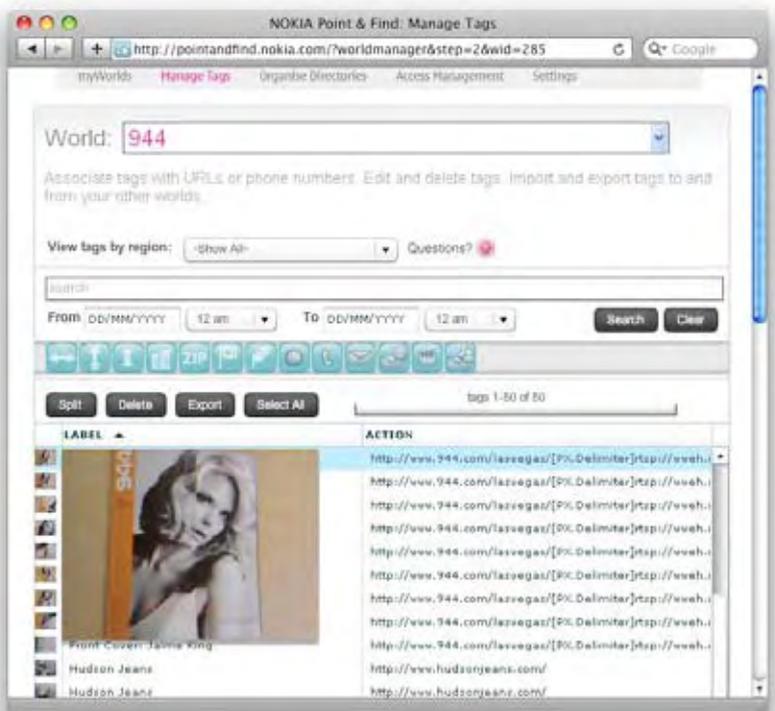
2. Setup and customize your world's settings; create and organize your directory structure and labels; define results; and set access levels with the Management Portal...



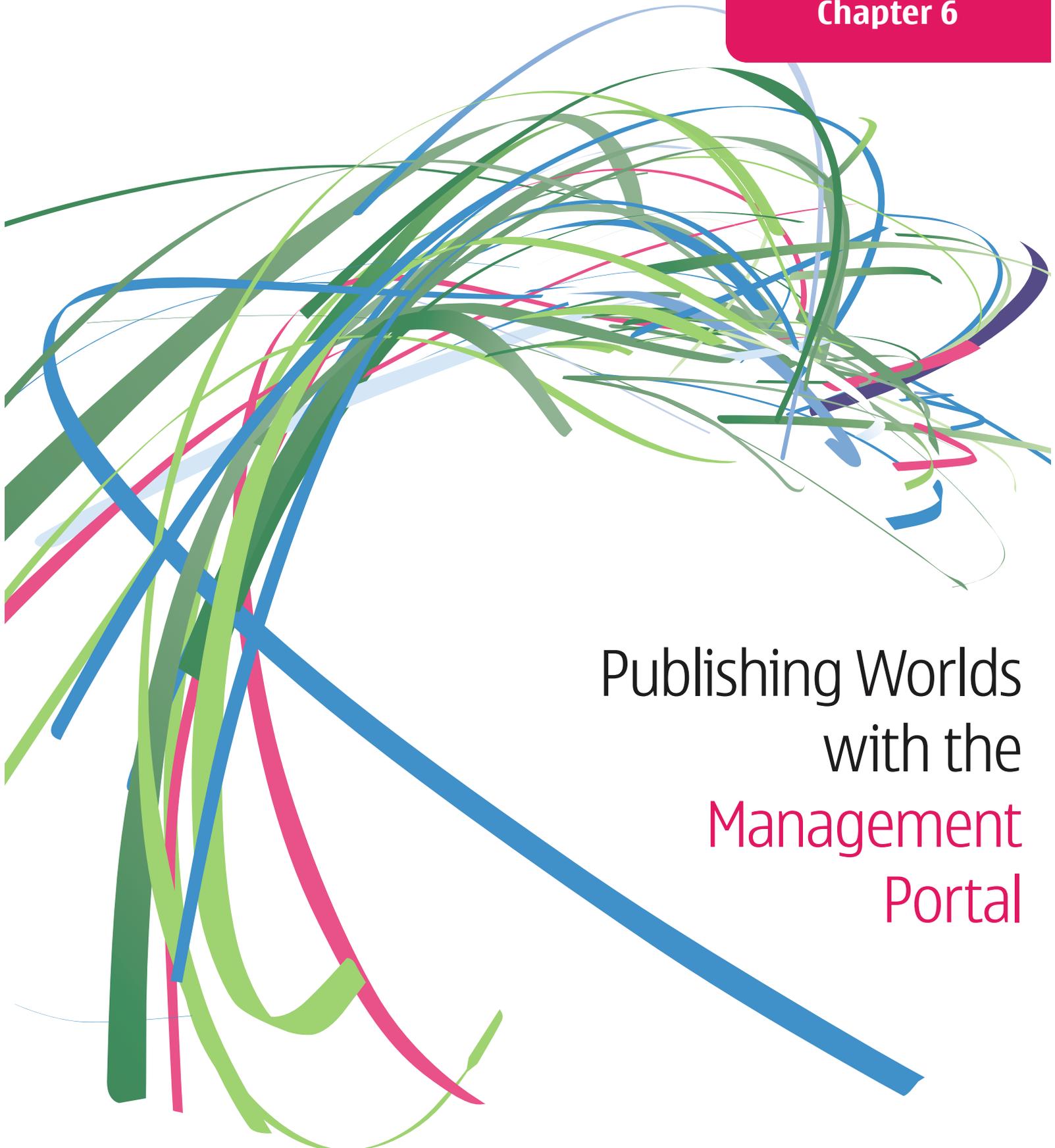
3. Tag the objects of your world using the client app on an enabled mobile device...



4. Manage and modify tags, results, directories, and settings using the Management Portal...



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Publishing Worlds
with the
Management
Portal

Publishing Worlds with the Management Portal



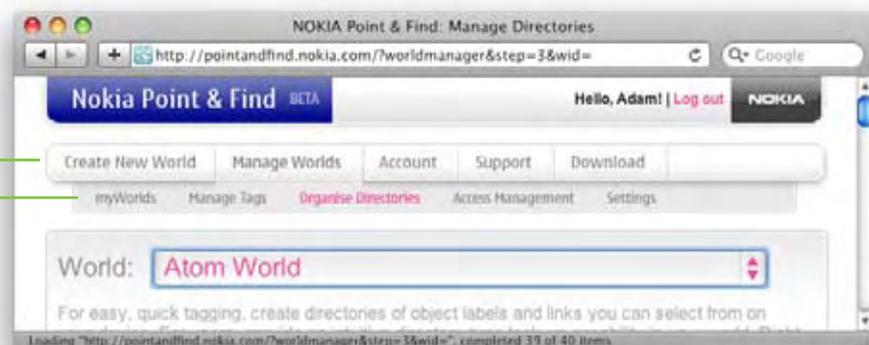
The Nokia Point & Find Management Portal is a web-based publisher's tool accessed via a web browser from an Internet-connected PC at <http://pointandfind.nokia.com/?login>

The Management Portal offers functions to create, manage, and publish your worlds, each corresponding to a tab (or sub-tab) of the main navigation toolbar menu, including:

- **Create New World**
- **Manage Worlds**, with sub-tabs:
 - myWorlds
 - Manage Tags
 - Organise Directories
 - Access Management
 - Settings
- **Account**
- **Support**
- **Download**

Management Portal tabs

Tabs
Sub-tabs



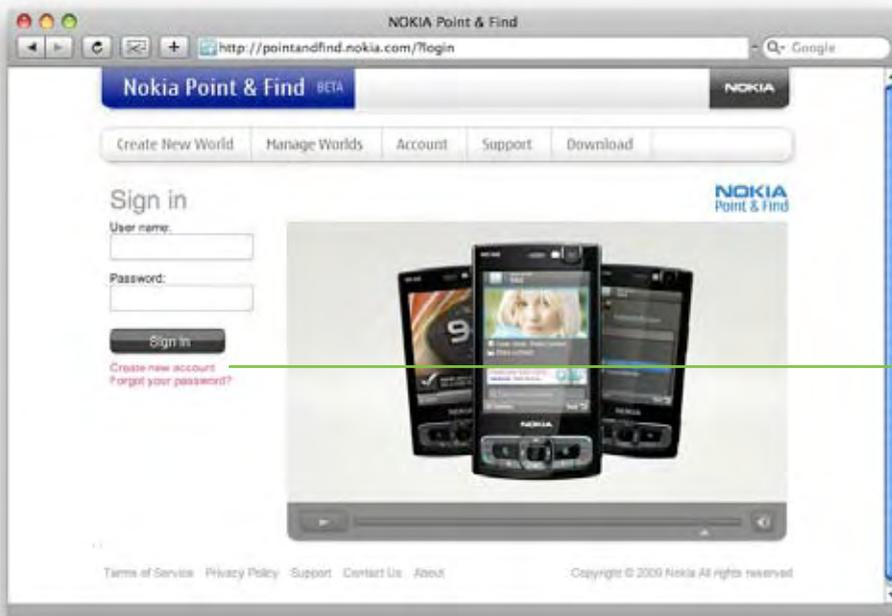
Getting started: account registration and login

To begin, register for a Nokia Point & Find account with a few simple steps, and then login:

1. To access the Management Portal, use an Internet-connected PC's web browser and go to <http://pointandfind.nokia.com/?login>
2. Click the **Create new account** text link under the Sign In button...

Sign In page

Go to <http://pointandfind.nokia.com/?login>



**Create new account
text link**

3. Fill in the Registration Form. All fields must be filled out except for those marked as optional.

After submitting your registration, a confirmation message will be emailed to you. The email message will contain a link that will take you back to the log-in screen of the Management Portal. Follow the directions in the email to complete the registration process, which includes validating your user name and password in the log-in screen.

4. Sign in using the user name and password you chose when registering. Upon successful login, you are taken to the Create New World section of the Management Portal.

Create New World

After registering and signing in for the first time, you will be at the **Create New World** screen where you are asked to enter a name for your new world...

Create New World page In the Management Portal

World Names

Your world name can include letters and/or numbers or a combination of the two, with a limit of 20 characters. Similar to web site addresses (domains), the best names for worlds are short, simple, and easy to remember – the best world names will be registered first (just like web domains) and will become valuable assets as the Nokia Point & Find community grows.



Create and name a world

1. Choose a name for your world and type it in exactly as you want it to appear in the Nokia Point & Find client when people are exploring your world. Once created, **a world name cannot be changed**, so choose your world names carefully!
2. Click the submit button. If you selected a name that has already been taken, you will be prompted to enter another name.
3. Once your world name is verified, the **Billing Information** page is launched (see opposite page). After reviewing the options for each account type, select a package by clicking the associated radio button.

Nokia Point & Find account types

Three different Beta Pack accounts are currently available for Nokia Point & Find worlds: Basic Beta Pack, Prime Beta Pack, and Pro Beta Pack...

Billing Information page

In the **Management Portal**

The screenshot shows the 'Billing Information: Magic' page in the Nokia Point & Find Management Portal. The page includes a navigation bar with 'Create New World', 'Manage Worlds', 'Account', 'Support', and 'Download'. Below the navigation bar, there is a section for 'Billing Information: Magic' with a sub-header 'Billing information' and a description: 'Enter your billing information and select your preferred account package. You will need to provide your credit card information on the next page.' The page is divided into two main sections: 'Your info:' and 'Select account type'. The 'Your info:' section contains form fields for First name, Last name, Company name (optional), Address, City/Town, State (optional), ZIP/Postal code, Country (optional), Email, and Phone (optional). The 'Select account type' section lists three options: Basic Beta Pack (1 publisher(s), USD 69.00/month), Prime Beta Pack (1 viewer(s), 2 author(s), 1 editor(s), 1 publisher(s), USD 1499.00/month), and Pro Beta Pack (20 viewer(s), 10 author(s), 5 editor(s), 2 publisher(s), USD 2599.00/month). Green lines point from the text labels 'Billing information' and 'Account types' to the respective sections on the page.

Basic Beta Pack allows one person to publish a world for the public, or just for themselves, at \$69.00 per month.

Prime Beta Pack enables the creation of a broader experience by allowing you to collaborate on your world with a small team. The Prime Beta Pack includes access for one viewer, two authors, one editor and one publisher, and is available at \$1,490.00 per month.

Pro Beta Pack is the best account available for creating a rich Nokia Point & Find experience. With the Pro Beta Pack you can collaborate with a large team on a public world, or the team can create a private world for up to 20 viewer collaborators. The Pro Pack includes account access for 20 viewers, 10 authors, 5 editors and 2 publishers, and is available at \$2599.00 per month.

Manage Worlds

Each of your worlds can be developed, edited, and managed through the Management Portal's **Manage Worlds** functions, which include:

- **myWorlds**
- **Manage Tags**
- **Organise Directories**
- **Access Management**
- **Settings**

When you login to your Nokia Point & Find account, or when you select the Manage Worlds tab, you start at the myWorlds sub-page where you'll find a list of your existing Nokia Point & Find worlds.

Terms for world publishers

Roles

Collaborators are people who have access or publishing rights for a Nokia Point & Find world. Collaborators have one of five roles:

Viewers can view and use the content of a world, but they can't contribute to it, and viewers don't have any rights to manage the world using the Management Portal.

Authors can view the world, and they also have the right to author content for the world, which includes access to create and upload tags using the Nokia Point & Find client application on a mobile device. Like viewers, authors do not have any rights to manage the world using the Management Portal.

Editors have all of the access rights that authors have, plus access to manage tags and Directories using the Management Portal.

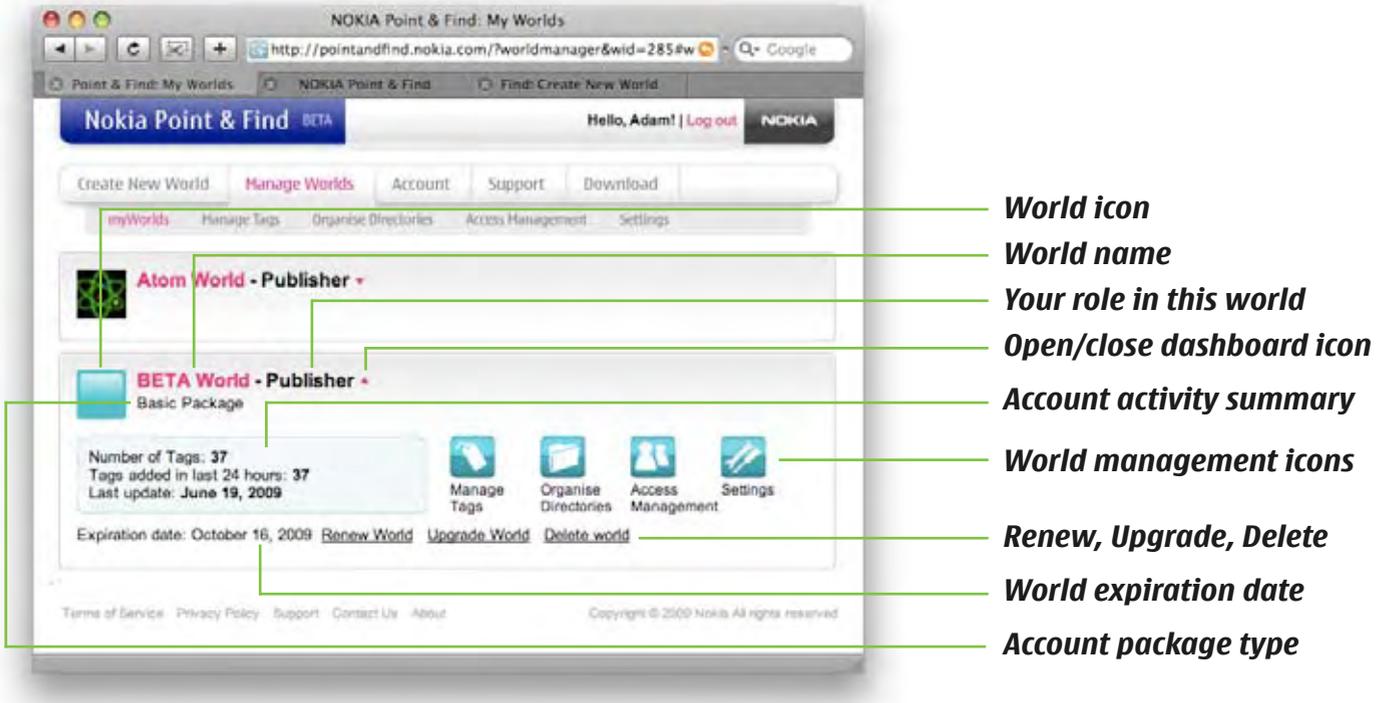
Publishers have complete access to control a world, including billing and settings. It is important that you set only appropriate people as publishers of your world.

Directory Folders and Entries

Directory Folders categorize the content (objects) of a world.

Directory Entries include object labels and result actions.

myWorlds dashboards
On the **Manage Worlds** page



- World icon**
- World name**
- Your role in this world**
- Open/close dashboard icon**
- Account activity summary**
- World management icons**
- Renew, Upgrade, Delete**
- World expiration date**
- Account package type**

Manage Worlds: myWorlds

The **myWorlds** page is a status board and navigation hub for your worlds. When you login to your Nokia Point & Find account, or when you select the Manage Worlds tab while working in the Management Portal, you land on the myWorlds page of the Manage Worlds tab.

Click on a world name or icon to open its dashboard. The world's icon is displayed in the upper left corner. To the right of the icon is the world's name, and to the right of that is your role in the world.

Below the world's name is the account package associated with the world. A boxed summary of current account activity shows the total number of tags in your world, how many new tags have been uploaded in the past 24 hours, and the date the world was last updated.

The four icons to the right allow quick access to functions that enable you to develop and manage your world. These options correspond to the tabs located on the header bar.

The last line of text of a world dashboard shows the expiration date for the world, along with links to renew or upgrade your world account; and, finally, a link to delete the world and all its contents.

Dashboard Access

Click on a world's name (or the small arrow symbol after your role) to expand or minimize a world's dashboard.

Manage Worlds: Settings

We continue our tour of the Management Portal with the **Settings** page where you customize the look, feel, and functionality of your world with extensive options and controls.

These Settings functions include:

- **uploading your world's icon**
- **set default search URL**
- **set default Web URL**
- **select geographic or GPS tag location associations**
- **and other advanced settings**

World selection dropdown menu

At the top of the screen is the **world selection dropdown menu**, which allows you to select any of your worlds to adjust their settings.

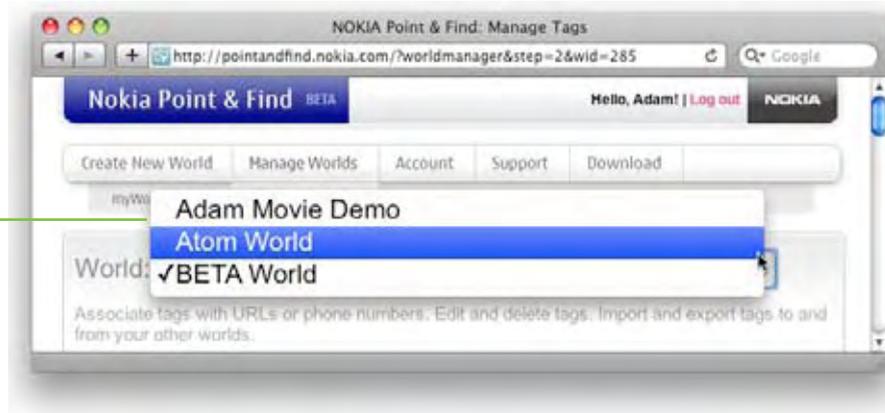
World Selection menu

On many pages

World selection dropdown menu



Dropdown menu activated



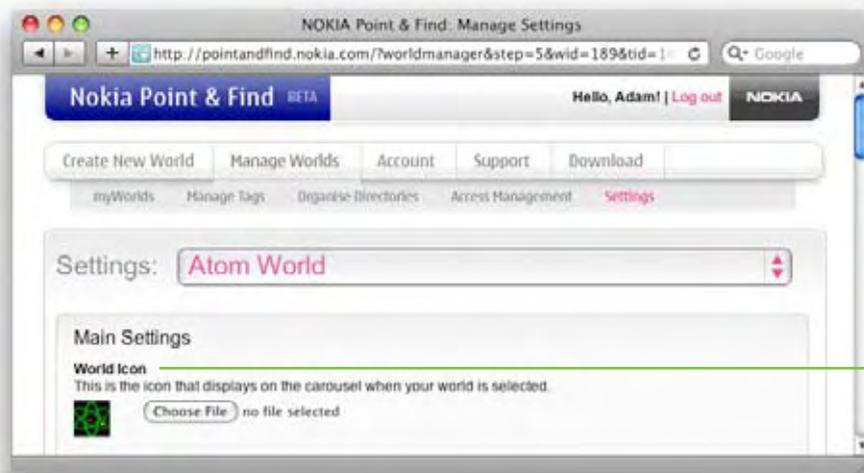
World Icon

The first item in the Main Settings panel is the **World Icon** setting, used to upload the graphic icon that Nokia Point & Find end users see when they access your world on their phone. The format for the small icon is ideally a 45 x 45 pixel JPEG image.

To load or change your world's icon, click the Choose File button and select a JPEG image file for the icon; and then click the Upload Icon button to upload the graphic file.

World Icon setting

On the **Settings** page



World Icon

Tag Location Association

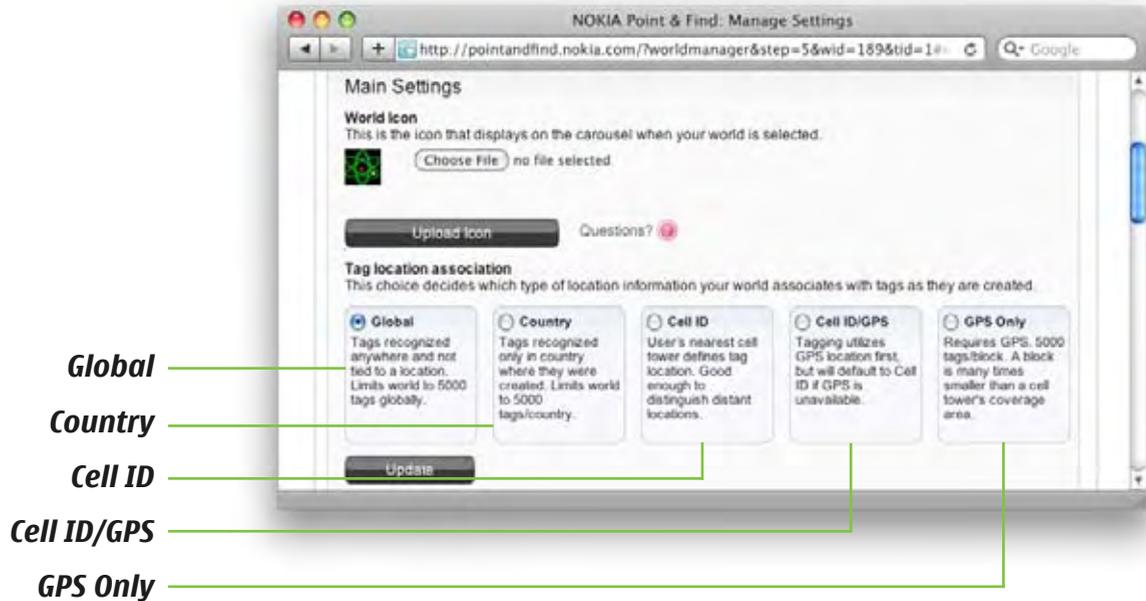
Next in the Main Settings panel is the **Tag Location Association** setting. (See screenshot on following page.)

Tag Location Association settings determine what location-based information (metadata) is associated with a world's tags at the time they are created and must be set **prior** to any tagging activity.

Nokia Point & Find tags can contain information called PX commands. **PX commands** encode location information – such as country, city, or even more specific locations provided by Cell ID or GPS data, which is captured and stored as metadata in your world's tags. These options allow you to capture tags that will deliver results based on location-specific information.

Tag Location Association setting

On the **Settings** page



Tag Location Association (*continued*)

Global

The simplest option (the default setting) is the **Global** tag location association, which means your world's tags are not tied to a particular location. The examples in this book all use the Global setting.

Tags taken with the Global setting can be viewed anywhere in the world and are not specifically associated with any location, region or country. All tags with this setting will download to the phone whenever the world is launched.

Country

The next option is **Country**, which allows you to have different tags for different countries. Tags taken with this setting will have country association metadata as part of the tag.

For example, if Country is selected and you are tagging in San Francisco (SF), all of your tags will be associated with the USA. Therefore, when a user in SF launches your world with its Country tag location association, only tags in the USA will download to the phone for that world. Users won't see or have access to tags in other countries.

Nokia uses this setting for their factory Movie World, so instead of downloading all the active tags in the database which include multiple countries, users will only get the tags associated with the country they are in.

Cell ID

Cell ID uses a location determined by triangulating the cell towers that a phone is using. Tags taken with active Cell ID will be associated with the range of the active cell tower. If you are in the Embarcadero area of San Francisco using the City Guide World where Cell ID tag location was used, you're going to download the tags to your phone that were taken and associated only with that area's cell tower.

Cell tower ranges differ by area and region, so it's hard to say how far a tower can reach. While it's a fairly specific range in urban areas, the range can be quite extensive in rural areas. Cell ID is an appropriate setting for a world where users will be trying to locate a range of data, as in "find me nearby movie theatres."

Cell ID/GPS

Using the **Cell ID/GPS** setting combines the best of these two technologies, using GPS when available, and using Cell ID as an alternate when GPS is not available. With this setting, only those tags taken within the Cell ID or GPS location will download to a user's device when in that area.

GPS Only

The **GPS Only** option provides precise location information by connecting to the GPS satellite system. This setting requires an active connection to the GPS system when creating tags with the client on a mobile device.

If tags are taken with the GPS setting (and tags with this setting can only be taken if the device's GPS is active at the time of tagging), then only those tags within those associated GPS coordinates (with a range of 100 by 100 meters) will be downloaded.

If GPS is not active, the tags will not download, and the GPS unavailable icon will display signaling that the tags have not downloaded. When you move out of an area, the tags from previous GPS coordinates are deleted from the device to avoid building up a huge tag count on the phone.

Search URL & Web Button URL settings

On the **Settings** page



Search URL

Web Button URL

Default Search and Web Button URLs

Google is the default setting for both the Search URL and Web Button URL and is used until you customize it to web page addresses of your choice.

Search URL setting

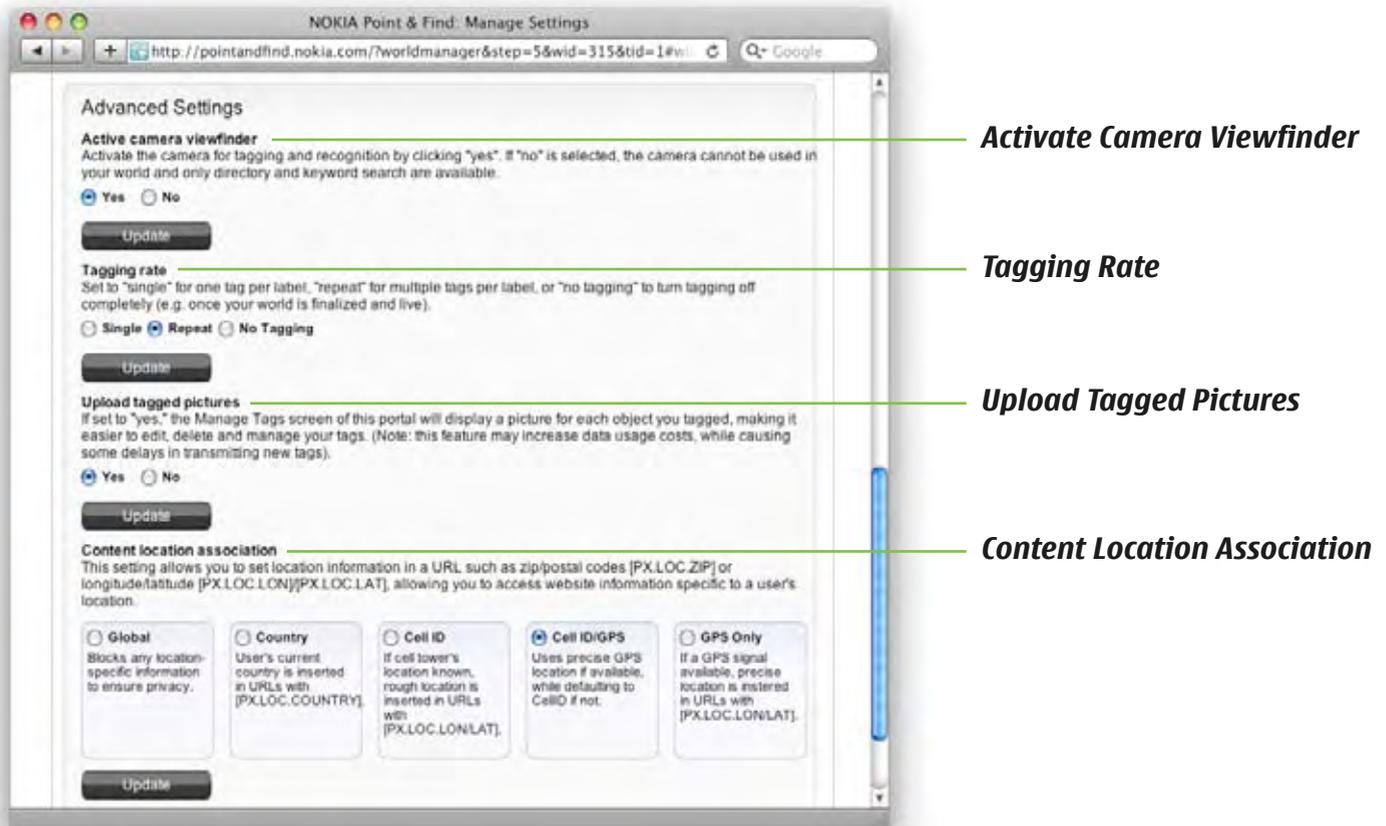
The **Search URL** is the web page a user is taken to if they select an entry (Directory listing) in your world that has not yet been associated with a custom URL or other action. This happens, for example, when an object has been tagged with a label and uploaded, but no action has yet been associated with the tag.

Web Button URL setting

The **Web Button URL** setting lets you assign a custom URL for what can be considered a home page for your world. The client application supports a softkey web button that launches your assigned URL when selected.

Advanced Settings options

On the **Settings** page



Advanced Settings

At the bottom of the Settings page you'll find **Advanced Settings**. These settings include: Activate Camera Viewfinder, Tagging Rate, Upload Tagged Pictures, and Content Location Association.

Activate Camera Viewfinder

Activate Camera Viewfinder determines whether your world will use image recognition or text only.

When set to **Yes**, this function activates camera use in your world for both the tagging of objects by authorized world collaborators, and object recognition by end users.

When set to **No**, only Directory navigation and keyword-text search are available for your world, taking the world outside of the image recognition based model.

Advanced Settings (*continued*)

Tagging Rate

Tagging Rate may be set for single or repeat tagging.

With **single tagging rate**, the client application generates one tag per label when tagging objects; when set to **repeat tagging rate**, multiple tags per label are generated.

Single tagging is generally a cautious tagging approach good for training and public use (user-generated content).

Repeat tagging facilitates and eases production for most tagging work. For example, let's say you are going to tag a building, like Notre Dame cathedral. With repeat tagging, you go into your Nokia Point & Find client Directory and select or enter "Notre Dame" as the label, and then you can easily make multiple tags of the building (from different angles and distances) one after the other, without the need to re-select or re-enter the label for each tag image.

Upload Tagged Pictures

Upload Tagged Pictures controls whether your world's tags are uploaded to the Nokia Point & Find server right after a tag is created, or saved on the client app and uploaded at a later time.

This setting should generally be set to **Yes**, but in some cases – for example, when a lot of tags are being created – there may be some performance advantages to setting Upload Tagged Pictures to **No**.

Content Location Association

Below Upload Tagged Pictures is the **Content Location Association** setting, which allows you to set location information in a URL (such as zip/postal codes [PX.LOC.ZIP] or longitude/latitude [PX.LOC.LON]/[PX.LOC.LAT]), allowing your world to deliver results specific to a user's location.

For example, the Country option allows an object that is recognized in the US to deliver different content to a user than when the object is recognized by a user in the UK.

Content Location Association settings include Global, Country, Cell ID, Cell ID/GPS and GPS Only.

Global

Blocks any location-specific information to ensure privacy.

Country

User's current country is inserted in URLs with [PX.LOC.COUNTRY].

Cell ID

If cell tower's location known, rough location is inserted in URLs with [PX.LOC.LON/LAT].

Cell ID/GPS

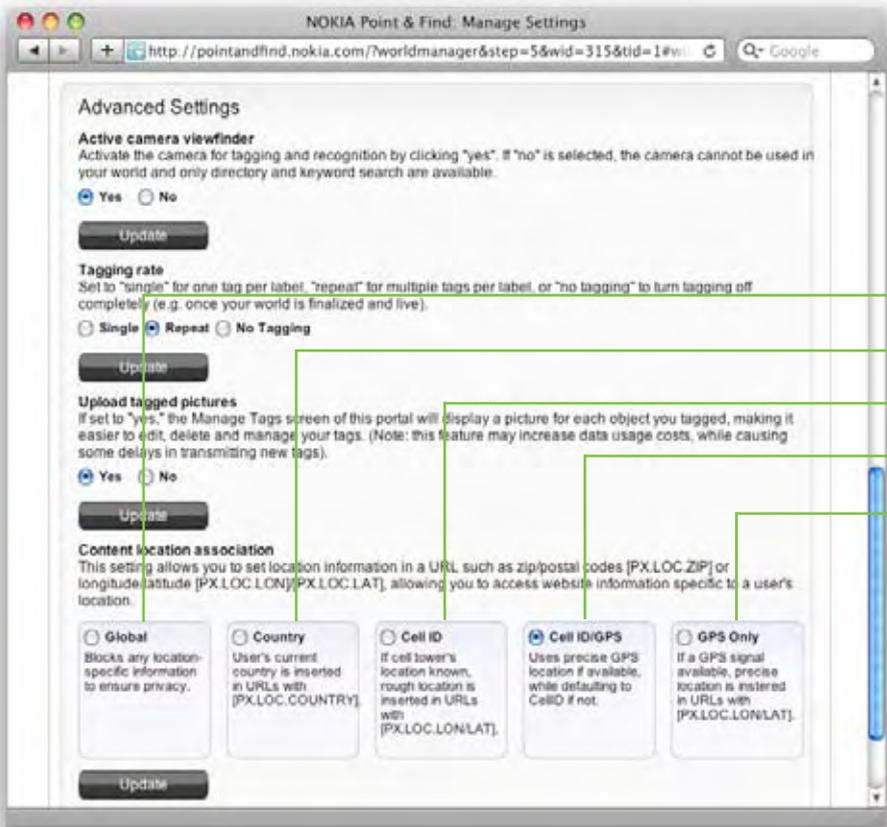
Uses precise GPS location if available, while defaulting to Cell ID if not.

GPS Only

If a GPS signal available, precise location is inserted in URLs with [PX.LOC.LON/LAT]

Content Location Association setting

In **Advanced Settings** on the **Settings** page



- Global
- Country
- Cell ID
- Cell ID/GPS
- GPS Only

Manage Worlds: Access Management

Use the **Access Management** page of the Management Portal's **Manage Worlds** tab to assign roles to your account's collaborators – including publishers, editors, authors, and viewers (see page 6.6, "Terms for world publishers").

Use this section's **Public Access** controls to set your world for public end user access, or to keep it private (available only to authorized world collaborators).

As in other areas of the Management Portal, below the navigation toolbar you'll find the **world selection** dropdown menu, which lets you quickly select any of your worlds. Below the world selection dropdown menu, you'll see the **Access Rights** functions.

Access Management page

On the **Manage Worlds** tab

The screenshot shows the 'Manage Access' page in the Nokia Point & Find Management Portal. The page title is 'Nokia Point & Find: Manage Access' and the URL is 'http://pointandfind.nokia.com/?worldmanager&step=4&wid=285'. The user is logged in as 'Hello, Adam! | Log out'. The navigation menu includes 'Create New World', 'Manage Worlds', 'Account', 'Support', and 'Download'. The 'Access Management' tab is selected.

Annotations on the left side of the screenshot point to specific features:

- World selection menu**: Points to the 'Access: BETA World' dropdown menu.
- Access Rights panel**: Points to the 'Access Rights' section.
- Collaborators Access Level**: Points to the table of collaborators and their access levels.
- New Collaborator**: Points to the 'New Collaborator' section.
- Public Access**: Points to the 'Public Access' section.

The 'Access Rights' section includes a table of collaborators and their access levels:

Collaborator	No Access	Viewers (0)	Authors (0)	Editors (0)	Publishers (-1)	
pafadmin@nokia.com	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="button" value="Update"/> <input type="button" value="Delete"/>
afj@usa.com	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="button" value="Update"/> <input type="button" value="Delete"/>
jj@nokia.com	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="button" value="Update"/> <input type="button" value="Delete"/>

The 'New Collaborator' section includes a text input field for the collaborator name or email address and an 'Add Collaborator' button.

The 'Public Access' section includes radio buttons for 'Author', 'Viewer', and 'No Access', and an 'Update' button.

Access Rights options

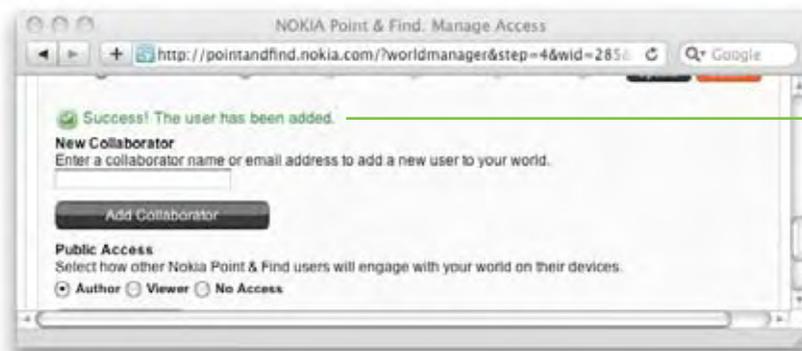
The **Access Rights** options include New Collaborator, Collaborators Access Level and Public Access functions.
(See screen shot on opposite page.)

New Collaborator

With the **New Collaborator** option you add people as collaborators to a Nokia Point & Find world.

The people you add as collaborators need to have a registered Nokia Point and Find account, and you need to know the email address that they use with their account (see page 6.3 for how to register a Nokia Point & Find account).

To add a new collaborator, enter an email address or Nokia Point & Find user name, and then click the **Add Collaborator** button. You'll receive a message when successful...



**New Collaborator added
success message**

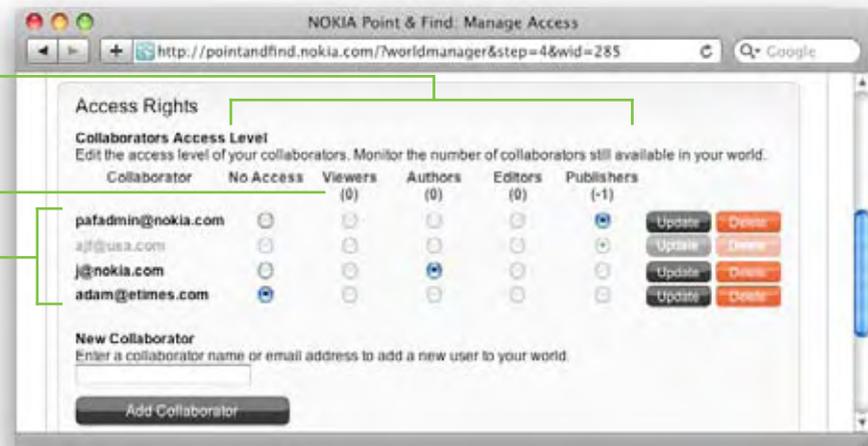
Collaborators Access Level options

In the **Access Rights** panel

Collaborators access level options

Number of collaborators currently assigned to each access level

List of current collaborators



Collaborator Lists

Your collaborator list will generally grow over time. The numbers below each role in the panel displays the number of each role that is available with your current pricing plan. Different plans allow for a certain number of each role to be allocated.

Access Rights (continued)

Collaborators Access Level

Use this control panel (see screen shot, above) to easily edit the access levels of your world's collaborators, and monitor the number of collaborators available in that world.

New collaborators start, by default, with no account access. You then can modify access levels up from there. Collaborators can be set as Viewers, Authors, Editors, Publishers, or with No Access.

To change a collaborator's access level, select the new role (radio button) you want the collaborator to have and click the Update button. There's also a Delete button, which takes a collaborator off the list. It's very easy to take people off the collaborator list and add them back as you wish.

If you have allocated all of your account plan's collaborator roles and you want more, you need to upgrade your account plan. Upgrade by going to **myWorlds** and select **Upgrade World** from the bottom of the screen. This will take you to the account selection and billing page.

Access Rights *(continued)*

Public Access

The **Public Access** function sets access for everybody who is not on your collaborator list (i.e., the general public). Options include No Access, Author and Viewer. (See screen shot, below.) Change the Public Access setting by selecting a different access level and then clicking the **Update** button.

No Access

By default, Public Access is set to **No Access**, which is an appropriate setting for a world that is under development and not yet ready for public viewing. Just like a web site under development, you want to leave your Nokia Point & Find world hidden until it's ready for the public. This setting allows only authorized collaborators access to your world.

Viewer

The **Viewer** option means that your world is "live" and available for public viewing, so all Nokia Point & Find users can use the Add World function on the Nokia Point & Find client to enter and explore your world.

Author

The **Author** option allows people to both see your world and also contribute to the world. This means that any user of your world can tag objects, which are then uploaded to your world's database and available for sorting, editing, and deleting, using the Management Portal's **Manage Tags** tools.

Set Public Access to "Author" for user generated content

*For example, Nokia City World is a "factory world" that has the access level set to **Author**, so end users can contribute to the world. This allows users to tag city objects of their choice with labels of their choice, such as "Best Pizza Restaurant," or "Jake's Cool Cafe," etc.*

Public Access options

In the **Access Rights** panel



Public access level options

Access Management FAQ: Management Portal

What is **Access Management**?

The Access Management tab in the Management Portal allows a world's Owner and Publishers to add, remove, and change the world's collaborator access rights. World Owners and Publishers also control Public Access settings, which determine if and how Nokia Point & Find users outside of collaborators can access and engage with your world.

What is a **collaborator**?

A **collaborator** is an individual that has at minimum viewer access to your world (even when your world is set for no public access), and includes the people working together to develop, edit, and review worlds. You can define how much control a collaborator has by changing their access level and clicking update next to the collaborator's name in the Access Rights collaborator list.

I created this world. Why am I not listed as a collaborator?

World owners are automatically designated as **Publishers**. As a publisher, you have the most control over the world, and you cannot change your publisher designation or access level.

What is the difference between **access levels**?

There are two access level settings, Collaborator Access options and Public Access options.

With the **Collaborator Access** options, you assign access rights to your world collaborators:

- **Publisher:** Publishers have full control, including changing settings and access rights.
- **Editor:** Editors can view a world, create tags, manage tags, and organise Directories.
- **Author:** Authors have access to create tags for the world, along with viewing the world.
- **Viewer:** Viewers have access to enter, view, and explore a world but cannot tag into a world.

With the **Public Access** options, you enable or block public access to a world.

- **Author:** The public (any Nokia Point & Find user) may tag and generate content for a world.
- **Viewer:** The public may download and view the world, but cannot tag in the world.
- **No Access:** This denies the general public any access to your world. Anyone who is not a collaborator will not be able to access or view your world.

How do I know a collaborator's name?

A collaborator creates a unique login name at Nokia Point & Find registration. You can add a collaborator using their login name or their email address.

Some of my access levels are grayed out. Why?

There is a limit to the number of collaborators you may assign based on the Nokia Point & Find account package you purchased.

For more information, or to upgrade your account, go to the **myWorlds** section of **Manage Worlds** and click on **Upgrade World** at the bottom of the world's information panel.

Manage Worlds: Organise Directories

On the **Organise Directories** page, you name and structure Directories that organize the objects in your worlds. Use the tools here to develop easy, intuitive navigation of worlds for mobile users who will be using Nokia Point & Find's smart Directory navigation and text-entry search capabilities to explore and navigate your worlds.

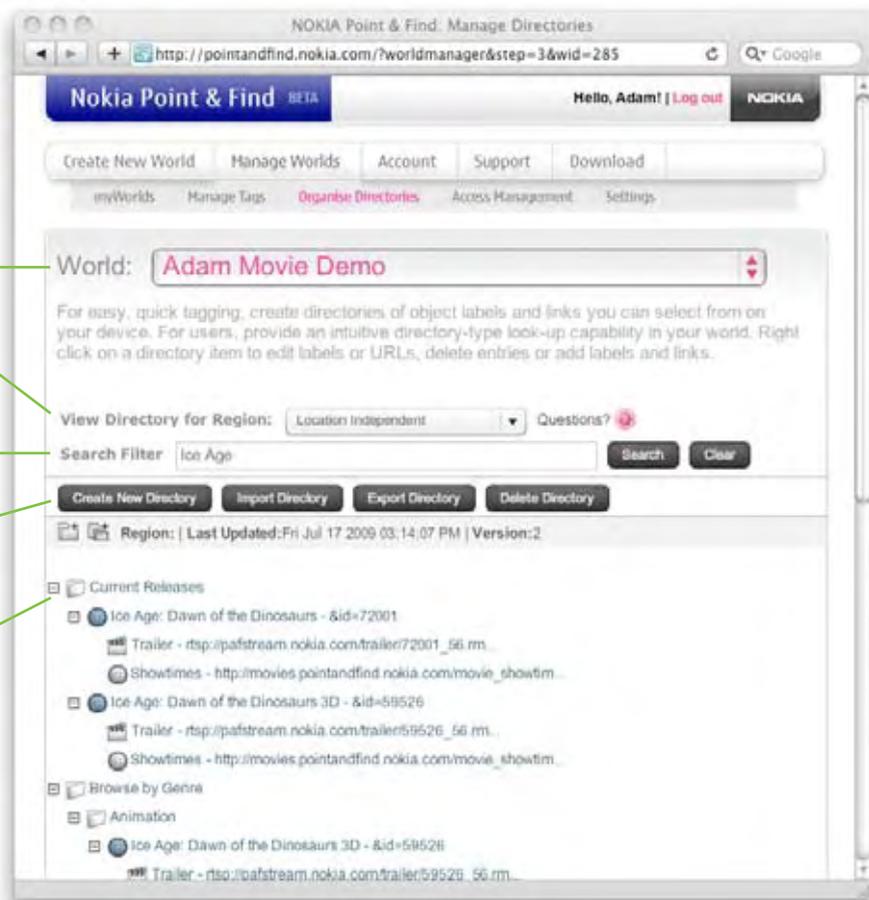
A Directory is made up of folders (categories) and entries (labels and result actions). In Organise Directories you are working with **categories, labels, and entries**, while the tags associated with Directory entries are viewed and controlled in the Manage Tags section of the Management Portal.

To begin working with Organise Directories, choose the **Manage Worlds** tab, and then click on the **Organise Directories** sub-tab.

Organise Directories page

On the **Manage Worlds** tab

- World selection menu**
- View Directory for Region dropdown menu**
- Search filter**
- Create, Import, Export & Delete Directory buttons**
- Directory List**
(filtered by search results)



Tips for working with Directories

Create labels in Directories *before* tagging

Setting up a well-organized Directory structure at the start of building your world will make the process of tagging your world's objects quicker and easier. By creating your Directory structure and object labels *before* tagging, you later simply select labels from the Directory on your device when tagging objects; otherwise you will need to type in the labels on your mobile device, and extra steps will be required to adjust or rename tags in the Manage Tags section when you return to the Management Portal.

Create world flow charts

For larger worlds, creating a visual flow chart of your Directory structure can be a helpful tool for organizing and building your world.

Organise Directories options

(See screen shot on opposite page.)

World selection

At the top of the page (below the navigation toolbar), is the **world selection** dropdown menu, which lets you quickly select to work with any of your worlds.

View Directory for Region

Below the world selection menu is the **View Directory for Region** dropdown menu. With a country-specific world, this function will allow for viewing a specific country's Directory (this function is not enabled in early versions of Nokia Point & Find).

Search Filter

The **Directory Search Filter** is used to search your Directory folders and labels. Type in a search term and click the Search button, and you'll only see folders and entries that include the search term. Click the Clear button, and you'll see all of your folders and entries again.

More options...

We'll cover the **Create**, **Import**, **Export** and **Delete** directory functions (the four gray buttons below the Search Filter) plus the **Directory List** in detail on the next few pages.

Warning!

Be very careful with the Create New Directory function. A world can only have one location independent Directory, and using the Create New Directory function will overwrite and fully delete the existing Directory.

Creating and naming Directories, Root Folders, and Entries

1. On the Organise Directories page, click the **Create New Directory** button.
2. The **Create New Directory** dialog box appears. Accept the “Location Independent” setting in the Select Region dropdown menu, and then click the **Create Directory** button.

Select Region dropdown menu

Create Directory button

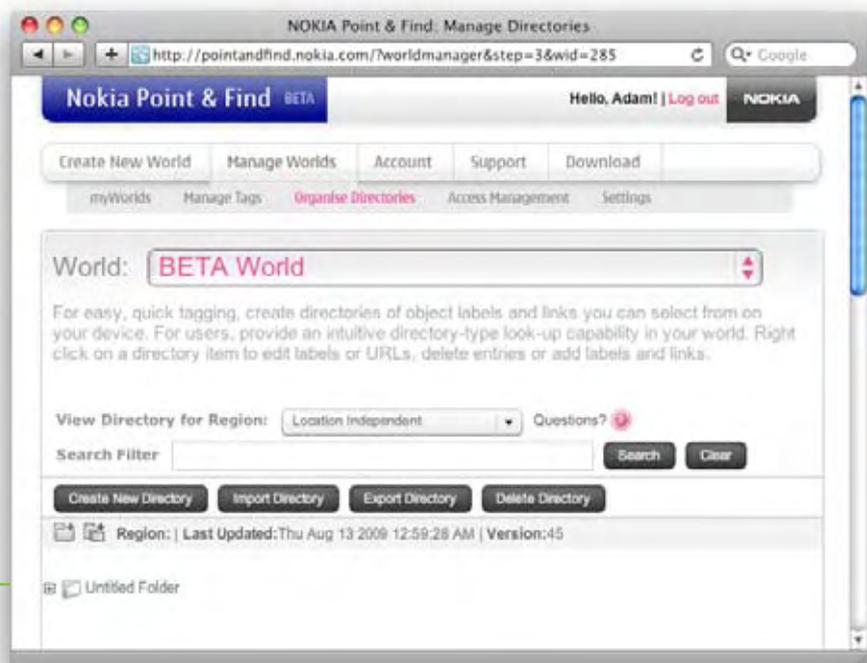


3. A new **Untitled Folder** appears in the Directory list. This is a root folder at the top level of the Directory's hierarchy...

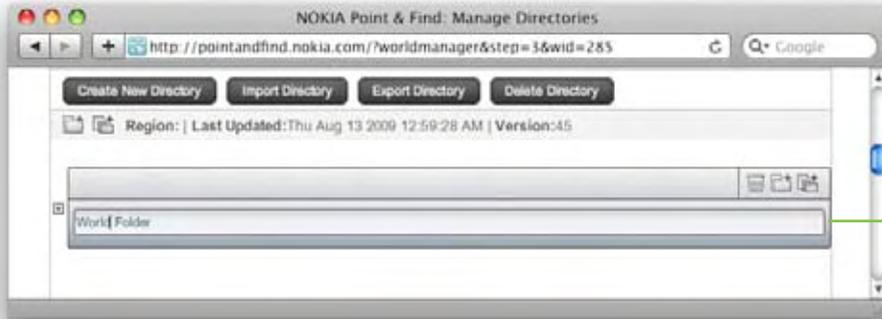
Root Folders and Root Entries

Root folders and Root Entries are at the highest level in the hierarchy of all of your Directory's folders and entries.

New “Untitled Folder”



- Click on this folder or its name, and an editing panel appears. Delete the "Untitled Folder" text and enter a customized name. For purposes of this example, we've named ours **World Folder**.



Rename the untitled folder in the editing panel

- You can create additional root folders for your world Directory by clicking on the **Add Root Folder** icon (first icon on left, below the Create New Directory button).



Add Root Folder icon

Save Changes warning

New Root Folders

Create a second root folder and name it **World Folder 2**. Add another root folder and name it **World Folder 3**. Now you have three root folders in which you can add multiple entries and additional sub-category folders.

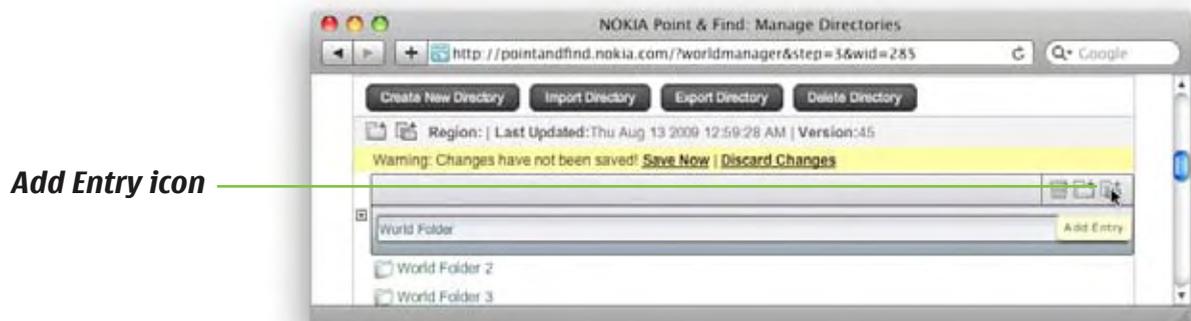
Click the **Save Now** text button in the yellow bar to save the changes you made.

Saving Your Work in Organise Directories

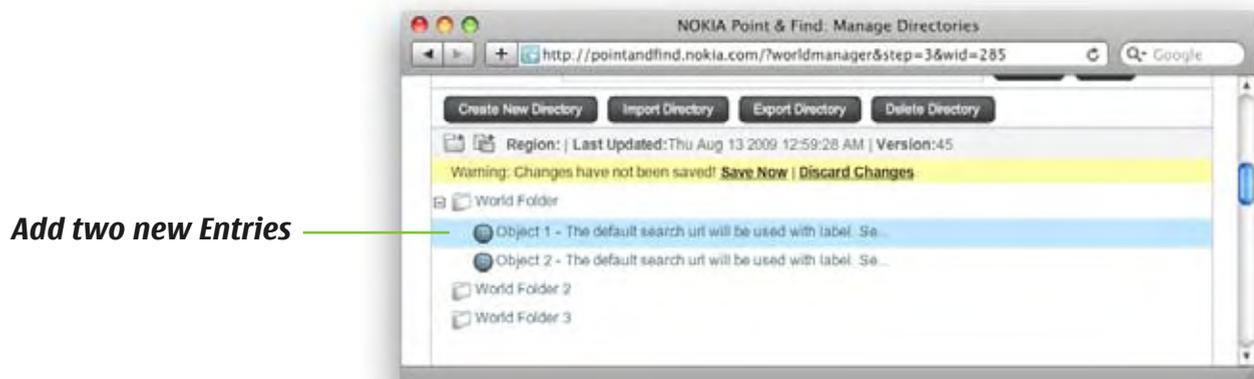
*It is essential to save your changes in Organise Directories. After creating or modifying folders or entries, click the underlined **Save Now** text button that will appear in a yellow bar above the Directory list, or click the **Discard Changes** text button if you don't want to save your changes.*

Creating and naming Directories, Root Folders, and Entries (*continued*)

6. Select **World Folder** to open its editing panel. Click the **Add Entry** icon in the upper right corner of the editing panel.



7. Click on the Add Entry icon twice to create two new entries. Select the first new entry and change the label name to **Object 1**. Change the second entry's label name to **Object 2**.



8. Now you have three root folders (categories) where your world's entries (labels and result actions) will be stored, with two entries in the first root folder (Object 1 and Object 2).

Click the **Save Now** text button in the yellow bar to save the changes you made.

Sub-results **only** seen in object recognition mode
 Sub-results are displayed **only** in the object recognition mode and process; you never see sub-results in the client's Directory.

Creating and naming Root Entries

A **root entry** is an entry in a Directory's highest level.

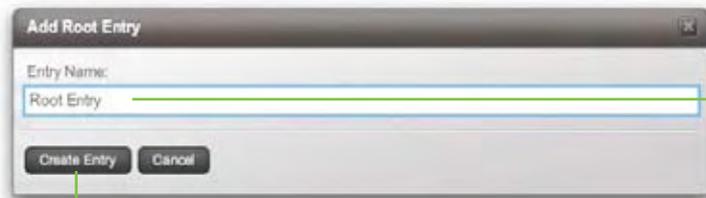
For each root entry you can create two sub-results (additional action options), which are only displayed in **object recognition mode**.

1. Click on the **Add Root Entry** icon (second icon on left, below the Create New Directory button) to create a new root entry.



Add Root Entry icon

2. The Add Root Entry dialog box will open. Type in the name for your root entry (we'll use "Root Entry" here), and click the **Create Entry** button to save it.

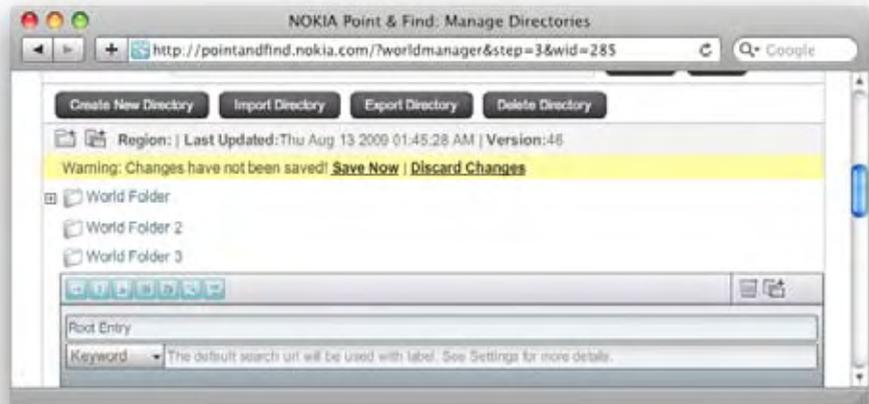


Rename Root Entry

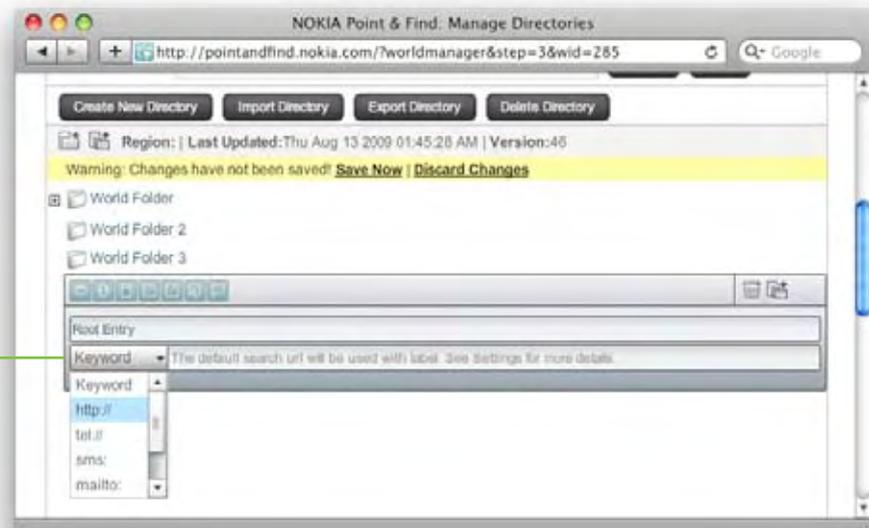
Create Entry button

Creating and naming Root Entries (*continued*)

- Click on the **Root Entry** name ("Root Entry") to open the editing panel where you can modify the name, add Result Actions, and add up to two Root Entry Sub-results.



- To define the action associated with an entry, click on the entry label and use the **Keyword** dropdown menu in the lower left corner of the edit panel to select a web address, telephone number, video, SMS, MMS, or email.



Keyword dropdown menu

Restart your world on the client after making changes in the Management Portal

After making changes to the world in the Management Portal you need to restart the world on your mobile device before the world's new settings, tags, etc., are available to the client app.

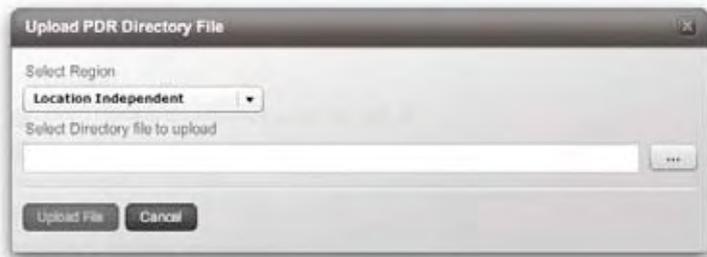
If you do not add a specific action for your entry, the action defaults to the **Search URL**, which you define in Settings.

- At this point you can check the Directory in your Nokia Point & Find world on your mobile device to see your Directory and entries. Enter your world on your mobile device and scroll down below the blue label field to view the Directory.

Import Directory

The **Import Directory** button (located on the Organise Directories page to the right of the Create New Directory button) allows you to import a previously exported Directory into a world.

Click the Import Directory button and a dialog box will appear prompting you to locate and select the external **.PDR** Directory file you want to import.



Export Directory

The **Export Directory** button (located to the right of the Import Directory button, *see above*) allows you to export a world's Directory as a **.PDR** Directory file to your hard drive. Later, you can import the Directory back into another world requiring the same Directory.

To export a Directory, click the Export Directory button. You'll then see a dialog box prompting you to select the location where you want to save the exported Directory. Click the **Save** button and the **.PDR** file will be saved to your computer.

Delete Directory

The **Delete Directory** button (located to the right of the Export Directory button, *see above*) is used to delete a world's Directory.

Use with caution. Once executed, the delete cannot be undone.

Manage Worlds: Manage Tags

The **Manage Tags** section of the Management Portal provides powerful tools to manage your world's tags. Using Manage Tags, you easily connect your world's objects and labels to web page html addresses, phone numbers, locations, or other actions.

In Manage Tags, you can edit labels (object names) and the actions associated with them. Additionally, you can delete, move, or copy tags to other worlds where you have Editor or Publisher rights.

Choose Manage Tags under the Manage Worlds tab to view and work with your world's tags and their images, labels, and result actions.

Manage Tags page

On the **Manage Worlds** tab

The screenshot shows the Nokia Point & Find Manage Tags interface. The browser address bar displays the URL: `http://pointandfind.nokia.com/?worldmanager&step=2&wid=285`. The page header includes the Nokia logo and user information: "Hello, Admin! | Log out". A navigation menu contains "Create New World", "Manage Worlds", "Account", "Support", and "Download". Below this, a secondary menu shows "myWorlds", "Manage Tags" (highlighted), "Organise Directories", "Access Management", and "Settings".

The main content area features a "World:" dropdown menu set to "944". Below it, a "View tags by region:" dropdown is set to "-Show All-". A search box is present, along with "From" and "To" date and time filters. A "PX Parameters bar" contains icons for various actions. Below this is a "Tag Management buttons" section with "Split", "Delete", "Export", and "Select All" buttons. The main area displays a "Tag list" table with two columns: "LABEL" and "ACTION". The "LABEL" column contains entries like "Front Cover: Jaime King" with small image icons. The "ACTION" column contains URLs such as `http://www.944.com/lasvegas/[PX.Delimiter]rtsp://vweh...`. At the bottom, a "Tag list page selector and tag counter" shows "Page 1" and "tags 1-100 of 722".

Annotations on the left side of the screenshot point to the following elements:

- World selection menu**: Points to the "World: 944" dropdown.
- View tags by region menu**: Points to the "View tags by region: -Show All-" dropdown.
- Tag search box**: Points to the search input field.
- Time-based search filter**: Points to the "From" and "To" date and time filters.
- PX Parameters bar**: Points to the row of action icons.
- Tag Management buttons**: Points to the "Split", "Delete", "Export", and "Select All" buttons.
- Split, Delete, Export & Select All**: Points to the same set of buttons.
- Tag list**: Points to the table of tags.
- Tag list page selector and tag counter**: Points to the "Page 1" and "tags 1-100 of 722" text.

Manage Tags options

(See screen shot on opposite page.)

World selection

At the top of the page (below the navigation toolbar), is the world selection dropdown menu, which lets you quickly select to work with any of your worlds.

View tags by region

Below the world selection menu is the **View tags by region** dropdown menu. This function enables you to view tags created with country-specific settings. This selection only provides options when the **tag location** setting has been set to country *prior* to tagging and you select **location dependent** when creating your Directories.

Tag search box

Below View tags by region is the **tag search box**, which is used to search your tags' labels. Type in a search term and click the **Search** button and you'll see only the tags that include the search term text in their labels. Click the **Clear** button to unconstrain the search results and display all your tags again.

Time-based search filter

Below the tag search box is the **time-based search** filter. This function allows you to search for tags created over particular days, and specific hours. This can be particularly useful if you were, for example, looking for all the tags you created last Thursday morning.

To search by date/time, enter "from" and "to" dates in the **date fields**, and select "from" and "to" times in the **time** dropdown menus, then click the **Search** button. Click the **Clear** button to unconstrain the search results and display all your tags again.

More options...

We'll cover managing tags in the **tag list**, adding actions to tags using the **PX Parameters**, and the **Split**, **Delete**, **Export** and **Select All** buttons in detail on the next few pages.

About Tags

Nokia Point & Find uses tags to identify the real life objects and labels of a world. Tags define what a user sees and experiences when objects are identified or labels selected, including the web links and other calls to action associated with them.

Tags are created using the Nokia Point & Find client application on an enabled mobile device. Tags are managed and actions are added in the Manage Tags page of the Management Portal.

For more background information on tags, see page 3.7, "Essential terms and concepts."

For information on creating tags using the client application, see chapter 7.

Basic functions

Edit tag label

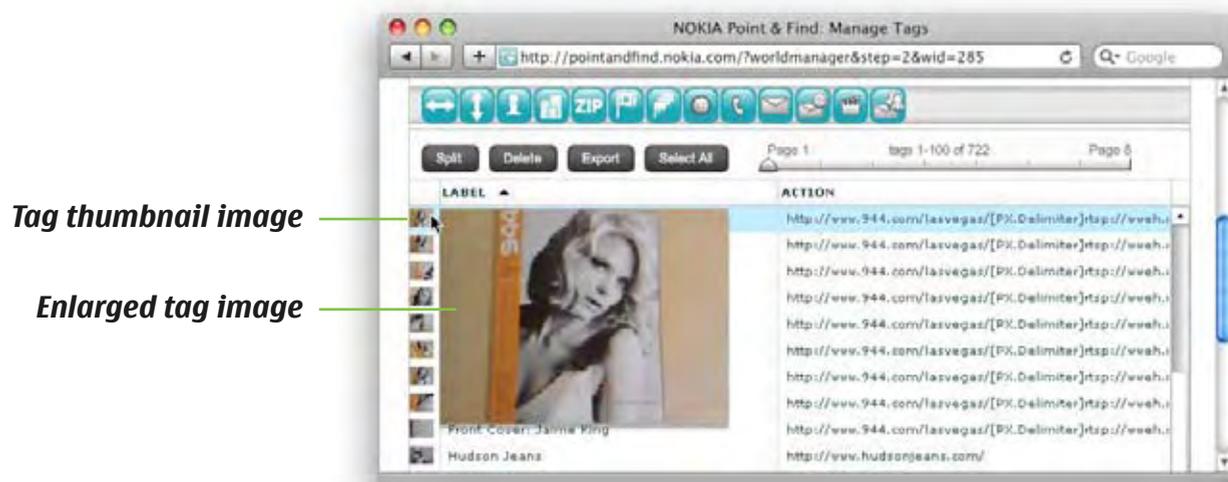
Click on a **tag entry** in the “**Label**” column and the tag highlights and becomes editable text. When you change the label for one tag, that label will automatically be changed for all other tags with the same label. This is convenient for relabeling numerous tag sets.

When a tag is selected, the **PX Parameter buttons** and the **Tag Management buttons** (Split, Delete, Export & Select All) also become available for use with the selected tag(s).



View tag image

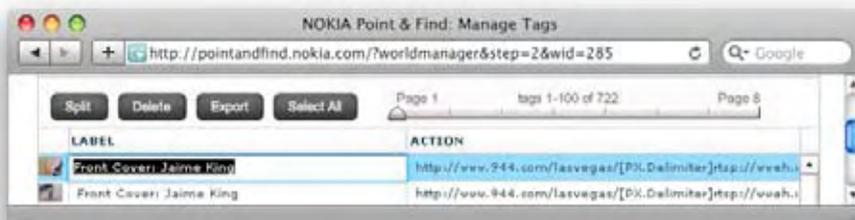
When you place your mouse on any of the tags' thumbnail images on the left side of the workspace, you'll see an enlarged image...



Tag Management

Tag Management buttons

Above the **“Label”** header, there are four buttons—Split, Delete, Export and Select All—that facilitate powerful tag management...



Split

Split is used to duplicate a selected tag, or multiple tags with the same label.

Delete

The **Delete** button is used to completely delete a selected tag, or multiple tags, from your world.

Export

The **Export** button allows you to export tags from one world into another world.

1. To export tags, select the tags you want to export, and click the **Export** button. You'll then see the **“Export Tags to Another World”** dialog box...



Staging Worlds

Some publishers choose to collect tags into a staging world where they review, sort, and manage their tags. Under the protection of a staging world, publishers have the opportunity to manipulate and experiment with tags, labels, and actions within a test environment before tags are moved into production. This is especially useful if you have a live world that requires ongoing maintenance from multiple tagging resources.

Tag Management buttons (*continued*)

- Use the **Select World** dropdown menu to select the world you want to export tags to, and then select an action...

Move will delete tags from the current world and move them to the selected world.

Copy leaves the tags in the world you are working in while making copies of the tags to the world selected.

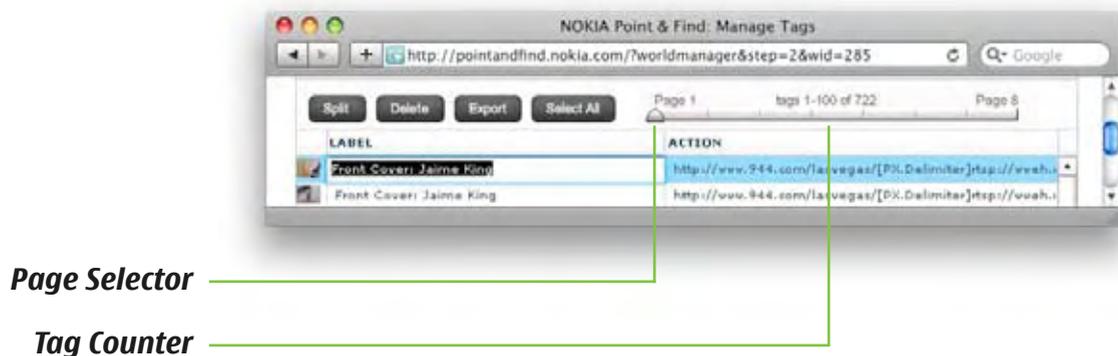
- Click the **Export** button; the function is executed, and the dialogue box closes.

Select All

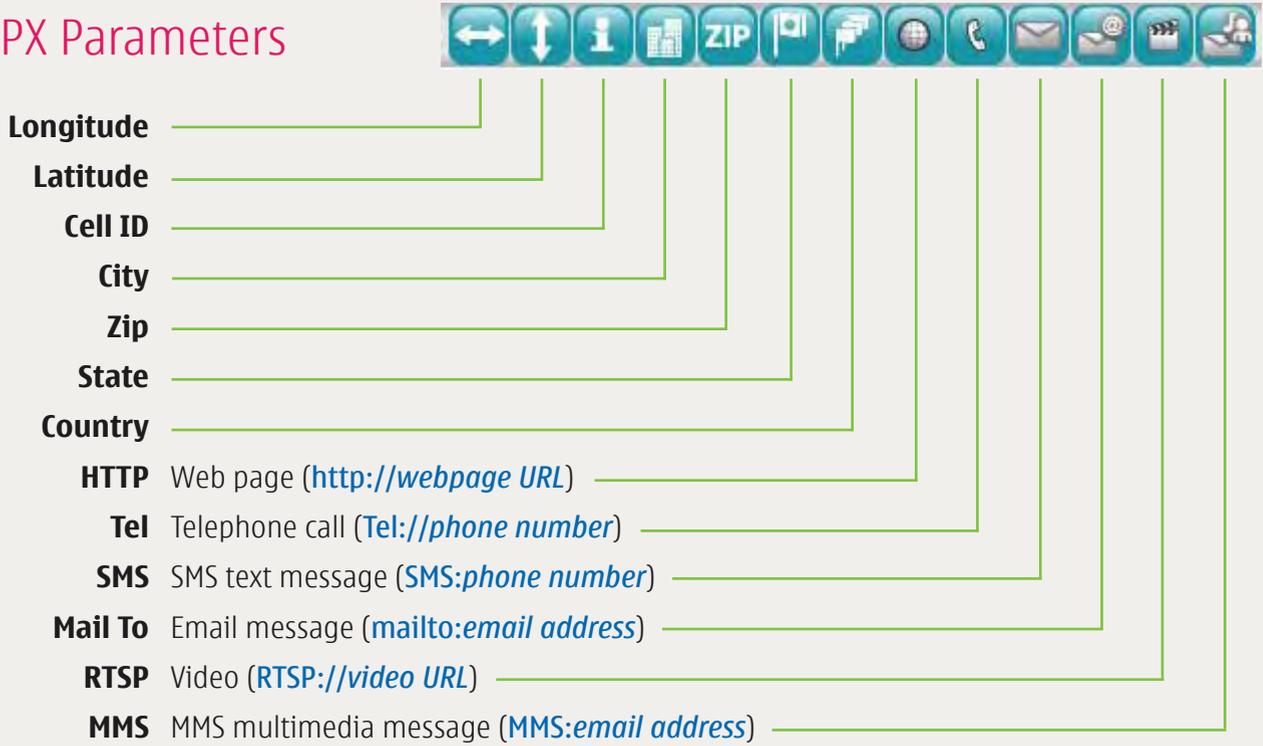
The **Select All** button lets you select all the tags displayed on the *current* page only. You can combine Select All with the Search function to quickly move groups of tags around as you build and organise a world.

Page Selector and Tag Counter

To the right of the Select All button is the Page Selector and Tag Counter. Use the **Page Selector** to move from page to page in the tag list. The **Tag Counter** displays the number of tags in your world.



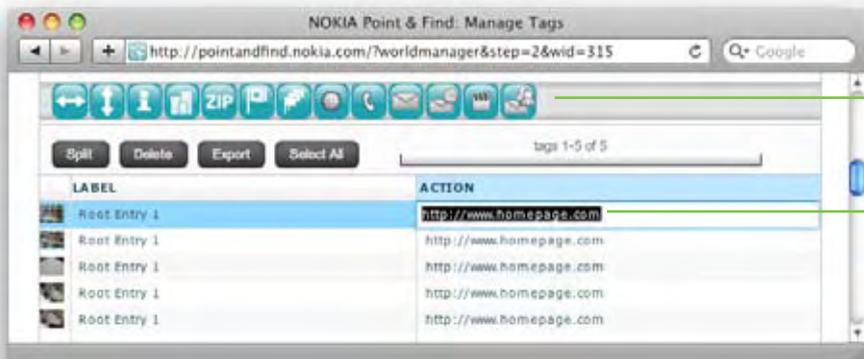
PX Parameters



Defining Tag Result Actions

When you first create tags, your world's default **Search URL** is used as the result action (see *Settings*, page 6.12).

1. To define or edit a tag's action, click on the tag's **Action** field. The action text will highlight...



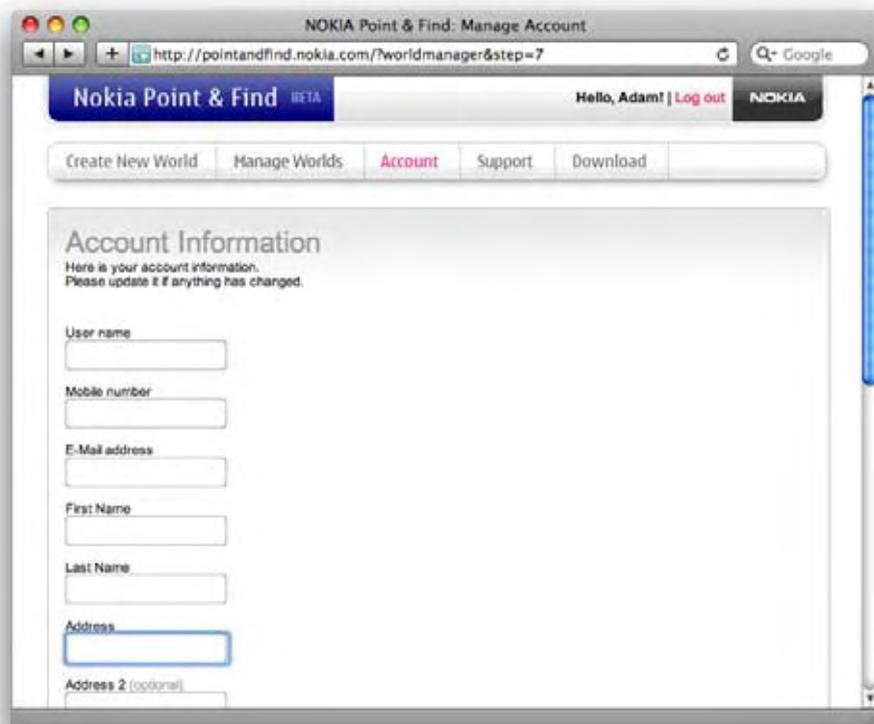
PX Parameter buttons

Selected tag's action text

2. Use one of the **PX Parameter** buttons to set the desired action.

Account tab

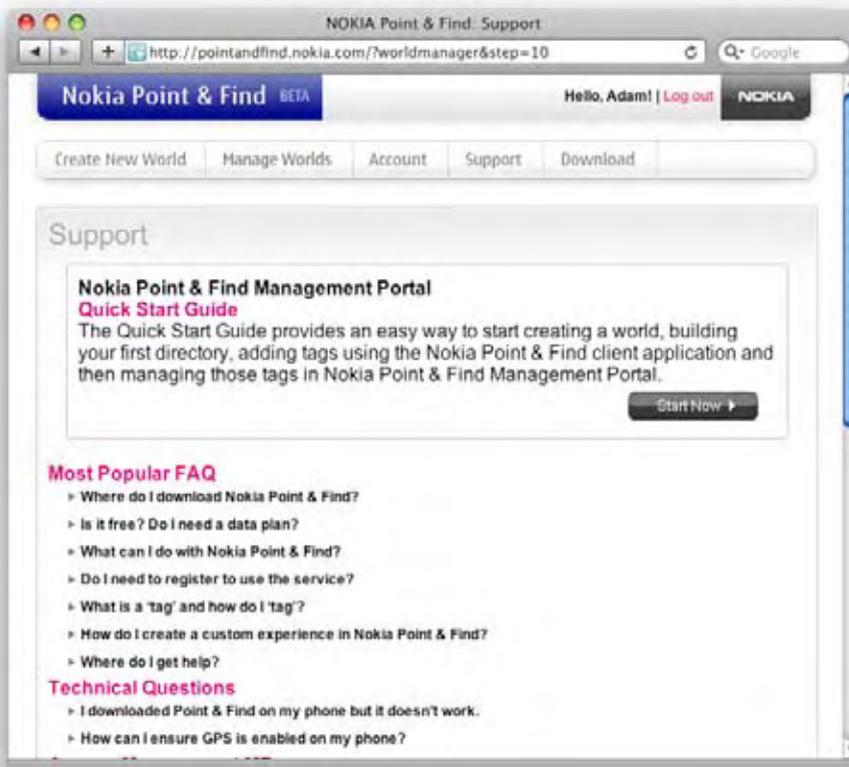
The **Account** tab of the Nokia Point & Find Management Portal allows you to edit your personal account information and account password.



The screenshot shows a web browser window titled "NOKIA Point & Find: Manage Account". The address bar displays "http://pointandfind.nokia.com/?worldmanager&step=7". The page header includes the Nokia Point & Find logo, a user greeting "Hello, Adam!", a "Log out" link, and the Nokia logo. A navigation menu contains "Create New World", "Manage Worlds", "Account" (highlighted in red), "Support", and "Download". The main content area is titled "Account Information" and contains the text: "Here is your account information. Please update it if anything has changed." Below this text are several input fields: "User name", "Mobile number", "E-Mail address", "First Name", "Last Name", "Address", and "Address 2 (optional)".

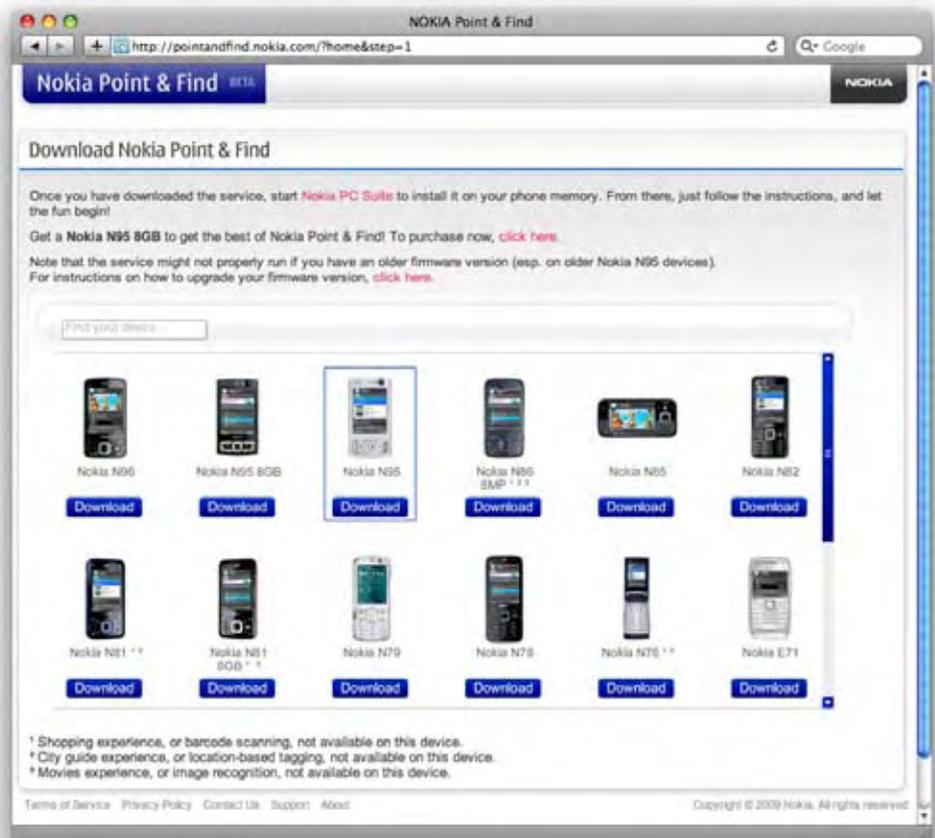
Support tab

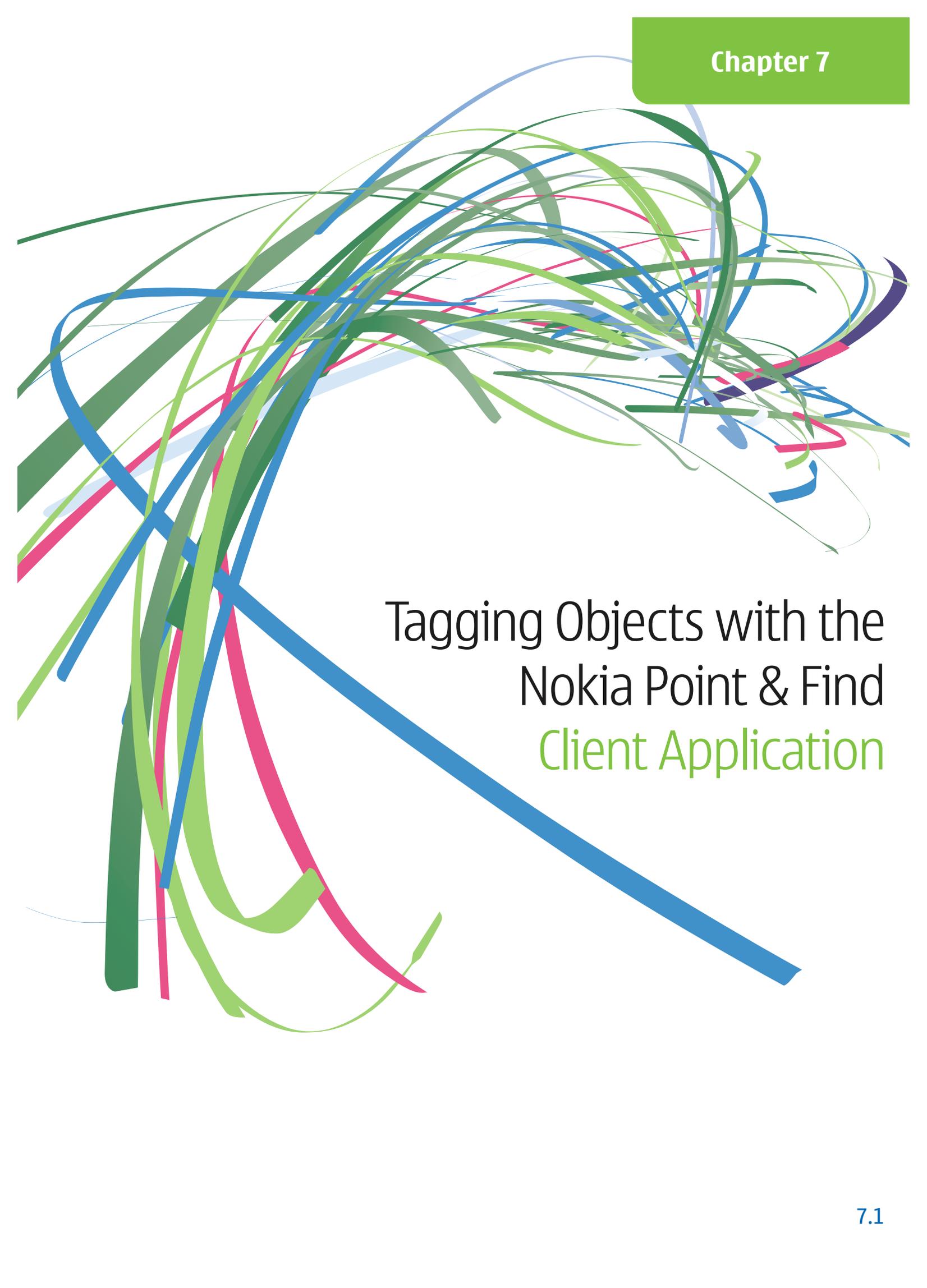
The **Support** tab of the Management Portal has frequently asked questions (FAQs), a QuickStart Guide, and an option to contact Nokia Point & Find support with your questions – with additional support material to be added in the future.



Download tab

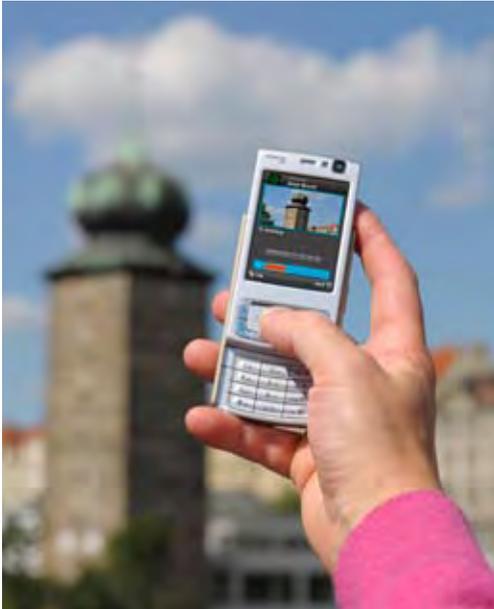
The **Download** tab of the Management Portal provides links to the latest versions of the Nokia Point and Find client application, along with instructions on how to upgrade supported phones' firmware.





Tagging Objects with the Nokia Point & Find Client Application

Tagging Objects with the Nokia Point & Find Client Application



Before Tagging Objects

In order to begin tagging objects with the most efficient process, some preliminary work in the Management Portal is required. Much of this material has been covered in previous chapters, and this section provides a summary of requirements for successful tagging while referring to details covered in previous chapters.

Essential preliminaries with the Management Portal

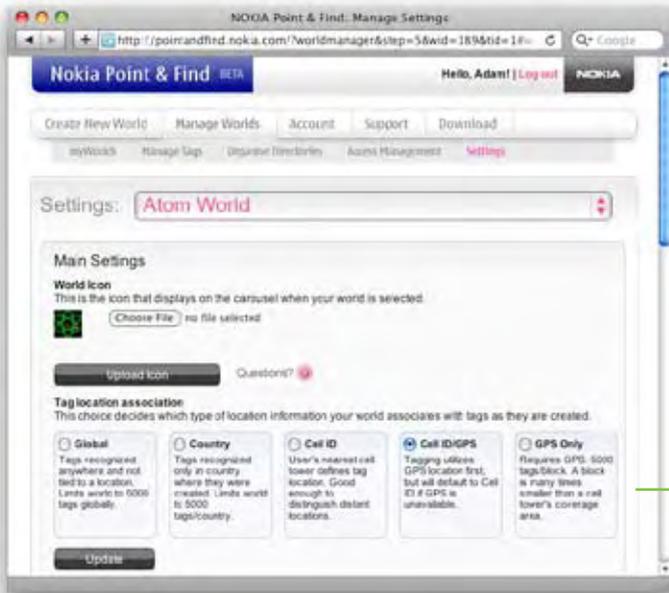
Create a world and purchase an account plan

Different account plans allow for different numbers of collaborators that can have the rights to tag into your world. (*See chapter 6, page 6.5 for account choices, along with details on how to create a world and purchase an account plan.*)

After you have created a world and signed up for an account, use an Internet-connected PC and log on to the Management Portal. Select the world you will be tagging in, and go to the **Settings** page of the **Manage Worlds** tab in the Portal. (*See page 6.8 for details on the Settings page.*)

Select the Tag Location Association and Content Location Association settings

The **Tag Location Association** options are at the top of the Settings page. (See page 6.9 for details on Tag Location Association.)



Tag Location Association options

At the bottom of the page in the Advanced Settings box are the **Content Location Association** options. (See page 6.14 for details on Content Location Association.)



Content Location Association options

Multiple tags

Creating multiple tags of the same object with different images of the object (from different angles and distances, and under different lighting conditions) helps achieve the best object recognition success.

Set your Tagging Rate

The second item in the **Advanced Settings** box is the **Tagging Rate** setting, which can be set to Single or Repeat.

Select **Single** for one tag per label when tagging, or **Repeat** for the multiple tags per label option.

In general, you'll want to use the repeat setting for its ease of use with multiple tagging. The single tagging rate option is generally a cautious setting geared toward training and public use (user-generated content).

With the tagging rate set to repeat, you can create multiple tags of the same object without the need to repeatedly enter or select the same label, which makes tagging quick and easy.

Create your world's directory structure and object labels

Make directories and object labels using the Management Portal *before* tagging the objects of your world, and the tagging process with your mobile device will be quick and easy.

Creating your directories and labels before tagging will also help ensure your tags are well organized right from the start of building your world. (See page 6.22, *Organise Directories*, for details on creating directories and labels.)

When creating your directories, choose **Location Independent** in the **Region** section (the default), unless you are creating a country-specific directory for a country-specific world.

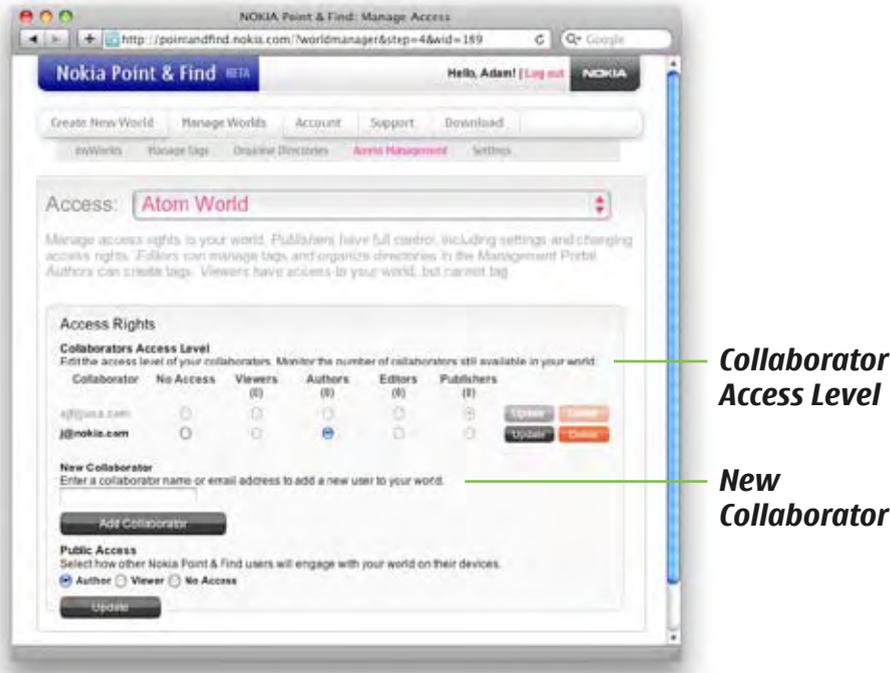
Enable collaborators access to generate tags for your world

1. Using the Management Portal, go to the **Access Management** section under the **Manage Worlds** tab. You'll see the world's collaborator list.
2. Add a **New Collaborator** by typing in the Nokia Point & Find user name or email address of a registered user.

New users must register

Collaborators who are new users must first sign up for the Nokia Point & Find Management Portal on the registration page at: <http://pointandfind.nokia.com/?register>

3. Enable tagging access rights for a collaborator by selecting them from the collaborator list; then select the **Author** radio button and click the Update button. This collaborator now has Author access rights to tag into your world.



Essential preliminaries with your mobile device

Check your device's GPS connection

If your world is GPS enabled, before tagging confirm that your device's GPS status is active. On the N95 device, follow these steps:

Menu > Tools > Connectivity > GPS Data > Position

The **Position** screen should show your GPS Coordinates. If not, slide the phone so the keypad is showing (the GPS sensor is under the keypad) and leave the phone outside with an unobstructed sky view for a few minutes so it can connect to the GPS system. This process can take from a few seconds to a few minutes.

You can also check your satellite status. Click **Options** and select **Check Satellite Status**. The Satellite Bars should be full. Refer to your device's user manual or contact your service provider if your GPS is unable to connect

Enable your mobile device for tagging

1. Launch the client app on the mobile device
2. Select and open the world you are going to tag in
3. Select the **Options** menu and choose **Access Management**
4. Set **Guest Access** to **Disabled**
5. Enter your Nokia Point & Find account user name and password
6. Select **OK** to accept

Now the device is enabled and ready to tag into your worlds.

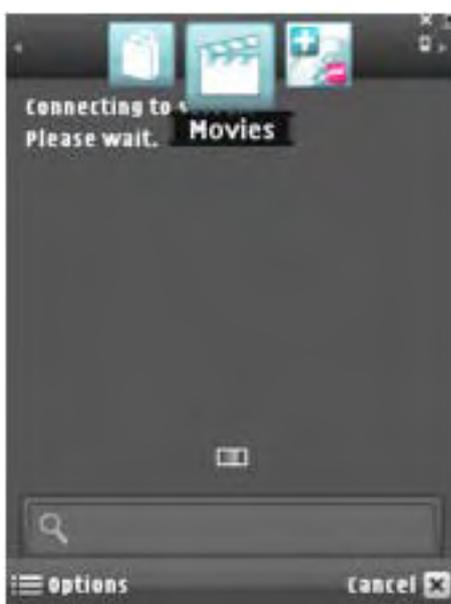
Launch the client application and select world

Launch the client application on your mobile device, then, using the Worlds Carousel, select the world you want to create your tags in. (See page 4.8, *Using the Client Application.*)

Check tag download and server connection

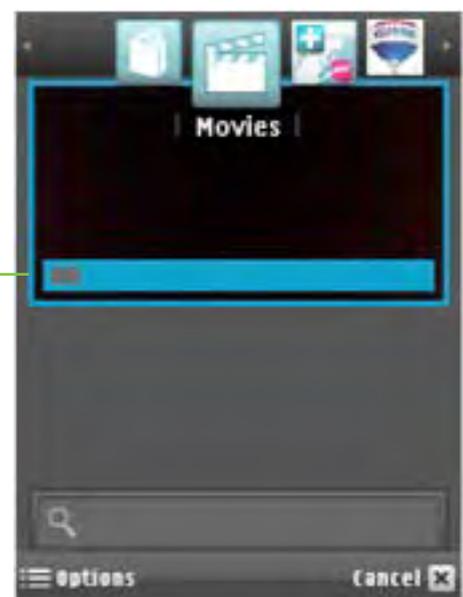
Upon entering the world selected, you should get a message that says: *"Connecting to server. Please wait."* Wait for this message to clear, and, if the world already has tags in it, wait for the tag download bar to show completion.

If the server is unavailable, you'll get a message that says: *"Server unavailable. Try again later."* The interface also indicates whenever a server connection is not available by displaying a **no server connection** status icon in the top left corner...



No server connection status icon

Tag download status bar



Access Management FAQ: Client application

What does “Guest Access: **Enabled**” mean?

Guest Access is the default account setting on the Nokia Point & Find client. When Guest Access is enabled, users are able to download and view any world open to the public. Guest Access does not require a login name and password.

What does “Guest Access: **Disabled**” mean?

Only world owners and collaborators should disable Guest Access. Disabling Guest Access opens a login screen. Enter the user name and password you created when registering for the Nokia Point & Find Management Portal. Only when logged in to the Nokia Point & Find client will your collaborator rights be enabled.

For example, if you are a world Author and wish to tag into your world, you must disable Guest Access and login using your Nokia Point & Find Management Portal user name and password. Your collaborator rights as an author will then be active.

I can't **download a world** where I have been assigned as a collaborator

The owner of this world may have set Public Access to No Access. Confirm that you have signed into the Nokia Point & Find client application with your own Nokia Point & Find user name and password. On the client, select:

Options button > **Access Rights** > select **Guest Access: Enabled** > select **Disable**

Next, login with your Management Portal user name and password.

You should now be able to select, download, and enter your world, as well as tag in the world if your collaborator level allows for it (any collaborator role other than basic viewer role).

I can't **tag into a world** where I have been assigned as a collaborator

Check your access rights level for the world. Authors, editors, and publishers can tag into a world, while viewers cannot tag in a world. If you have tagging rights, make sure you sign into the Nokia Point & Find client by:

Options button > **Access Rights** > select **Guest Access: Enabled** > select **Disable**

Next, log in with your Nokia Point & Find account (Management Portal) user name and password.

This will enable you to tag into your world.

Tagging objects

Make tagging easier

Remember, creating your directory structure and labels before tagging will minimize the work required to tag and build your world. See page 6.22 in chapter 6 for details.

In the Essential Preliminaries sections at the start of this chapter, you selected a tagging rate of repeat or single in the Management Portal's Settings area. This setting determines a client's tagging mode for your world.

Tagging with Repeat Tagging Rate

1. After entering your world, scroll down to the blue text field in the center of the screen, and begin typing in the label (name) for the object you are about to tag. If the label already exists, as you begin typing the label name will appear in the label box...



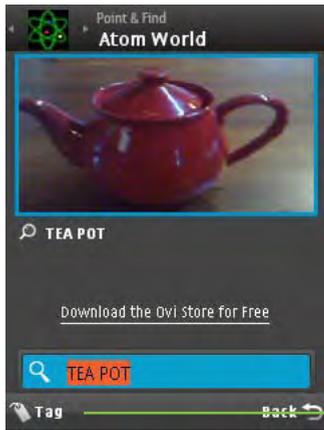
After an existing label appears in the label box, you can select it by simply scrolling to it so it highlights, but don't click on it; rather, use the left softkey to Select the label for your upcoming tags...



"Select" left softkey

If you haven't already created the label using the Management Portal per the preliminaries, type in the entire label name, and then use the left softkey to Select the new label.

- The repeat tagging mode is now enabled on your mobile device. The left softkey (and the center key) become Tag buttons for repeat tagging, and the label is in the text box. The label will be highlighted in orange if it is a pre-existing tag. As well, if the object has already been tagged at least once, the system may recognize it and also show the label name in white text under the Viewfinder image, per the screen shot below...



“Tag” left softkey

- Point your Viewfinder at the object you want to tag, and press Tag (the left softkey, or the center key).
- The tag will automatically upload to your world database, which you later access and manage using the PC-based Management Portal. Wait for the tag to upload – you will see a message confirming tag upload status...



- When the tag upload is completed, the device will be ready to tag again with the same label, and you can repeat the process (from step 3) to create as many tags of the object as you want.

Using the Cancel Key during tagging

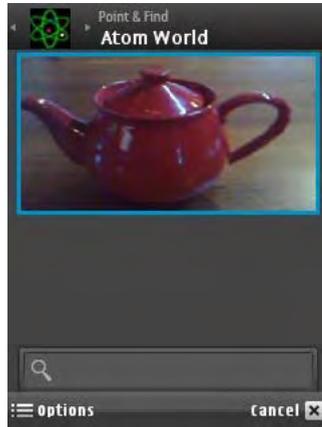
If a tag is taking too long to upload, you can hit the cancel key which stops the upload process.

“Tag upload failed. Try again” message

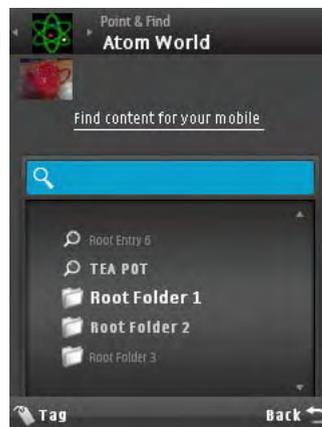
If your Internet connection is not active, you may receive a “Tag upload failed. Try again” message. Go ahead and try to tag again; if you continue to receive this message check that your default access point is set appropriately. You also have the option to use the Management Portal to set the tags to upload at a later time (see “Settings,” page 6.8).

Tagging with **Single** Tagging Rate

1. From the starting screen of your world, point the Viewfinder at the object you want to tag...



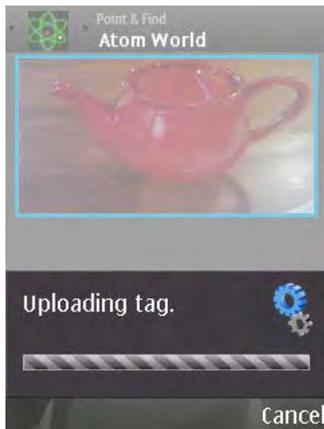
2. Press the center key to "freeze" the image in your Viewfinder; the image size is reduced (and moved to the top left) and the text field is enabled. You now are able to choose an existing label from the directory by scrolling down to highlight the label, or you can type in a new label name for the image...



- Press **Tag** (the left softkey) to associate the image with the label you chose from the directory (or typed in)...



- The tag is then uploaded to the server...



- Repeat process (from step 1) as desired.

Helpful pointers for tagging

Lighting Conditions

If an object is always in the same lighting (such as an indoor object under constantly controlled lighting), taking three to five tags of the object will suffice.

If an object is found under different lighting conditions (day, night, bright, cloudy, supplemental lights on or off, etc.), then take three to five tags of the object under each (or most) lighting conditions.

Multiple Tagging

When tagging a movie poster, for example, Nokia will take five tags of a poster from different angles and distances, under one to three different lighting conditions for a total of approx. five to 15 tags. When tagging a storefront, Nokia will take five to 10 tags from different angles at a distance of approx. six feet and 12 feet from the store for a total of 10 to 20 tags.

Tag an object multiple times from a few different angles and distances – and under different lighting conditions when appropriate – in order to improve recognition success of your targets (objects). Depending on the object, three to five tags per environmental condition – day/night, indoor/outdoor lighting – is sufficient.

Include tags with a focus on any logo names or fixed images that are on (or part of) an object, and also include tags with a focus on the entire object.

Do not focus on small text or areas within the target that may change over time (as in a window display that will change in a store front).

In summary:

- Tag objects from multiple angles (approximately 30 degrees each side of center).
- Tag objects from the front and back, close up, and from a distance.
- Tag objects under several lighting conditions (day, night, bright, cloudy, artificial lights, etc.)
- Include tags for logos or fixed images that are part of, or on, an object
- Do not tag small text areas or images that will change over time