



# GoWare Technology & Asset Details

## Table of Contents

<b>Mobility Today...and Tomorrow.....</b>	<b>6</b>
What Does Mobility Mean To You?.....	6
<b>The History of GoWare.....</b>	<b>7</b>
Core Technology .....	8
The Power of XML.....	9
XML Schema .....	9
Transforming Content into XML .....	10
Generating XML into Usable Formats .....	11
Philosophy Behind the Technology .....	12
Core Value .....	13
Leveraging What the User Already Knows .....	13
Building for the Future .....	15
Market Reception .....	15
Blogsphere .....	15
Popular Press .....	16
User Adoption .....	17
Analysis .....	19
<b>Understanding The Technology.....</b>	<b>21</b>
Overview .....	21
The DoMo Framework .....	21
Technology .....	23
The SimplyMobile Platform .....	23
Technology .....	23
How it All Works.....	25
Tapping into the Power of Social Networks and User-Generated Content ..	26
Push vs. Pull .....	26
Push .....	26
Pull.....	26
Security .....	27

---

Server .....	27
PC (Desktop Engine) .....	28
<b>Products and Service .....</b>	<b>30</b>
<b>The DoMo Framework .....</b>	<b>31</b>
Architecture .....	31
Operation .....	32
Content Acquisition Methods .....	34
Supported Content Types .....	34
Content Storage .....	36
Content Hierarchy .....	36
Personalization .....	36
Templates .....	36
The DoMo Framework SDK .....	37
Supported Methods .....	37
APIs .....	37
Plug-ins .....	38
Development .....	38
Deployment .....	39
Third-party Technologies .....	39
Installation Components .....	40
Registration .....	41
Content Updating .....	41
Application Updating .....	41
Web Services .....	42
Security .....	42
4INFO .....	42
<b>DoMo Command Center .....</b>	<b>43</b>
<b>DoMo Campaign Manager .....</b>	<b>46</b>
<b>DoMo HomePage .....</b>	<b>47</b>
Technology .....	47
Features .....	47

---

---

Plug-ins .....	48
Plug-in Process.....	49
Synchronization .....	50
DoMo HomePage Desktop.....	51
Local Content Access.....	51
Browser Toolbar Plug-ins .....	51
DoMo HomePage Web .....	52
DoMo HomePage Snapshot .....	52
DoMo HomePage OneTouch .....	53
DoMo HomePage Community .....	54
Mobile Access.....	55
<b>SimplyMobile .....</b>	<b>55</b>
Technology.....	55
Vs. DoMo HomePage .....	55
Versions.....	57
Interface .....	58
Menu .....	58
Tabs .....	59
Buckets and Users .....	60
Content and Categories .....	60
Plug-ins.....	60
The Library .....	61
Mobile .....	63
Features .....	64
Adding Content .....	65
Sharing Content .....	67
Managing Content .....	67
Accessing Content .....	67
Mobile Stickies .....	69
Objective .....	69
Functionality.....	69

---

---

Related Links .....	70
Interface .....	70
Sticky Display .....	70
Stick manager.....	70
<b>Intellectual Property.....</b>	<b>72</b>
20070027931 .....	72
Value .....	72
20070049258 .....	74
Value .....	74
20070055731 .....	74
Value .....	74
20070198633 .....	75
Value .....	75
<b>Opportunities for Acquisition .....</b>	<b>76</b>
<b>Key Questions.....</b>	<b>77</b>

## Mobility Today...and Tomorrow



The mobile phone has already become an intrinsic part of our lives. But not only as a means to make phone calls. No, with the rapid and increasing growth of the “smart phone,” the phone is becoming a means by which users can “stay connected” to the content and services they utilize from their personal or work computers. Whether that is connecting to online banking, through the mobile web, or using software that is installed by corporate networks to connect to sensitive business data, users are beginning to see their phone as much more than just a communication device. With carriers embracing “all you can eat” data plans, and users eager to consume the data, today’s mobile phone is heralding tomorrow’s mobile market—ubiquitous computing.

### What Does Mobility Mean To You?

Mobility will mean something different to everyone. At GoWare, we believe that mobility meant, in its broadest sense, “being away from a computer.” That meant that being able to access content and data wasn’t tied directly to a device in the user’s pocket.

GoWare’s technology was developed to exploit that, to give users the ability to not only access the content that was important to them (whether from their hard drive or from their favorite websites) but to interact with it as well.

As more companies embrace mobility as part of an overall product strategy (in some cases, it is becoming a “me too” offering), it will begin to beg the question about what it all means to customers. Is it a way to extend brand? Is it a way to create stickiness to an offering? Is it a way to deliver advertising and coupons? Is it a way to create a relationship with the consumer that extends to where ever they are?

GoWare’s technology provides answers and solutions to all of those questions so that you spend less time worrying about a mobile strategy and more developing and mining happy users that generate incremental revenues.

## The History of GoWare

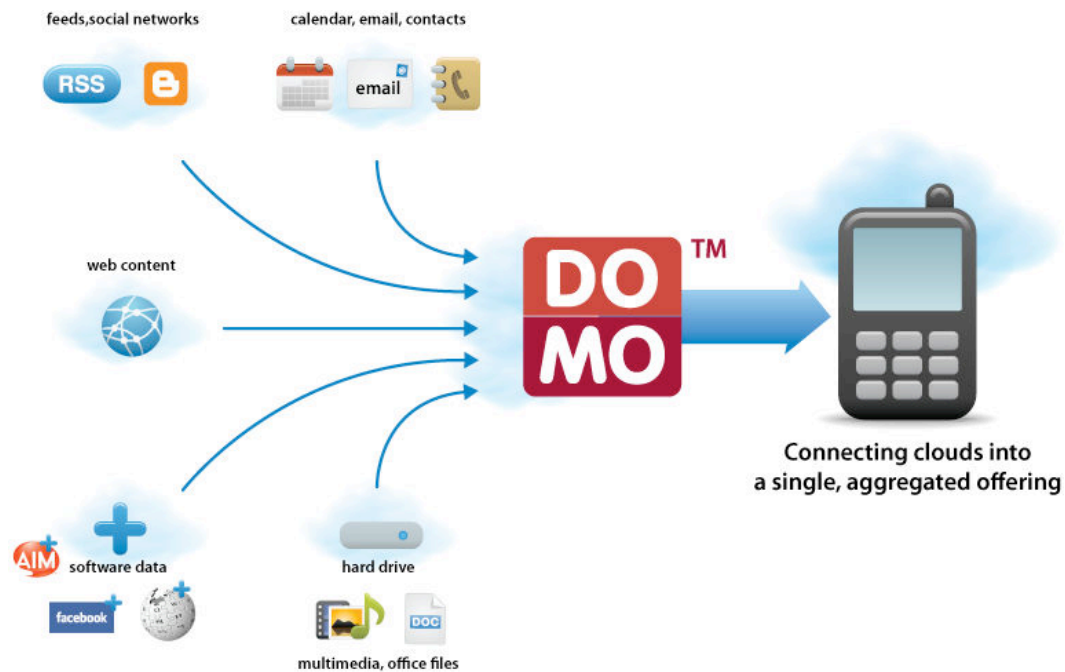
GoWare, Inc. was founded in June 2006 as a software development company with a unique vision—to enable users to create a personalized, always available "cloud" of their content that they can access from any device, anywhere. Through their innovative and powerful software platform, GoWare hoped to create a ubiquitous connection between the PC content and mobile content experience.

Formally launching in February of 2007 (at DEMO '07 in Palm Desert, CA), GoWare attempted to articulate its revolutionary DoMo platform in an end-consumer play called DoMo Homepage. This PC and Web-based application allowed users to create their own "mobile portal" of content from their PC, web resources, and web software.

In summer of 2007, GoWare focused its strategy on a vertical market implementation, developing a new PC-based application, SimplyMobile, that was tailored to the individual and unique needs of the vertical market segment. Targeting moms as the first vertical segment, GoWare established a strategic partnership with a leading consulting firm in the industry—MomCentral Consulting. Leveraging this partnership to develop SimplyMobile with features and processes suited to the target demographic, GoWare launched SimplyMobileMom in January 2008 to rave reviews throughout the blog sphere and national press.

In late spring, 2008, realizing that the economic situation was preventing them from raising additional funds, GoWare revamped its strategy from a consumer-facing software provider to a back-end mobile SaaS developer. Utilizing its platform, customers could integrate, at the API level, the ability for their users to "mobilize" content from websites and desktop software.

## Core Technology



Powering GoWare's unique consumer-facing software is the DoMo Platform. Composed of numerous "engines," the platform's ultimate strength is in acquiring and rendering content into XML, allowing it to be consumed by any service or transformed (into HTML for example) for display on mobile devices with or without client deployment. Using a combination of push and pull features, GoWare's technology keeps the user's content dynamically synchronized so that when they need to access critical information in a timely manner or just want to read the latest headlines, they can from a mobile phone, a friend's computer or even a mobile internet device.



## The Power of XML

At its core, the DoMo Framework is about the conversion of user-selected content or content resources into a single XML file that is then available for transformation by any end-system capable of consuming XML. In the current implementation, the user's XML file is transformed through a selectable XSLT Template into compliant mobile-web pages.

### XML Schema

There are several XML schemas utilized within the DoMo Framework—within the Desktop Engine (to store application data such as versioning) as well as within the server (to store user content). The schema below is a sample of how user content, which can include data from the PC and from the Web, is stored in an aggregated format utilizing XML.

```
<Category Name="Me" id="1" Type="" Pid="" LastUpdated="" idgen="19"
  IsDefault="1">
  <DESCRIPTION />
  <KEYWORD />
  <Content id="1" Name="Calendar" Type="Blank" Source="Blank Content"
    LastUpdate="29/02/2008 11:16:22" Frequency="" Remove=""
    UnReadMsg="" idgen="0" format="" More="0" SMSNotification="1"
    IsHidden="0">
  <title>Calendar</title>
  <link />
  <description />
  <language />
  <pubDate />
  <copyright />
  <DESCRIPTION />
  <KEYWORD />
</Content>
```

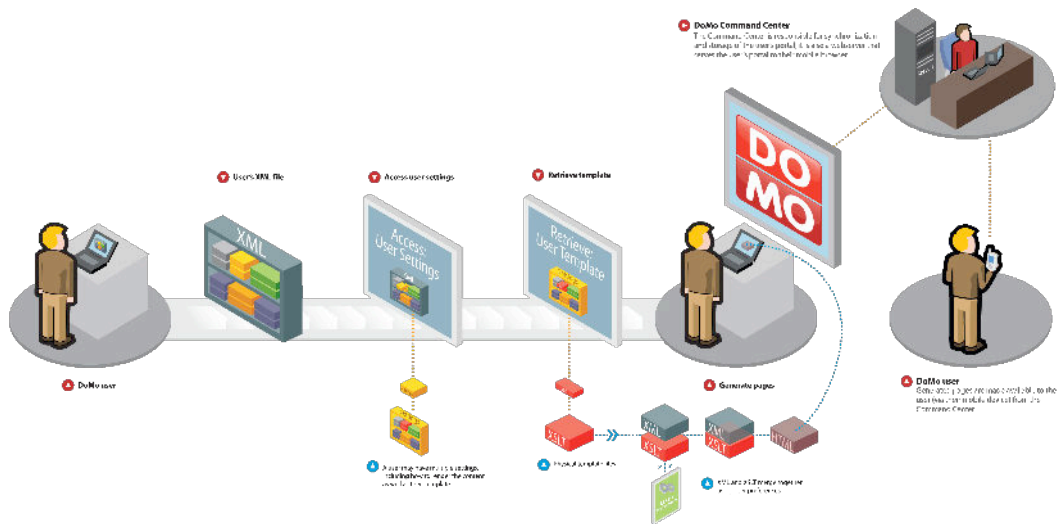
## Transforming Content into XML



DoMo is all about XML. This selection as the content storage format was deliberately to allow flexibility in presentation of a user's content. The process is simple:

- User selects content or content is selected by DoMo based upon user identification (i.e., using a plug-in, etc.)
- Rules are applied to the content (i.e., what content to take from the identified source)
- The content is transformed into XML
- The transformed content is appended to the user's content library making for a single source of XML content that crosses sources

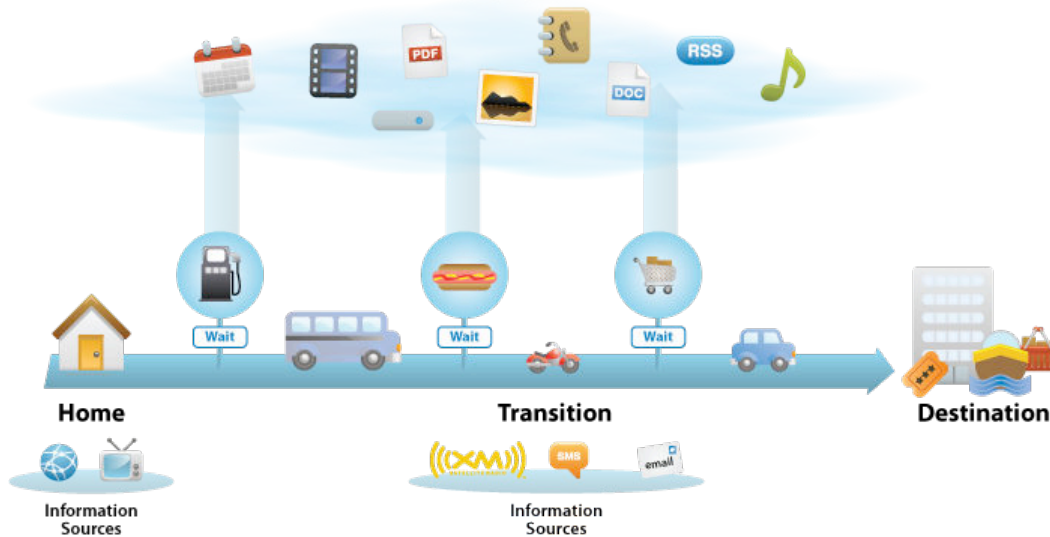
## Generating XML into Usable Formats



Once the content has been transformed into XML, it can be generated into usable formats such as HTML by the DoMo Rendering engine. Additionally, transformation of the content can be handled by external applications such as software on the handheld, a PC application, or a Web 2.0 service<sup>1</sup>.

<sup>1</sup> In the current iteration, we opted to have DoMo render content into HTML so that users could consume it from any device or location.

## Philosophy Behind the Technology



The philosophy behind GoWare's technology and product roadmap were simple—enable users to create a personalized content experience that travels with them wherever they go. Whether that's in the car, in line, at the zoo, or at a friend's house, GoWare's software platform SimplyMobile, and other integrated technologies, allow users to access the content that's important to them—pictures, websites, blogs, email messages, documents on your computer, even social networking sites when they need it (in transition, like on a bus or a train, at a wait point like a gas station, or at their destination!

GoWare developed products based on a simple assumption—mobility does not mean having a phone or device in hand. It means the user is away from the primary tool they use to consume content...their computer. Whether at work or at home, the computer has their documents on it, their pictures, and their bookmarks, enables them to read blogs, news, and watch videos. GoWare believes that through the PC, users should be able to create a "personalized content library," both by adding content deliberately and simply by working with content that is added automatically.

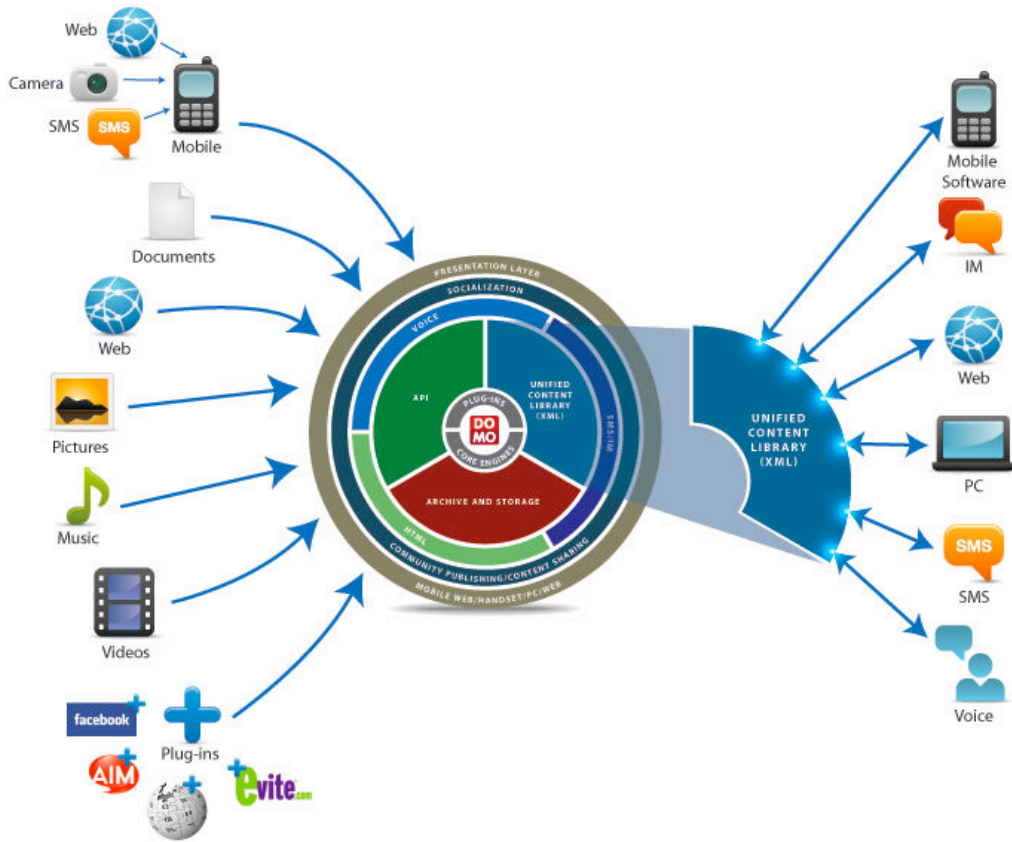
## Core Value

The GoWare product was designed as a SaaS (Software as a Service) solution for a growing need to provide content to mobile users. Through numerous APIs, external content owners and software developers could make “calls” to the DoMo system, enabling their users to add content to their mobile devices through the “click of a button.” In short, the GoWare product strategy was:

- A single, “meta aggregator” of content for mobile consumption
- Browser-based, carrier/network/handset independent
- Multi-modal, bi-directional approach
- Platform-based for integration into other software/offerings
- Adaptive to changing market (as SaaS provider, GoWare keeps up with the market, adding features/functionality as required by competition and user demand; new features made available through APIs to customers and partners)

## Leveraging What the User Already Knows

DoMo was designed to capitalize on the technologies and computing behaviors with which users were already comfortable. As such, the DoMo Engines specifically integrated with those technologies to drive user adoption and familiarity. Whether that was at the desktop— right-click “add to mobile phone” option through context-sensitive menu, “print to phone” option available through a standard printer drive, or automatic uploading of recent documents, web searches, or browser favorites—or on the mobile phone through standard text messaging, GoWare worked diligently to make mobility a natural extension of common computing practices. The illustration below encapsulates that.



On the left are all the types of content. On the right are the methods by which that content can be accessed through the user's XML library generated from the DoMo Architecture in the middle.

## Building for the Future

At GoWare, we understood that the mobile device, and the mobile experience for consuming content, is not an isolated event. It is becoming an intrinsic part of the entire "value chain" for how a user consumes and interacts with content. As such, the DoMo Framework utilizes a multi-impression advertising architecture so that revenue can be maximized across the entire value chain, from content capture on the PC to content consumption on the device, ensuring that the system is not predicated on a single advertising channel.



## Market Reception

In the short time of launching SimplyMobile Mom, GoWare received a tremendous reception in the blogosphere as well as the popular press regarding the application.

### Blogosphere

Managed by MomCentral Consulting, the blog out-reach involved key bloggers in the mom-vertical. The following is an example of the type of reception SimplyMobile Mom received in the blogosphere:

*What would you say if I told you that there is a program out there, designed for the Mom on the go..that can make your computer accessible to you when you need it and make life SOOOOOO much easier! If, you, like me, are constantly on the lookout for one more way to organize my life a little more..than you need to hear about Simply Mobile Mom's...its too easy to not use it! Its become an invaluable source of peace of mind to me in the past week or so. (Posted 4/28/08)*

<http://ericassimpleinspirations.blogspot.com/2008/04/28/it-can-get-easier/>)

Below is a list of popular mom-focused blogs that provided positive reviews of the software<sup>2</sup>:

- Mom Advice
- The Life of a Home Mom!
- Baggage and Bug
- Life as Lou
- Ranting, Raving, and Changing Diapers
- Puppy Dog Tales
- Erica's Simple Inspirations
- Massachusetts Mom
- Wisconsin Mommy
- Work It
- My Two Suns
- Mommies United
- My Two Cents
- Dana Reviews
- The Dana Files
- Amanda (A Stay At Home Mom's Point of View)

### **Popular Press**

Managed by ORCA Communications (a PR firm focused on promoting startups and inventors with an established relationship with MomCentral Consulting), the PR campaign focused on known entities in the mom-vertical. Below is a list of the publications and news stations that either reviewed the software or expressed interest:

- ABC15 News (featured segment in nightly news)
- ABC World News Now
- Good Day AZ (featured segment in afternoon show)
- Every Day with Rachael Ray
- Today Show
- RachelRay Magazine (November, 2008 feature)
- Laptop Magazine
- Canadian Living Magazine
- USA Today
- Scholastic Parent & Child Magazine
- Chicago Tribune
- PoshTots
- PoshLiving
- PoshCravings

---

<sup>2</sup> A link to the actual postings is available from <http://www.simplymobilemom.com/news.php>



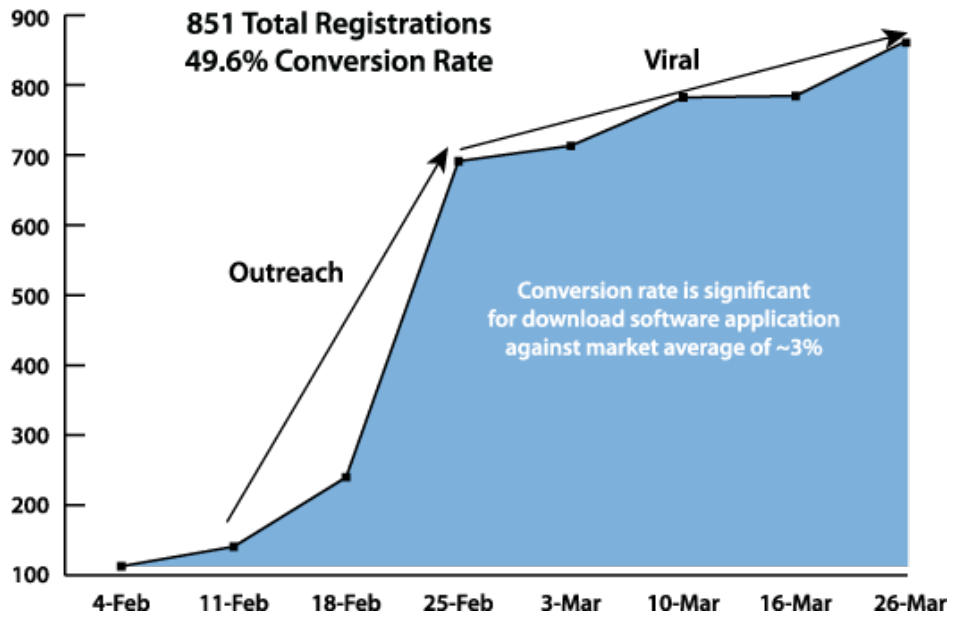
- BabyUniverse
- DreamtimeBaby
- Toronto Star Newspaper
- Cincinnati Enquirer
- LA Splash Magazine
- TravelLady
- Fortune
- Real Simple Magazine
- Florida Times-Union newspaper
- US Airways Magazine
- Sheknows.com
- USA Travel Magazine
- Lilypadplace.com
- DailyCandy.com
- BabyTV.com
- eToys
- ePregnancy

### **User Adoption**

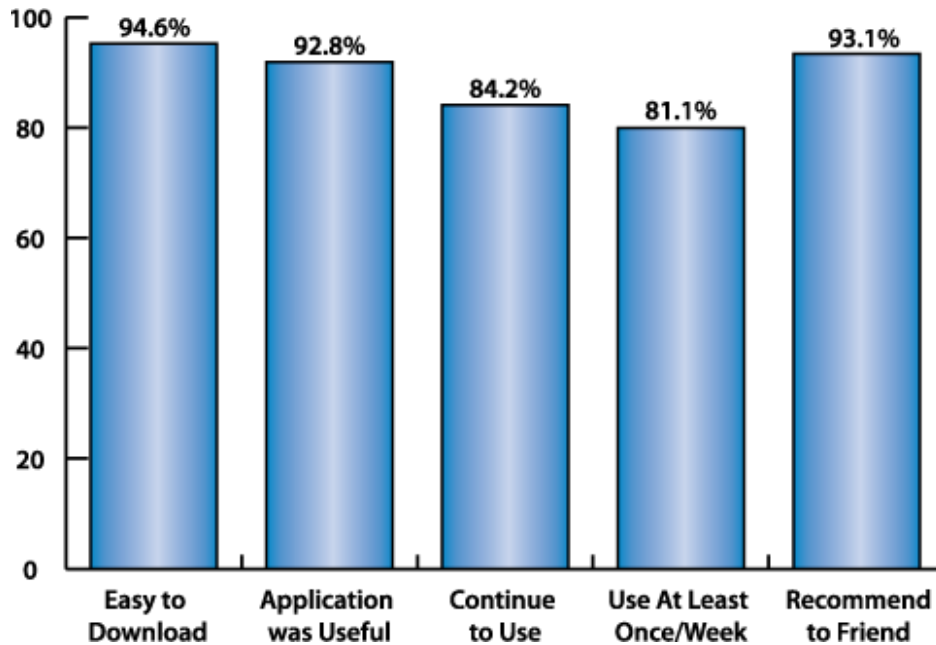
The initial SimplyMobile outreach, managed by MomCentral Consulting, was a targeted outreach to 4000 moms in the MomCentral Consulting database. This outreach involved a newsletter, downloading/installing the software, using the software, and filling out a survey. The first 100 respondents received a \$20 Amazon gift card. The two graphs below demonstrate the very high conversion rate based on the following:

- 4000 targets
- ~2300 opened the newsletter
- ~1700 visited the website

In addition, post outreach, SimplyMobile still generated views and conversions stemming from links placed on blogs and other websites (i.e., stumbleupon.com).

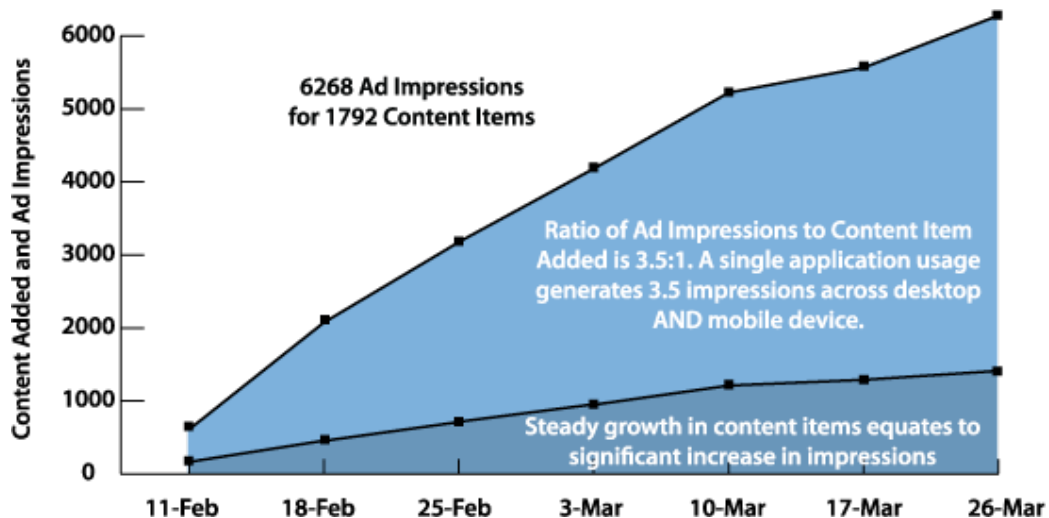


The results of the initial outreach survey, featured below, demonstrated a high commitment and acceptance of the application.



### Analysis

Based upon the outreach adoption, we could demonstrate the application's ability to generate ad revenue utilizing the multi-ad impression model (PC Desktop, SMS, and Mobile Web).





## Understanding The Technology

### Overview

The core of GoWare's technology is the DoMo Framework. This framework is a suite of engines designed to acquire and render content. Working in conjunction with PC- and Web-based software, such as the SimplyMobile Platform, the technology architecture can be traditional client-server or web-based.

### The DoMo Framework

The DoMo Framework suite of engines:

- **Content acquisition**—A core element in building a single, unified "cloud of content" is the acquisition of that content. Whether it's contained on a corporate network, on the World Wide Web, behind a username and password, or in the user's hard drive, DoMo's Acquisition Engine is capable of retrieving and processing that content.
- **Content rendering**—DoMo's Rendering engine transforms content from the acquisition engine into a format that can be viewed by the selected modality—Web pages (XHTML, WAP, AJAX, or Flashlite depending upon target handset), SMS, Voice and even Instant Messaging. Rendering is accomplished through a template-based system with a well-supported software development kit (SDK), allowing for easy development and publishing of custom templates. To support template-based rendering for specific devices (i.e., phone, GPS, etc.) DoMo leverages an extensive database containing screen resolutions and, where applicable, browser-support parameters for hundreds of makes and models.
- **Messaging**—The DoMo Messaging engine provides two methods of communication: **Direct-to-User/User-to-User** and Targeted Content Delivery. In Direct-to-User/User-to-User communication, DoMo extensively integrates SMS and other end-user communication channels to promote not only the socialization of content between users but also the acquisition of content from a user's "content cloud" by methods other than an Internet browser. In this manner, DoMo enables users to request/send content from their cloud via SMS as well as through Instant Messenger and other means. In Targeted Content Delivery, The DoMo Messaging engine enables the delivery of targeted

content into all DoMo-based applications (such as the SimplyMobile platform). Messaging can be text, graphical, linked, video, audio, or any combination thereof. In addition, DoMo-based applications can also include "Messaging Inboxes" allowing for simultaneous delivery of targeted content into the user's content as well as the interface through which the user is managing and interacting with their content library

- **Voice**—The DoMo Voice Engine utilizes the latest VXML (Voice-Extensible Markup Language) DTD to convert the user's content cloud into human-readable format. This provides the user with the opportunity to listen to content via phone, audio enabled device, or streaming over HTTP as well as add content to the cloud via voice-based commands. For phone-based access to voice-enabled content, users can navigate through their content category structure via voice and touch-tone input<sup>3</sup>.
- **Desktop**—The DoMo Desktop Engine is a downloadable client\* that provides connectivity to PC resources through the DoMo API framework and Plug-in library. By installing the desktop client as part of a DoMo implementation, partners and customers can gain valuable access to user browser behavior (through our behaviorally-targeted technology) while enabling their users to access content and data, as part of building their personalized content library, from applications that would not normally be available while the user is "being mobile." As part of DoMo, the Desktop Engine synchronizes with the DoMo Server to provide access to the selected content from Web, Mobile, or other connected device.
  - **Deep Integration**—the Desktop Engine is deeply integrated into the Windows and Mac OS<sup>4</sup>, enabling users not only to add content to their mobile phone through common behaviors (i.e., right-click) but also to automatically add content from the user's computer such as recently accessed documents, browser favorites, search engine queries (as links), and recommended content (through analysis of browser behavior via the Jellycloud integration).
- **Plug-ins**—DoMo's Plug-in System enables content owners and developers to extend the functionality of their DoMo implementations by providing selective access to specialized content or services. Plug-ins can be developed in HTML and .dll format with server-side scripting

---

<sup>3</sup> As of the writing of this material, the DoMo Voice engine has not been completed.

<sup>4</sup> At the time of the writing of this document, the Mac OS development of the DoMo Desktop Engine had not yet begun

support. Plug-ins are made available to all consumer-facing software built using DoMo technologies, such as SimplyMobile<sup>5</sup>.

- **Behavioral**—the DoMo Behavioral engine utilized third-party technologies, installed on the user's desktop, to analyze content patterns and user content consumption behavior to enable the delivery of targeted ads both through applications built on the DoMo Framework as well as through general web activity<sup>6</sup>.

## Technology

The DoMo Framework is built utilizing .NET 2.0 C# and Visual C++ (for component development) in a COM (Component Object Model) architecture.

## The SimplyMobile Platform

SimplyMobile is innovative and exciting consumer software lets anybody turn their ordinary phone into a "smartphone" all through text messaging and the mobile internet.

Created on the DoMo Desktop Engine, SimplyMobile is a Web-based interface in a PC-shell. This architecture allows direct integration into PC-resources enabling innovative features such as:

- "Right-click" adding of content to mobile phone;
- Print-to-phone (using a Windows-based printer driver)<sup>7</sup>;
- Internet Explorer, Firefox, and Opera integration for content discovery;
- RSS feed aggregation and dynamic updating;
- Bi-directional (mobile-to-pc) content acquisition;
- Content acquisition and generation;
- Content hosting and access;
- Numerous APIs for accessibility from external applications (if Desktop Engine is installed as invisible client);
- And Integration with behavioral-analysis technology for targeted ad delivery and content recommendations.

## Technology

The SimplyMobile Platform is built utilizing .NET 2.0 C# and Visual C++ (for component development) in a COM (Component Object Model) architecture.

---

<sup>5</sup> A developers program was planned for the plug-in engine, based upon the API, but was never completed or launched.

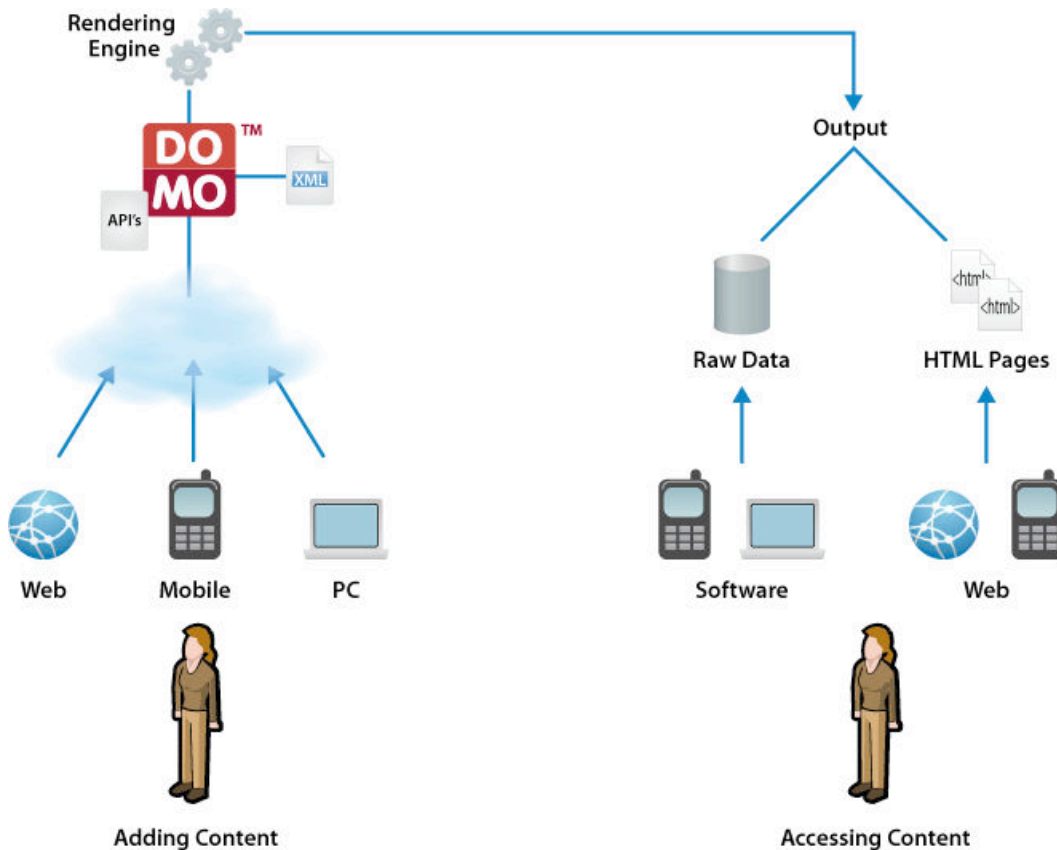
<sup>6</sup> This was enabled through integration with Jellycloud's behavioral analysis application, installed as a silent mini-installer along with any DoMo-based PC software. User traffic on the Jellycloud ad-network was attributed to GoWare for installations of the Jellycloud software.

<sup>7</sup> As of the writing of this document, the print-to-phone capabilities are not completed and still in early Alpha

COM objects are deployed on the client as (InProcess) .dll files that are registered by the Visual C++ application upon installation.



## How it All Works



In its most basic format, the DoMo Framework works accordingly:

- A user adds content to the framework from one of several inputs (Web, Mobile, or PC software)
- The content is transformed by the DoMo Framework engines and converted into XML
- The XML is rendered into an appropriate format for the method by which the user is requesting content
  - Raw Data—when the user's content is left in XML format, it can be consumed by any software capable of rendering XML
  - HTML Pages—when the user's content is rendered into HTML (by XSLT transformations), it can be consumed by a format capable of rendering HTML (i.e, a web browser on a phone or computer)

## Tapping into the Power of Social Networks and User-Generated Content

Built into the DoMo Framework is the ability for users to share and socialize their content:

- **Publish**—through a properly-enabled application, user's can publish their content as either a "packaged" portal (for download and use by other users) or as a self-contained portal for browsing from the Web.
- **Users**—users can add other users to their content, specifying content permissions and utilizing built-in messaging to communicate securely
- **SMS**—users can send content to other users (that they have added) directly through text message either as consumable content or as a link that opens the content in the mobile web.

### Push vs. Pull

The DoMo Framework includes both push and pull functionality, creating a truly immersive "personal cloud" experience for mobile users.

#### Push

The DoMo Framework can push the following to users through the SMS bridging aspect (user receives SMS with either content in the message or a link to the content)

- Content updates such as an RSS feed or a plug-in
- User messages
- Advertisements

#### Pull

The DoMo Framework enables users to pull elements from their XML content library (using a secured authentication scheme) through a variety of mechanisms that include:

- Voice (via a VXML transformation of the user's XML content)<sup>8</sup>
- SMS
- Instant Messenger
- Mobile Web Browser
- PC Web Browser

---

<sup>8</sup> At the time of the writing of this document, the VXML transformation component had not been developed

## Security

Recognizing that users could add sensitive content to their personal cloud, GoWare built security into the DoMo Framework at all levels including the server and PC (via the Desktop Engine).

### Server

The security implemented into the DoMo Framework on the server covers three main areas:

- Folder permissions
- User Authentication
- Client/Server URL (Service URLs)

#### *Folder Permissions*

All the user directories are stored in the App\_Data folder in the DoMo Application (configured on the server). .NET provides built-in security mechanism of the folders and files which are stored under the App\_Data folder. The user account utilized by the application has read and write access to any of the files contained within the App\_Data Folder. By default, this is the ASPNET account. The default ASPNET account is granted full permissions on the folder. That means only authorized users can access files from the App\_Data folder. As a security measure provided by .NET, files in the App\_Data folder are not served by the Web server. Hence users can not access the files from that folder.

#### *User Authentication*

Access to user files is password protected using the Forms Authentication. No one can access the user section without valid login credentials and anonymous attempts are redirected to the login page. The DoMo Application validates user credentials against SQL Server database and code in the login page creates a form authentication cookie that contains a forms authentication ticket that is set for the session.

Forms Authentication can happen through SSL.

#### *Client/Server URL (Service URLs)*

All the URLs required for fetching data used in a DoMo-Framework based desktop application (Service URLs) require the authentication keys (user credentials). The authentication keys are ukey (user key)

and pkey (Partner key). These credentials are passed as encrypted keys. If the credentials are invalid, then the Service URL's denies access. Credentials are encrypted utilizing the Base64 encryption algorithm.

## **PC (Desktop Engine)**

The security implemented into the DoMo Framework on the client (via the SimplyMobile Platform) covers three main areas:

- User Authentication
- Post data to DoMo Server Components
- Client/Server URL (Service URLs)

### *User Authentication*

When users login to a DoMo-based application (such as SimplyMobile Mom), the application sends the user Id and password in encrypted form as a parameter in a integrated service URL which determines whether the credentials are valid. If the user is valid, the URL passes a success flag and the application displays a success message, allowing the user to continue operating the software.

### *Post data to DoMo Server Components*

All data that is sent from the client to the server is encrypted utilizing the Base 64 encryption algorithm. In the case of uploading recent Documents (as part of the SimplyMobile Platform automatic content features), the client utilizes the Md5 encryption algorithm<sup>9</sup>.

### *Client/Server URL (Service URLs)*

All the URLs required for fetching data used in a DoMo-Framework based desktop application (Service URLs) require the authentication keys (user credentials). The authentication keys are ukey (user key) and pkey (Partner key). These credentials are passed as encrypted keys. If the credentials are invalid, then the Service URL's denies access. Credentials are encrypted utilizing the Base64 encryption algorithm.

---

<sup>9</sup> The utilization of this algorithm also ensures that documents can be compared utilizing hash values. This improves overall performance by not uploading the same documents over and over again. If a user accessed a document on Monday and it remains in his Recent Documents list until Friday, but they have not changed it since Monday, there will be no additional uploading of that document as the hash values determine that no changes were made.



## Products and Service

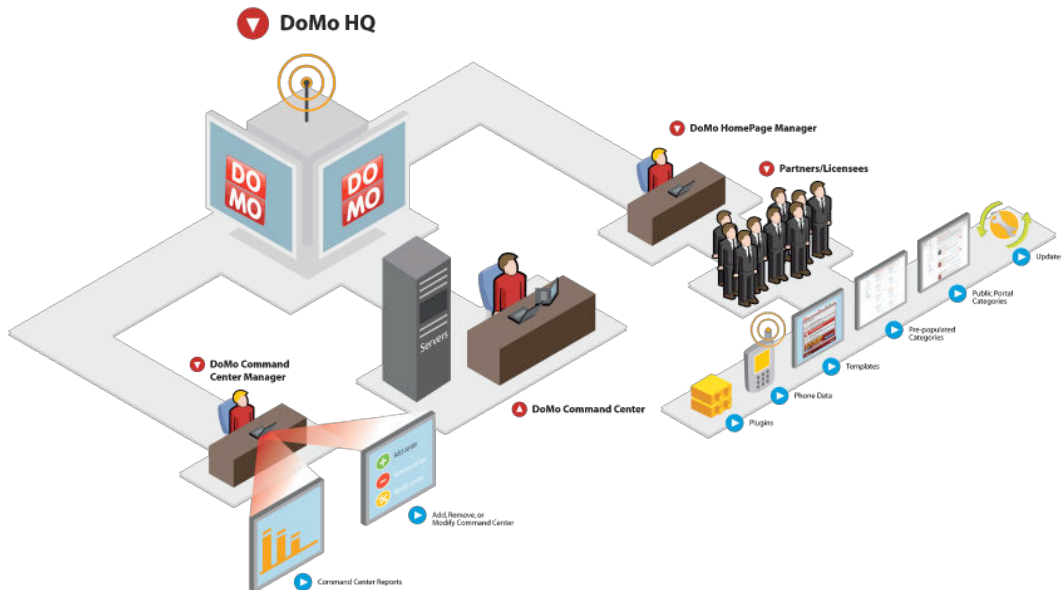
Through the course of building and implementing the DoMo Framework, GoWare developed the following products:

- **DoMo Command Center**—a web-based administration panel for DoMo-client installations allowing full management of client features and registered users
- **DoMo HomePage**—a PC-based application (developed using VC++) that allowed users to create a “mobile portal” of all their content. Included many of the innovative features found in the SimplyMobile Platform
- **SimplyMobile Mom**—a PC-based application (developed using VC++) with a web-based interface (ASPX). This was an evolution of the DoMo HomePage product.
- **Mobile Stickies**—a PC-based application (developed using VC++) that displays content specifically added from the mobile phone via the 4INFO web service
- **Mobile API library**—a mapping of APIs to leading web-based services (such as Flickr and Facebook) to enable the mobilization of content not normally designed for mobile consumption.

## The DoMo Framework

### Architecture

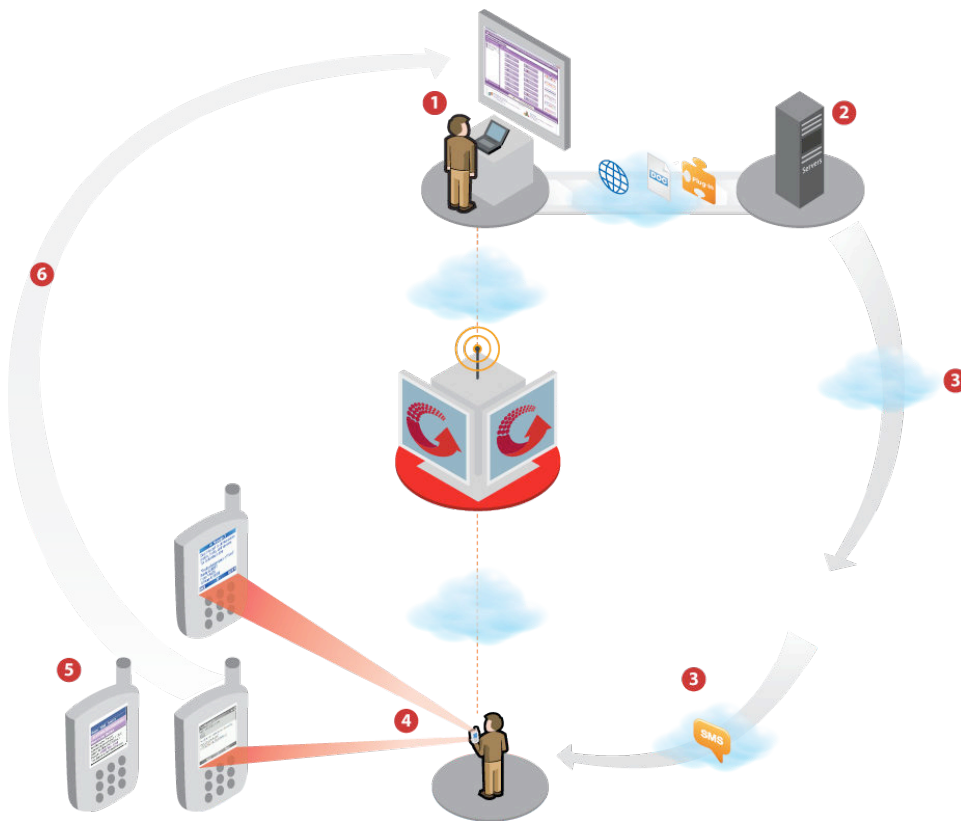
The DoMo Framework architecture is a multi-server, scalable system built around a centralized "Headquarters" that manages multiple "Command Centers" to which clients connect and utilize system features.



To ensure availability and scalability, the DoMo HQ allowed DoMo administrators the ability to create and assign new Command Centers (by IP address). When users registered for service, connectivity is first established to the DoMo HQ which assesses Command Center readiness and availability. Based upon optimal availability, the client registration is assigned to a Command Center whose IP address is provided to the client for future direct connections.

## Operation

The DoMo Framework, in conjunction with a client application connected to it via the Desktop Engine or through API integration on the Web, works by receiving content, storing content, transforming content, and finally providing and managing access to that content.



1. User right-clicks on content from supported location (i.e., hard drive through Windows Explorer; Webpage through Internet Explorer, Firefox, or Opera)
2. Acquisition engine process content and store within user's XML file; transformation engine convert content into the appropriate format; rendering engine generates the appropriate output format (i.e., HTML)
3. A message is sent to SMS provider (i.e., 4INFO) and user receives text message
4. User opens text message and consumes content or clicks on link
5. If user selects link, through WAP push, browser on mobile device is opened and user is authenticated to DoMo Framework (single-source sign-on architecture)



6. System architecture supports adding content from the mobile device via SMS or mobile web

## Content Acquisition Methods

DoMo Framework supports a number of methods by which content can be acquired. These include:

- Content discovery (through browser toolbar plug-in as part of the DoMo HomePage Desktop installation)
- Right-click content (webpage and object in Windows Explorer and Firefox)
- Add content through Instant Messenger<sup>10</sup>
- Add content through text message
- Automatically add PC-based content including:
  - Recently accessed documents
  - Browser URLs
  - Web-based searches carried out through Google and other search engines
  - Recommended content (based upon analysis of user browser behavior; provided through Axon client integration)
- Web-based forms (integrated with the user's rendered content). Forms include, for example:
  - Local search (provided by 4INFO). Search queries and results are stored as "persistent search" and represented as content items in a search category for easy access later.
  - Local product search (provided by theFind). Works the same as local search.

## Supported Content Types

DoMo supports users adding the following types of content

- Text
- Images (.jpg, .gif, .png)
- Microsoft Office 2003 documents (Word, Powerpoint, Excel); these are automatically converted into HTML (This feature is good for those mobile which are not having facility to view such type of documents)

Users can add any type of content. But if they add content outside of what the DoMo Framework can render, that content will be presented as a linkable object within the presentation format and handled by the device through which it is requested. For example, if a user adds a video file (i.e., .wmv format), that file will be uploaded and added to the user's XML file as a link to a resource within the user's content structure (as it exists on the server to which the user is assigned by the Command Center). When the user selects

---

<sup>10</sup> At the time of the writing of this document, the supported Instant Messenger interfaces are AOL and Skype

that link from their mobile device (i.e., clicks on it in a web page), the file will be handed off to the device via WAP push. If the device is capable of handling that file type (i.e., a Windows Mobile 6 device with Windows Media Player), it will be played. Otherwise, the webpage will prompt the user to save it to their device.

## Content Storage

In the current implementation of mobile Web content transformation, individual, static web pages are created in the following hierarchy:

- {category number}—users can select from pre-determined categories (that are administrated through the Command Center or create their own categories. Each category is a unique ID.
- {Content source}—a category can have multiple content sources. Each content source is assigned its own unique ID
- {Content items}—each content source can have an infinite number of content items that are stored as sequentially-numbered HTML files.

## Content Hierarchy

DoMo utilizes a very distinct content hierarchy that is represented as follows:

1. Category/Bucket<sup>11</sup>
  - a. Content sources
    - i. Content items
      1. Content item details

## Personalization

For Mobile Web content transformation, output can be specific to the user's device by allowing the user to select their phone make/model from a database and then a corresponding "template" assigned to that phone. The ultimate objective in this personalization system was to allow users to select "lifestyle"-based templates (i.e., branded).

## Templates

Templates are built in XSLT for specific screen resolutions and browser types. Templates can output HTML-based content in the following formats:

- WAP
- WML
- XHTML
- Mobile XHTML

---

<sup>11</sup> The "bucket" nomenclature is utilized only by SimplyMobile (not DoMo HomePage). The "bucket" container allows DoMo to replicate portal structure for a specific group of users.

## The DoMo Framework SDK

The DoMo Framework provides an extensive API library for direct connectivity to core functionality from outside resources.

### Supported Methods

API supported methods include:

- Java Script
- VB Script
- Visual Basic
- VC++
- C#

### APIs

API	Description	Method (Web/PC)
ClientRegistration	Register a new user	ASP
GetClientDetails	Get information about a user	ASP
ClientValidation	Used for getting category list in XML Format.	ASP
EndSMSdk	Close the SDK	ASP
GetBuckets	used to get List of all buckets	ASP
AddBucket	used add a New bucket in Existing Buckets	ASP
UpdateBucket	used for getting category contents list in XML format	ASP
RemoveBucket	used to remove bucket from Existing Buckets	ASP
GetBucketContent	used for retrieving Content List of the specified Bucket	ASP
AddContent	used for adding new content under the specified bucket	ASP
RemoveContent	used for Remove the content under the specified Bucket	ASP
GetContentDetails	used to get the details of the specified content	ASP
AddDatatoSM	This method is to add data inside the Database	ASP

---

GetItemList	get the List of Items under specified Bucket & Content	ASP
AddUserUnderBucket	used for adding the new user under the specified bucket	ASP
ModifyUserUnderBucket	used to Modify the Existing Bucket User Information	ASP
DeleteUserUnderBucket	method is used to remove the Bucket	ASP
GetUserListUnderBucket	used to get the List of all user Present under the specified Bucket	ASP
GetUserDetails	used for getting the Detail information about specified User	ASP
GetMobileCarrier	used to get the List of Mobile Carrier	ASP
GetPartnerList	used to get the List of Partners	ASP

## Plug-ins

The DoMo Framework, as a platform, includes a robust “plug-in” system that enabled system administrators to develop and deploy connectivity to third-party services (i.e., Web- and PC-based software), enabling users to add content (which would be dynamically updated by the DoMo engines) from sources that may not be equipped or configured for mobile consumption.

## Development

Plug-ins can be developed in any language that can make calls to the DoMo Framework APIs allowing developers the ability to create HTML-based plug-ins (located on a remote server) or .dll-based plug-ins (located on the user’s computer). Plug-in output must be in a supported XML format for consumption by DoMo.

The following provides an example of instantiating the SimplyMobile COM object to expose its interface (ISimplyMobile) and thereby gain access to the methods that can be used for adding, deleting, and updating SimplyMobile Data. The SMDeveloperSDK is installed, by default, with all client installations but if a developer does not wish to have a SimplyMobile client on his computer, he can register the .dll manually (using regsvr32). Plug-ins developed using the SimplyMobile SDK COM Object can be deployed across the DoMo Framework for any application managed by the system.

1. Install SDK (SMDeveloperSDK.dll is registered during installation of the any SimplyMobile Platform application client; the .dll can also be registered manually by using regsvr32.exe windows utility)
2. Import the .dll into the project (this example presumes use of Visual Studio) by adding the following lines of code:
  - a. #import "libid:7950AEC8-A4DF-4AC7-B50A-47D339457945" named\_guids
  - b. using namespace DoMoSimplyMobileLib ;
3. Create an object of the interface ISimplyMobile.
  - a. ISimplyMobilePtr m\_ptrSimplyMobile;
4. Create **new** Instance of the Interface
  - a. HRESULT hr =  
m\_ptrSimplyMobile.CreateInstance(\_\_uuidof(SimplyMobile));
5. After successfully creating an instance of the interface you can start using methods exposed in this interface (i.e., validation of userid/password)
  - a. HRESULT hr = m\_ptrSimplyMobile->  
ClientValidation(m\_strUserID.AllocSysString(),  
m\_strPassword.AllocSysString(), &strResult);

## Deployment

Plug-ins are deployed through the DoMo Command Center to client installations. Users can select plug-ins through whatever interface they are employing (i.e., an application built off the SimplyMobile platform). HTML plug-ins are available immediately (as they are hosted remotely) while .dll plug-ins, when selected, are downloaded to the client computer and registered locally.

## Third-party Technologies

In order to create an "end-to-end" solution for enabling users to publish mobile content, GoWare integrated with a number of third-party technology companies that extended the value of the offering, enabling new features and revenue streams.

Company	Integration Overview
4INFO	4INFO provides the text-message transport capabilities (i.e., sending text messages to end-users); 4INFO also provides incoming text-message support (i.e., user adding content through text message to their content store) through utilization of an isolated web service enabled in 4INFO's Open Platform. 4INFO also provides local search integrated

into the mobile platform.

Jellycloud (formally Claria)	Jellycloud provides Axon. This technology is only available to PC-based clients (DoMo HomePage Desktop and SimplyMobile Mom) and provides behavioral analysis. This behavioral analysis is used to provide targeted advertisements (within DoMo) as well as recommended content. In addition, the captured behavioral data from the Axon installation is also utilized by Jellycloud to provide targeted ad delivery for general web activity when the user's activity involves sites that include the Jellycloud ad tag.
theFind	theFind provides local product search capabilities; user can interact through both web form and plug-in interface (only supported in SimplyMobile Mom)
Cellfire	Cellfire provides local coupons based upon user zipcode. Coupons are integrated into the template (as part of the header) and also as a category of content. User interacts with Cellfire through the plug-in interface (only supported in SimplyMobile Mom)
eFax	eFax provides for content output from a user's portal to any fax machine.
AIM	A user can add to their content by interacting with a DoMo AIM bot.
Skype	A user can add to their content by interacting with a DoMo Skype messaging bot.
Jott	A user can retrieve or add to their content through voice command via the Jott
Teleflip	Teleflip is a backup to 4INFO's service. Not as robust a solution (nor providing advertisements).

## Installation Components

The DoMo Framework is installed on a Windows 2003 server (with .NET 2.0) and requires a SQL Server 2005 database.

Additional components, installed separately and not required for system operation, include:

- AIM Bot—this module, running on the same server as the DoMo Framework, allows the system to receive content from users through an automated AOL Instant Messenger "Bot" (an unmanned instance of AOL Instant Messenger)



- Skype Bot—this module, running on the same server as the DoMo Framework, allows the system to receive content from users through an automated Skype Instant Messaging “Bot” (an unmanned instance of Skype Messenger)

## Registration

Users can be registered into the DoMo Framework via any method capable of writing data to a SQL Server. Currently utilized methods include Web and VC++. User registration points include:

- Basic account information—name, email, mobile phone
- Personalization information—AOL Instant Messenger username (for adding content from AIM), Skype Instant Messenger username (for adding content from Skype), phone make, phone model, selected template

## Content Updating

The DoMo Framework installed components include a dynamic content update that, when specified, monitors user content sources (across the user base) and automatically updates XML files and regenerates static HTML pages (where appropriate) when content has changed. This is applicable to the following types of content:

- RSS feeds
- Plug-ins
- Search<sup>12</sup>

## Application Updating

DoMo Framework clients (i.e., SimplyMobile Platform applications) are updated through the DoMo Command Center Component Manager. This manager allows the DoMo administrator that ability to publish individual components or entire version packages for deployment to user desktops. SimplyMobile Platform applications have access to an auto updater which checks the applicable DoMo Command Center for component versions. If a new version is available for a component, the client will automatically grab and download it (in the background), notifying the user when the activity is completed.

---

<sup>12</sup> Searches carried out through 4INFO or theFind integration are created as persistent objects by the DoMo Framework. These objects are treated in much the same way as a RSS feed.

## Web Services

The DoMo Framework supports a Service-Oriented Architecture (SOA). Discrete, compartmentalized web services can be deployed that operate independently of the core DoMo engines. Business logic and other functionality are encapsulated in the web service with output being sent to the appropriate DoMo Framework engine.

## Security

Web Services integrating with the DoMo Framework can be secured by requiring specific keys or hashes as part of the URL parameters.

## 4INFO

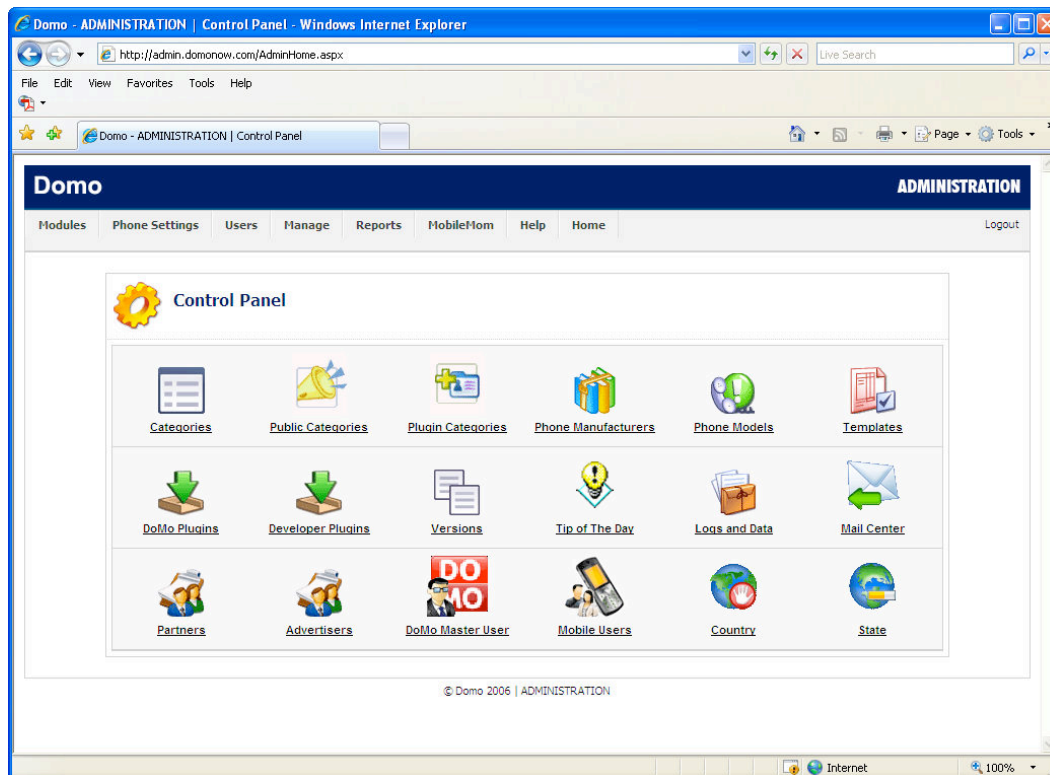
As of the writing of this document, the only web service currently implemented is for 4INFO's Open Gateway providing for a user to add and request content. The process is as follows:

- User sends text message to 44636 (4INFO's short code) using one of the configured keywords for DoMo
  - DoMoReg—registration to receive a 4INFO userid
  - DoMoAdd—adding content to the category
- User provides additional information in conjunction with the keyword:
  - "domoreg {confirmation code}"—when the user registered with DoMo they were sent a confirmation code by 4INFO (as part of the MMA<sup>13</sup> requirements). Sending this confirmation code to our keyword, enacting the attached web service, generates a 4INFO userid which is passed to the web service and recorded into the user's DoMo record
  - "domoadd {content}"—when the user adds from their phone to their content, DoMo automatically creates a "From Phone" category and adds the content there.

---

<sup>13</sup> *Mobile Marketing Association*

## DoMo Command Center



The DoMo Command Center is a web-based administration panel for managing DoMo-based client installations. Through the icon- and menu-based navigational architecture, administrators had full control over key data elements within client installations as well as the users themselves. The table below provides a brief overview of each manageable component.

Component to Manage	Description
Categories	The default set of categories into which a user can place content; the user can add customized categories as well
Public Categories	The default set of categories into which a user can place a saved or public portal
Plug-in Categories	The categories of plug-ins. These are the category

	names created for a user when they chose to use a plug-in (i.e., if they add and configure the Outlook plug-in, they will generate an Outlook content category for their content); a specific plug-in is assigned to a category
Phone Manufacturers	Phones manufacturers available to a user
Phone Models	Models of phones (per manufacturer) available for a user to select and personalize their content; key data is screen resolution (i.e., size) and browser support (i.e., WAP, XHTML, etc.)
Templates	Templates assigned to individual phone models for user selection
DoMo Plug-ins	Plug-ins added by the DoMo administrator and made available to client installations (either as HTML or .dll)
Developer Plug-ins	Plug-ins added by developers through developer.domonow.com
Versions	Versions of the DoMo Framework components and client installed applications
Tip of the Day	A pop-up window available to DoMo Framework-based applications (which may or may not be developed on the SimplyMobile platform) displaying Tip information
Logs and Data	Data generated by the system (i.e., reporting) <sup>14</sup>
Mail Center	An interactive messaging center for delivering messages to all or subsets of users
Partners	Partners are companies utilizing a skinned or hosted version of a DoMo-Framework based application (i.e., SimplyMobile Mom). This administrative feature allows the management of that partner, assigning them a specific URL for logins, etc.
Advertisers	Advertisers login to and manage their campaigns through the Campaign Manager. They can be activated or deactivated through this administrative feature.
DoMo Master User	Users employing DoMo-Framework based applications (i.e., SimplyMobile Mom) that are identified as "master" users (i.e., the user who registered in the application)
Mobile Users	Users who have been added by Master Users to which they wish to send content (i.e., sub-user)
Country	Management of countries used in drop-downs
States	Management of states used in drop-downs
Pre-defined About Categories	DoMo-Framework based applications can include a default content category that provides supporting material to a new user (i.e., instructing them how to

<sup>14</sup> This feature has not been implemented

do certain things). This administrative feature allows for the management of that default category and the content within it.

**Backup**

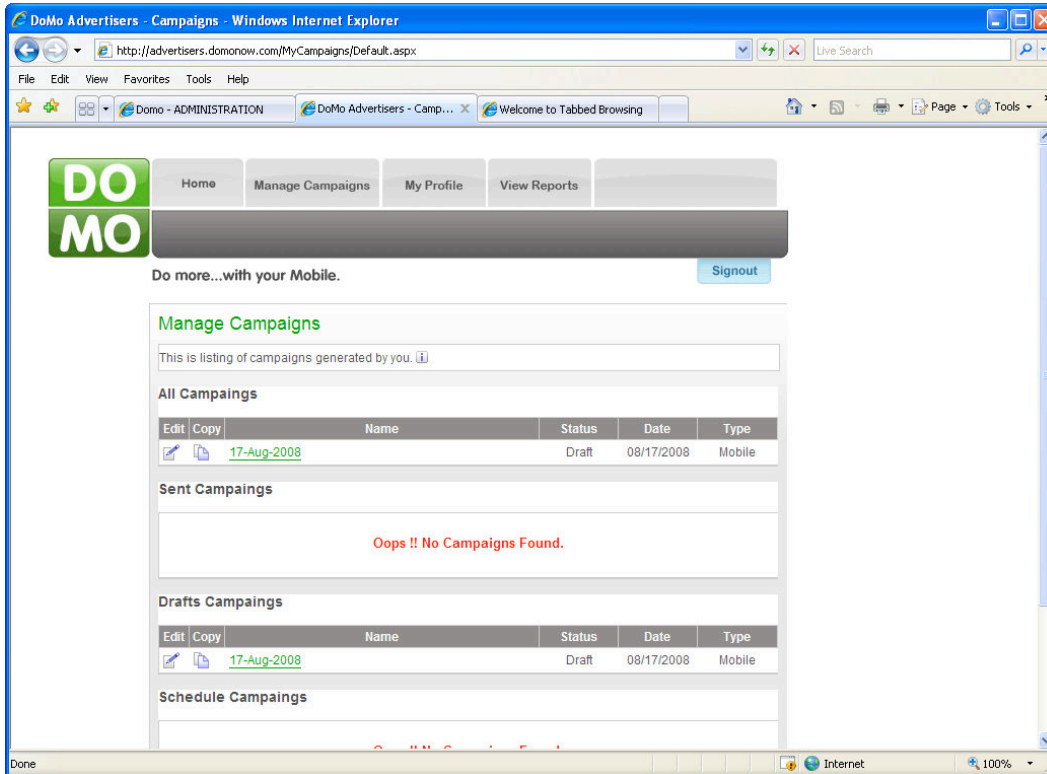
An automated featuring allowing for backup of the SQL database

**Reports**

There are four reports current available through the DoMo Command Center (accessible from the Reports menu):

- Public and Saved portal list—DoMo-Framework based applications can enable users to “publish” their portals (for public consumption) or “save” their portals for downloading by other users (and incorporating into their portal)
- Client list—a list of installed clients (per application type). Through this report, a user can see how many DoMo HomePage or SimplyMobile Mom clients are installed.
- User Statistics—a list of statistics about the current user base
- Plug-in reports—usage information about specific plug-ins

## DoMo Campaign Manager



The advertising campaign manager allows approved advertisers the ability to send Text/SMS and HTML/Email campaigns to users within the DoMo user base. Content sent to users (either through text message or email) is also added to their portal content. Future enhancements included allowing advertisers to segment message delivery based upon parameters (i.e., DoMo-framework application, such as SimplyMobile Mom, user demographics, user behavior such as content consumption patterns, etc.)

## DoMo HomePage

DoMo HomePage is a comprehensive end-user content-creation system for mobile delivery and consumption. This system allows users to create a “personalized mobile portal” of content from the Web and their PC. This system includes the following components:

- DoMo HomePage Desktop—a PC-based client for managing and adding content
- DoMo HomePage Web—a web-based system for managing and adding content
- DoMo HomePage Snapshot—retrieval and storage of content via text message
- DoMo HomePage OneTouch—a mobile “single sign-on” solution to quickly access a portal.
- DoMo HomePage Community—a website featuring user-created content and saved mobile portals

## Technology

DoMo HomePage is built as a stand-alone application, demonstrating the ability for an independent developer to create an application incorporating DoMo Framework engines.

The DoMo HomePage VC++ client interfaces directly with the DoMo SDK, instantiating calls to core framework functionality and engines and implementing in a unique interface designed to allow users to build a “personalized mobile portal.”

## Features

Core features shared by DoMo HomePage Desktop and DoMo HomePage Web are detailed below.

Feature	Description
Categories	Users can manage and add categories into which content can be assigned
Plug-ins	Users can select from pre-defined plug-ins to add content that may not be normally accessible from a mobile device. Plug-ins can connect to both PC and Web resources.

Personalization	The user can select their mobile phone manufacturer, mobile phone make, and finally a template. When the template is selected, it will be displayed for the user to view. The user can select (and download) the template by clicking the appropriate button. This system allows the user to have multiple templates which can be switched easily.
Messaging	Users can send messages to other users (that they have added to their portal system). These messages are displayed in a "message" category within the portal content. Users can also receive messages, through this system, from DoMo Administrators or approved advertisers.
Users	A registered DoMo HomePage user, through the software, can add sub-users to which they can grant access to all or parts of their portal content. These sub-users receive their credentials and access information via text message and/or email.
Saved Portals	Users can save a portal implementation for uploading to the DoMo HomePage Community. Saved portals can also be downloaded from the community and incorporated directly into the user's portal structure allowing for "nested" portals.
Portal Generation	Once content has been successfully added, the portal is generated and made available through web-based access. Content that is dynamically updated (i.e., plug-in data) will result in partial portal regeneration (i.e., of that category) on a schedule as dictated by parameters specified through the DoMo Command Center
Public Portals	Users can elect to have all or part of their portal "published" to the DoMo HomePage Community. These portals can be browsed through the DoMo HomePage .mobi website <sup>15</sup> as well as the DoMo HomePage Community pages.
Content	Users can add content from their computer or from the Web to existing or new categories

## Plug-ins

Current plug-ins deployed with DoMo HomePage include:

- Yahoo! HotJobs
- iTunes
- Google Calendar

---

<sup>15</sup> As of the writing of this document, this mobile website search tool (for browsing public portals) was not created.



- Outlook
- Yahoo! Finance
- eBay
- Skype
- Accuweather
- MobileDirectory
- BackPack (www.backpack.com)
- Wordpress
- Yahoo! Pipes
- Yahoo! Feeds
- Yahoo! Flickr
- MyGamerCard

The brief description about DoMo HomePage plugins is given below:

<b>S.No.</b>	<b>Plugin Name</b>	<b>Plugin Description</b>
1.	Yahoo Hot Jobs	This plugin is used for getting the jobs from yahoo site on a given criteria and add all rss items in rsslog.xml as an URL Items
2.	iTunes	This plugin is used for getting the Playlist songs from iTunes Library and adds them in Rsslog.xml as an URI Items
3.	Google Calender	This plugin is used for getting the Google calendar events of a particular user and add them in a rsslog.xml as an URL Items
4.	Microsoft Outlook Express	This plugin is used for getting Inbox Mails, Contacts, Calender , Tasks and Reminder from the MS Outlook Express Software
5.	Yahoo Finance	This plugin is used for getting the international market stock rates entered by user and add them in rsslog.xml as an URL Items
6.	eBay	This plugin is used for getting the available for sale item details from the ebay site and adds them in rsslog.xml as an URL Items
7.	Skype	This plugin is used for getting the list of all the users (offline/online) and user can view the details of those users and also listen his voice mails using this plugin and also he can view recent calls in it all the details adds in rsslog.xml as an URL Items
8.	AccuWeather	This plugin is used for getting the Wether details of

		a given city name and add them in rsslog.xml as an URI Items
9.	Mobile Directory	This plugin is used for displaying the icons of a famous websites links as an icons in the domo portal so that user can click and view that site easily
10.	BackPack	This plugin is used get the page and reminder from backpackit.com and add them in rsslog.xml as an URL items
11.	WordPress	This plugin is just like eblogger where we can create a blog and also save pages regarding our blog
12.	Yahoo Pipes	This plugin is used to get the pipes result which is created in yahoo pipes site all pipe result data will be added in rsslog.xml as an URL Items
13.	Yahoo Feeds	This plugin is used to get the rss data from Yahoo website.
14.	Yahoo Flicker	This plugin is used to get the yahoo flicker data
15.	MyGamerCard	This plugin is used to get the Data of MyGamerCard

### Plug-in Process

When a user selects a plug-in (as part of the "Add a Category" feature), the user is prompted to download the plug-in (as a .dll component). Once downloaded, the plug-ins interface will launch, allowing the user to specify needed information for content retrieval.

When selecting from the plug-in drop-down, currently utilized plug-ins appear in bold.

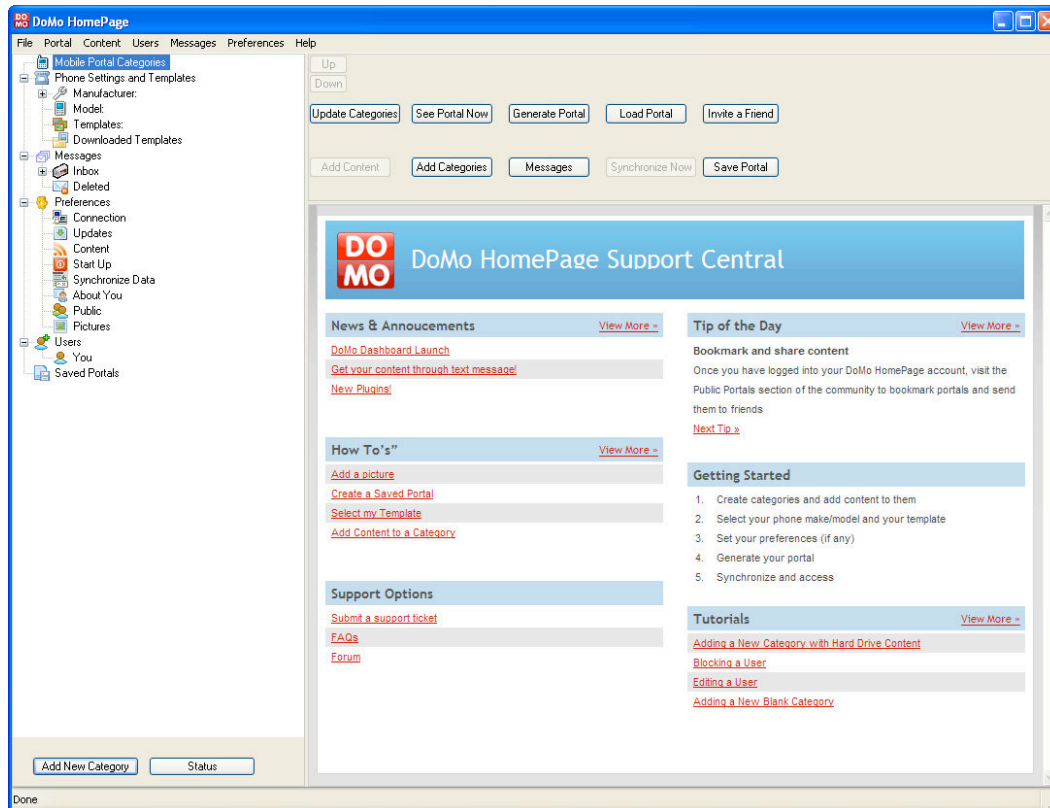
Upon selecting and using a plug-in, a category is created in the user's category tree. Clicking on the category that represents the plug-in launches the plug-in interface again, allowing for modification of required details and information.

### Synchronization

Synchronization between Desktop and Web client (the XML file that represents user content and content structure) happens accordingly:

- When the user clicks the "synchronize now" button in the Desktop client
- When the user generates their portal
- When the application is closed or opened
- When the user logs out of the Web application

## DoMo HomePage Desktop



DoMo Homepage Desktop is a VC++ Windows XP/Vista client that allows users to manage (Add, Edit and Delete) their mobile content portal.

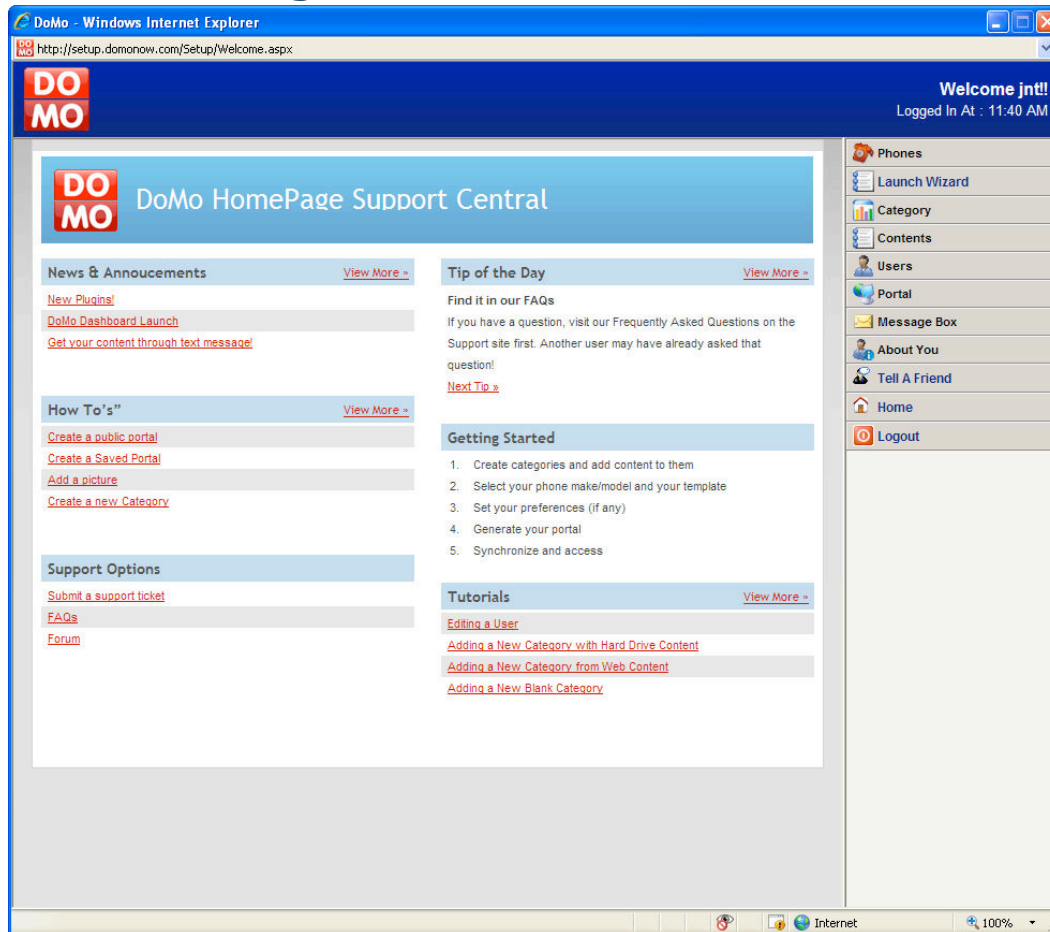
### Local Content Access

DoMo Homepage features a built-in web server and proxy schema, allowing the user the ability to connect directly to content stored on their computer rather than content stored "in the cloud."

### Browser Toolbar Plug-ins

DoMo HomePage Desktop includes plug-ins to Internet Explorer 6, Internet Explorer 7, and FireFox. These toolbar plug-ins provide for dynamic content discovery—when the user visits a webpage that includes RSS feed material, they can automatically add it to a category through a pop-up interface.

## DoMo HomePage Web



DoMo HomePage Web is a web-based version of the PC Desktop client. It provides exactly the same functionality as DoMo HomePage Desktop client.

## DoMo HomePage Snapshot

DoMo HomePage Snapshot is a method by which user's can retrieve and add content via text message (rather than retrieving it solely through the mobile web).

This element works accordingly:

- User first confirms their mobile phone number with 4INFO so that 4INFO can generate a userid. This userid is then stored with the user's record. This userid is the datapoint by which the DoMo Framework and 4INFO communicate via the DoMo Framework 4INFO web service.
- The user sends a message to 44636 with the text "domoadd {content}." This content is sent to the 4INFO web service (mapped to

the URL by 4INFO as per configuration in their Open Platform) along with the userID associated with the mobile number from which the message originated.

- DoMo parses the message and adds the content to the user's "Phone" category
- In the event that the user wants to retrieve content through text message, they send the following to 44636: "domoget {category} {content}." An example of this is "domoget outlook Jason Thibeault" whereby, if I had enabled the Outlook plug-in and there was a contact named Jason Thibeault, that information would be returned in text message format.

## **DoMo HomePage OneTouch**

DoMo HomePage OneTouch is simply an easy way for the user to log into their content from a mobile device. After installing, the user clicks on the DoMo icon on their mobile device and enters their DoMo username and password. Once entered, the password is saved.

To access the portal (after saving credentials), the user clicks on the DoMo icon again and selects the "login" button at which time the device browser is opened to a URL hard coded in DoMo HomePage Snapshot and the user's credentials are passed for authentication.

## DoMo HomePage Community



The DoMo HomePage Community is a supporting website of the DoMo HomePage system. This website provides:

- Plug-in library—list of plug-ins and detail for each plug-in
- Public Portals—list of portals that users have made public
- Saved Portals—categories and lists of portals saved by DoMo HomePage users (accessible through DoMo HomePage Desktop and DoMo HomePage Web)
- Templates—a list of available templates

The community also integrates with the user's DoMo HomePage Account page for bookmarking saved and public portals. If an authenticated DoMo HomePage user is viewing the community, they can bookmark public portals and saved portals.

### **Mobile Access**

Through a special website, [www.domohomepage.mobi](http://www.domohomepage.mobi), users can search for and view public portals from the community site. If a user is a DoMo HomePage user, logging into the mobile site will provide them access to their bookmarked public portals.

## **SimplyMobile**

SimplyMobile is a PC-based application (utilizing the DoMo Framework Desktop Engine) that enables connectivity between mobile and PC content experience, allowing users to add content to their phones easily from their PC as well as adding content to their computer from the mobile phone (via SMS and mobile web).

### **Technology**

SimplyMobile Mom is built from the SimplyMobile platform, leveraging the DoMo Framework Desktop Engine to provide direct connectivity into the PC environment and enable many of the exciting PC-to-mobile features.

The software is a PC-shell (written in VC++) with a HTML-based interface delivered directly from the DoMo Headquarters. This architecture allows the footprint of the application to remain relatively small while maximizing use of PC-based features (like right-clicking) with which the user has comfort and knowledge.

The HTML-based interface is written in ASP .NET 2.0 but, utilizing the API features available through the DoMo SDK (installed along with the PC-client), the interface could be written in any language capable of making VB, C#, or Javascript calls.

### **Vs. DoMo HomePage**

The SimplyMobile Platform was built after DoMo HomePage and although it incorporates many of the same features (as both of these applications utilize the DoMo Framework Desktop Engine). The purpose of SimplyMobile was to simplify the ability for independent software developers to create or integrate innovative mobilization functionality into their software.

The implementation of the functionality from the closed DoMo HomePage PC-client application was instantiated as web-based in SimplyMobile. The PC shell

of SimplyMobile only allows deeper integration to PC-based resources (i.e., right-click adding content, browser plug-ins, etc.).



## Versions

SimplyMobile is configured in two versions that the user can switch between through the application preferences:

- Web—this version delivers all content as a “link” in a text message that, when clicked, opens the content into the mobile web browser on the user’s device.
- SMS—this version delivers all content as text directly to the text message. This version is inherently limited in the types of content that can be added (i.e., a user cannot add a picture or a document; if the user employs this version, the application will notify them of that limitation when they try to right-click unsupported content). If text exceeds the available size of the SMS format (160 characters), it will be spanned across multiple messages that are numbered (i.e., Part 1 of 4) to ensure readability.

## Interface



The SimplyMobile interface is divided into six primary areas:

- Menu
- Tabs
- Buckets and Users
- Content Categories
- Plug-ins
- The Library (RSS Feeds)

### Menu

The tab bar is located at the top of the application and features links to:

- Help—this opens a web-based help support system

- Contents Ready to Mobilize...—this displays the content that is currently available to the user to add to a category. This may be content added via right-click or copy-and-paste
- Preferences—this opens the application preferences window and allows the user to specify how the application operates, account information, as well as personalization settings (i.e., phone make/model/template, etc.)
- Feedback—a link to a web-based feedback form

## **Tabs**

The tab bar is located just beneath the menu bar. Clicking on a tab opens a special feature interface within SimplyMobile. These features include:

- Notes
- Lists
- Categories
- Reminders
- Stickies

### *Notes*

The Note feature is a quick way for users to add a text-based note to a category. When adding a note, the user can select which bucket and category to which to send the note.

### *Lists*

The List feature allows the user to add a numbered/bulleted list to a category. The interface enables the user to specify each item independently (i.e., each item has its own text box) and add an infinite number of items. Web version users can also choose to have the list numbered and include checkboxes (for item completion). When adding a list, the use can select which bucket and category to which to send the list.

### *Categories*

The Categories feature allows the user to create a new content category

### *Reminders*

The Reminder feature allows the user to add and manage reminders. A reminder is a set piece of content that is added to the Reminder category that will generate an SMS message according to the date/time for which it is scheduled (including recurring reminders). The interface window is divided into two sub-tabs—Add a Reminder and Manage reminders. Through the Manage reminders tab, the user can see which reminders are currently set and delete them if necessary. If the user is employing the Microsoft Outlook plug-in, Outlook reminders will be automatically added to this feature.

### *Stickies*

The Stickies feature allows users to manage the “stickies” that they send from their phone to their computer. This application is better explained in the Stickies section of this document.

## **Buckets and Users**

The far left-column allows for management of buckets and the users within those buckets. Buckets are simply a convenient way to organize users to whom the master user wishes to share content. Buckets and the users within can be managed by clicking on the arrow (if there are users in a bucket, the arrow expands the bucket to show those users) or the magnifying glass (which will display the bucket properties such as name).

## **Content and Categories**

The primary middle column is the categories into which a user can add content. These categories are added, by default, during installation but the user can modify them—they can change a category name, they can hide a category (through the Preferences window), or they can add new categories of their own (and select an icon to represent it).

The user can also manage the content within each category by clicking on the category name and selecting an option from the context-sensitive pop-up menu:

- View Content—the user can browse through the category’s content in a pop-up window that displays the category in the currently selected template. This pop-up window mimics the interface/experience a user would have if they were browsing the category in their phone.
- Manage Content—the user can remove content items, or re-send them, through a pop-up window that displays the content items currently in the category along with checkboxes (for deletion).

Finally, the user can manage category settings by clicking on the category name and selecting an option from the context-sensitive pop-up menu:

- Notifications—the user can turn notifications on or off. By default, SimplyMobile sends a text message to the user whenever new content has been added or updated to a category.

## **Plug-ins**

The third column is the plug-ins. Plug-ins represent discrete applications created using the SimplyMobile SDK and connect to third-party content sources (i.e., applications) that cannot normally be accessed when mobile.

Plug-in availability to the different versions, Web or SMS, is managed through the DoMo Command Center.

When a user clicks on a plug-in button, the plug-in's interface appears allowing the user to specify whatever is needed to make the plug-in function. For example, the Cellfire plug-in will return available coupons for a zipcode that the user provides. The Gmail plug-in will return a list of the items in the user's Gmail inbox if they provide their Gmail username and password.

Currently available plug-ins include:

- **Cellfire**—this plug-in enables users to get available offers from Cellfire by specified zip code. The offers are added to a "Cellfire" category. In order to take advantage of the offer, the user must register with Cellfire and utilize their mobile application.
- **theFind**—this plug-in allows the user to search for products at local retailers. The plug-in interface allows the user to select items from the search result to add to "theFind" category. Items in this category are grouped by search term which, when clicked on, displays the selected results for that term.
- **Accuweather**—this plug-in displays weather-related information for a specified city.
- **Hotmail**—this plug-in displays email from the user's Hotmail account
- **Gmail**—this plug-in displays email from the user's Gmail account
- **Yahoo! Mail**—this plug-in displays email from the user's Yahoo! Mail account
- **Outlook**—this plug-in allows the user to get contacts, calendar items, tasks, and email from Microsoft Outlook
- **AIM**—this plug-in allows the user to add content to their phone through any AIM client
- **Skype**—this plug-in allows the user to add content to their phone through the Skype Messenger client

## The Library

The far-right column is the Library and displays RSS feeds that the user has selected. Through this column, the user can add and manage RSS feeds that are updated automatically by the DoMo Command Center.

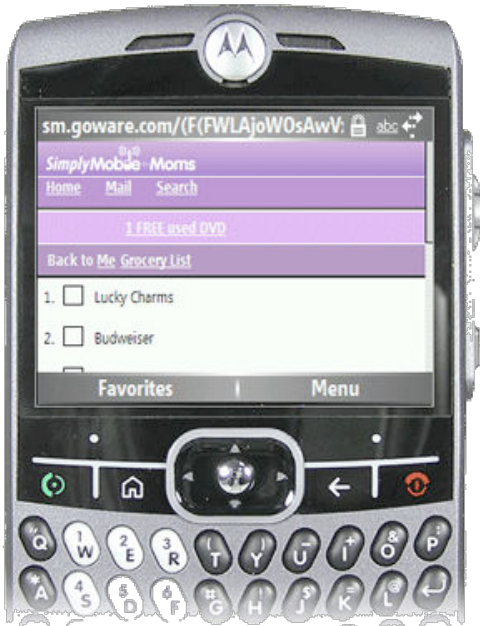
RSS feeds are added in two ways:

- **URL**—the user can enter the URL to any RSS feed. SimplyMobile, through the DoMo Framework, will query that URL and attempt to resolve the RSS feed so that it can be added to the user's content. Support RSS feed formats include .9, 1.0, 2.0, and Atom.

- Selection—the user can select from available RSS feeds (that are made available via the DoMo Command Center) by clicking on the “Find Feeds” button and then selecting from the available feeds (organized by category).

For each feed available in the library, the user can expand and view individual items within the feed enabling SimplyMobile to act as a RSS reader.

## Mobile



The mobile interface, at the time of the writing of this document, is web-based. Users interact with content based upon their selection of template from Preferences feature of the SimplyMobile application. Users can navigate horizontally and vertically through their content (which mimics the storage structure for static HTML documents as explained previously in this document).

In addition, each template in SimplyMobile includes a navigational system for content browsing. Whether the user has logged into their content directly or clicked on a link, they can easily move around their content through the various hyperlinks (within the content) or the navigational elements at the top of the page that include:

- Home—clicking on the home link takes the user to a list of all their categories. They can then click on a category name to browse that category's content sources or click on one of the two preview items beneath the category name.
- Search—clicking on the search link takes the user to a search page. Results through the search page (provided by 4INFO) are captured as content items within a "Search" category

- Shopping—clicking on the shopping link takes the user to a search page specifically for finding products using the integrated “theFind” technology.

## Features

SimplyMobile is chocked full of innovative and exciting features that demonstrate GoWare’s fundamental commitment to integrating mobile functionality within common PC and computing behaviors, leveraging the processes with which users are already comfortable (i.e., right-click “add to mobile phone”).

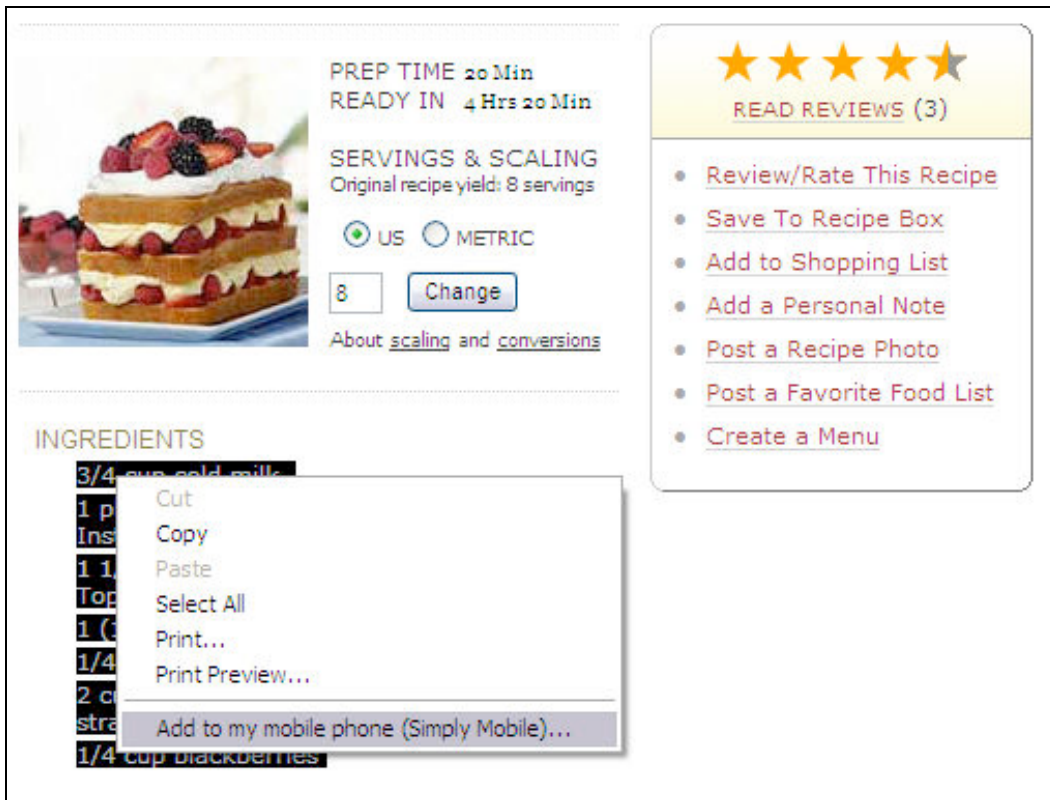
Functionality is broken down into four primary areas:

- Adding content
- Sharing content
- Managing content
- Accessing content



## Adding Content

Through SimplyMobile, users can add content in multiple ways:



- **Right-click**—SimplyMobile is integrated with Internet Explorer, Windows Explorer, and Firefox. This integration manifests in the right-click context-sensitive menu. To add content, the user simply needs to highlight text/picture from a web page, or a file from their hard drive, and select the “add to my mobile phone” option.
- **Copy and Paste**—married to system processes, SimplyMobile monitors the clipboard, making it available to the application. When a user has copied something to the clipboard and opens the SimplyMobile application, they can see the content currently available to add to their phone by clicking the “**Content Ready to Mobilize**” link in the menu bar.
- **Instant Messenger**—if the user has enabled the AIM or Skype IM plug-ins (and specified the appropriate username and password), content can be added by sending it directly to the applicable bot. For example, in AOL Instant Messenger, the SimplyMobile Bot is called

“SendToMyPhone.” The user adds this bot, as they would normally add any friend to their contact list, and validates the connection by entering a VALIDATE command and returning the 6-digit code that generated as a result of the command. Once validated, the user can send any text-based content which will be added automatically to the AIM category within their content.

- **Automatic**—SimplyMobile includes several automatic content capturing mechanisms such as
  - Recent Documents—when a user on a Windows XP or Vista system opens a document, it is captured in the “Recent Documents” list managed by the operating system. SimplyMobile monitors this list and automatically mobilizes each item (by day for up to seven days) to a “My Computer” category within the user’s content.
  - Browser Search History—when a user searches for something through their Web browser, that URL is captured in a cache. SimplyMobile monitors the Internet Explorer cache and captures URLs pointed to leading search engines (i.e., Google). This URL (along with the search parameters) is added to a “Search” category in the user’s content.
  - Browser Favorites—SimplyMobile monitors the browser favorites for Internet Explorer and adds them to a “Favorites” category in the user’s content

## Sharing Content

SimplyMobile includes a robust “user manager” that allows the installer of the application the ability to add users into “buckets” (groups of users) and send



### *Buckets*

Buckets are simply a way to group users together. When a bucket is created within SimplyMobile, a new category collection is generated specifically for that bucket, thereby isolating the user’s personal content from content shared with other people.

### *Users*

The “master user” can add an infinite number of users to a bucket. When the master user wishes to share content with that bucket, they simply select the bucket as part of the Adding Content process and then the category into which they wish to add the content. Users within the bucket will receive content according to how the master user has added them (i.e., as either SMS or Web users).

content to their phone.

## Managing Content

The user can manage content through the category buttons in the category column. By clicking on a category, the user can select the View Content or Manage content options, both of which display a secondary pop-up through which the user can navigate through the category content, remove items from the category, and even re-send notification to themselves.

## Accessing Content

Accessing content on the mobile device through SimplyMobile is accomplished in three ways:



SMS—some content can be consumed directly through SMS. This is most applicable to SMS users.



Link—Web users can select a link in a text message that opens the content in their mobile web browser. Parameters on the URL of the link include username/password (encrypted), category ID, content source ID, and content item ID. These parameters allow DoMo to fetch the exact HTML page for this content.

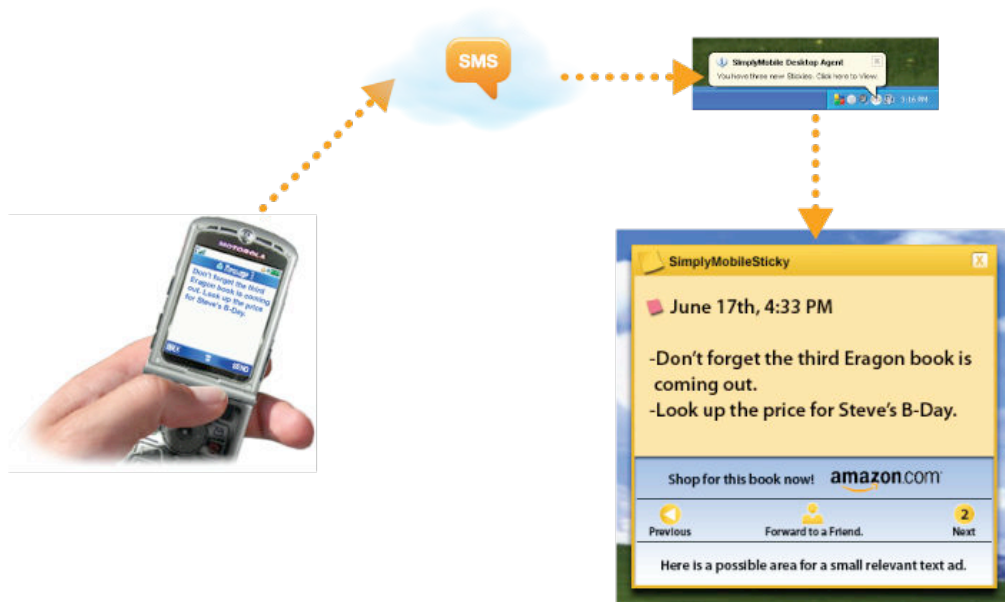


Login—Web users can also open their mobile browser to the SimplyMobile login page and enter their credentials.

## Mobile Stickies

The Mobile Stickies application is a subset of the SimplyMobile Platform<sup>16</sup> and is designed to provide a bi-directional conduit between mobile phone and PC. Through this application, users can send content directly to their PC. This content is encapsulated in a “mini-console” that appears when a bubble message is clicked above the Mobile Stickies task-bar icon.

## Objective



The objective of Mobile Stickies is to provide a way for users to capture information (while on the go) using their mobile phone instead of conventional means (i.e., paper) and connect this capture information with their primary information source—the personal computer. Mobile Stickies does not require users to remember what they have jotted down (or even log into a website to retrieve it). They are reminded immediately of the content they captured when they return to their computer.

## Functionality

The Mobile Stickies application functions very simply:

- A registered user sends a text message with the sticky content to the text-messaging partner

<sup>16</sup> The “Stickies” feature is also available in the SimplyMobile Mom application

- The Mobile Sticky content and phone number from which it was sent is delivered to the DoMo Server from the text-message partner
- The DoMo Framework uses the mobile phone number to identify the registered user and adds the sticky content to their XML file
- When the user's computer is turned on, the Mobile Stickers application communicates with the DoMo Server and retrieves the XML file. Each new sticky that is identified is then put into a queue for display in the console.
- A bubble message appears above the Mobile Stickers task bar icon indicating that there are new, unread stickies
- The user clicks on the bubble message to display the Mobile Stickers Display interface.
- The user can perform the following actions on each Mobile Sticky:
  - Mark as read
  - Forward to a friend
  - Click on a related link

### **Related Links**

Depending upon the content of the Mobile Sticky, the DoMo Framework may provide a secondary link within the Display interface. This secondary link is related to the content. For example, if the user sends a sticky such as "remember to read the new Stephen King book," the secondary link may read, "buy Stephen King books on Amazon."

### **Interface**

The Mobile Stickers interface is composed of two elements:

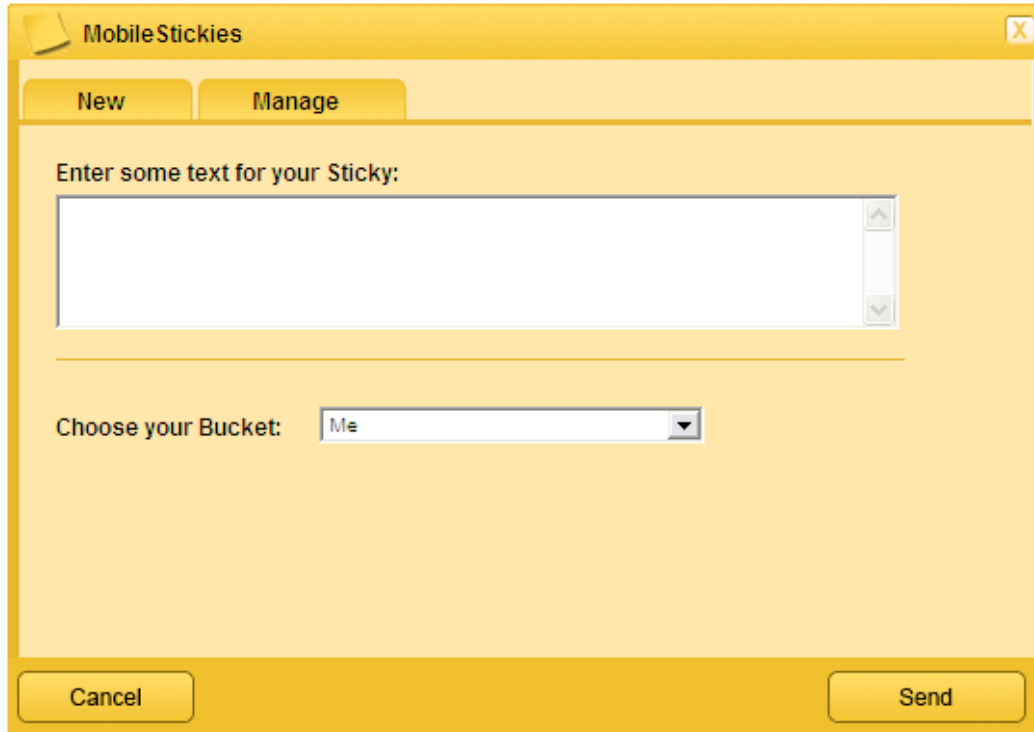
- Sticky display
- Sticky manager

### **Sticky Display**

[need screen shot]

The Sticky Display is a small windows client that displays stickies that have been added from the mobile phone.

### **Sticky manager**



The screenshot shows a yellow-themed application window titled "MobileStickies". At the top, there are two tabs: "New" and "Manage". Below the tabs, the text "Enter some text for your Sticky:" is displayed above a large, empty text input field. Below the input field, there is a label "Choose your Bucket:" followed by a dropdown menu currently showing "Me". At the bottom of the window, there are two buttons: "Cancel" on the left and "Send" on the right.

The Stick manager is a pop-up window allow the user to manage the stickies they have received (i.e., delete, view) as well as add stickies to theirs and other people's phone that can be accessed directly through text messaging (utilizing the SimplyMobile Platform SMS version).

## Intellectual Property

The DoMo Framework has several non-provisional patents associated with its operation.

- **20070027932**—SYSTEM AND METHOD OF CREATING A SINGLE SOURCE RSS DOCUMENT FROM MULTIPLE CONTENT SOURCES
- **20070049258**—SYSTEM AND METHOD OF MOBILE TO DESKTOP DOCUMENT INTERACTION USING REALLY SIMPLE SYNDICATION
- **20070055731**—SYSTEM AND METHOD FOR SECURE COMMUNICATIONS UTILIZING REALLY SIMPLE SYNDICATION PROTOCOL
- **20070198633**—System and method for delivery of PC content through a server based relay system using really simple syndication

### 20070027931

A novel system and method for aggregating multiple really simple syndication (RSS) documents and non-RSS document content sources into a single master RSS document. An aggregation application identifies the particular elements in each RSS document and content sources to be aggregated into the master RSS document. A user indicates the specific content sources and RSS documents to be included and any filtering criteria to be applied to the content sources and/or RSS documents. The resulting collection of items are stored and combined to generate the master RSS document. RSS documents are generated from non-RSS document content sources. The aggregation application examines the document and attempts to identify elements therein. For each element identified, the aggregation application `highlights` the corresponding document code as a content element. The aggregation application renders the document through a GUI. A user customizes the content of the target RSS document by selecting items to be represented in RSS format. The selected content is aggregated together and used to generate the master RSS document.

### Value

This feature is at the core of the DoMo Framework. Multiple content sources (including RSS feeds) are aggregated into a single RSS feed. The system



keeps track of the origin source of the content so that aggregate pieces can be updated independently.

## 20070049258

A novel system and method for initiating, via a mobile device utilizing really simple syndication (RSS), the sending of messages from a user's desktop computer to one or more recipients. The mechanism establishes a connection between the mobile device and the user's PC whereby data is served from the user's PC to the mobile device to permit the mobile user to make document and recipient selections. A conventional email application at the user's PC generates and sends the messages which may be sent with or without attachments (e.g., documents) depending on the mobile user's preference. Document and recipient lists in RSS format (or any other suitable format) are provided to the mobile device for display to the mobile user. The mobile user makes document and recipient selections which are conveyed to the user PC. The user PC generates and sends the requested messages with the selected documents to each of the recipients on the received contact list.

### Value

This IP represents the utilization of the PC as a "host" for activity and encapsulates the plug-in system when those plug-ins are PC-based.

## 20070055731

A novel system and method for providing secure communication between two or more users via a really simply syndication (RSS) document feed through a conventional email client. Users exchange messages via RSS documents in lieu of sending email messages using conventional email applications with the problem of spam, security and network bandwidth that typically plague conventional email systems. A unique RSS document feed exchange is established using conventional email. Once established, however, all messages in the communications session are transmitted between users using RSS documents. Users can create, edit and delete message threads on their standard web browsers or use a specialized RSS reader. The communication event messages may also be encrypted using any suitable well known encryption technique to foil malicious interception and eavesdropping.

### Value

This IP encapsulates the messaging system within the DoMo Framework (user-to-user) and also provides for extended versions of the messaging to exist outside of the framework.

## 20070198633

A novel system and method for delivering personal computer (PC) based content through a server based relay system using really simple syndication (RSS). The mechanism of the present invention is operative to stream any type of PC content such as directories, files, video, audio, etc. A multimedia server (MMS) resides on the user's source computer (the "server") and a multimedia client (MMC) resides on the destination or target computing device (the "client"). The MMS converts (i.e. translates or renders) files and resources to be delivered as an RSS document which can be further "stylized" through HTML style sheets (like XSTL) and delivered to anything capable of consuming web pages, such as an ordinary Internet browser like Microsoft Internet Explorer or a specialized reader (i.e. the MMC). The invention provides a user with complete access to the content on their PC through the MMS content server that resides on their source PC. The multimedia server translates or renders files to be delivered as an RSS document, while a reader (i.e. MMC) on the mobile device retrieves the content through HTTP requests to the URI of the file in the RSS document.

### Value

This is the core of the DoMo Framework, creating a connection between content on the PC and content on the mobile phone (via XML structure) and enabling the user, through a mobile device, the ability to connect directly to that content (via a server that maintains connectivity with the client on the user's PC).

## Opportunities for Acquisition

The GoWare technology provides for a number of revenue-generating opportunities including:

- Advertising—the built-in ad campaign manager and multi-impression ad system provide opportunity to sell advertisements across the value chain
- Licensing—whether as a packaged suite of components or remotely-called methods (i.e., SaaS platform), the SimplyMobile and DoMo functionality can be licensed to developers and other content providers
- Consumer application—the SimplyMobile and DoMo functionality can be integrated into any consumer application, whether developed for the sole purpose of enabling users to mobilize content or simply as an added feature to existing software.

## Key Questions

Below are some key questions and answers about GoWare's technologies and products:

1. **How easy is it to integrate GoWare's technology with my existing solutions?**

GoWare's extensive API library makes it very easy to integrate the features and functionality offered through the DoMo Framework and SimplyMobile Platform directly into your existing software. In addition, the SimplyMobile Mom and DoMo HomePage Application provide real-world examples and code to make that happen at both the PC level (VC++) and Web (Javascript).

2. **How easy would it be to create a new application based on the DoMo Framework or the SimplyMobile platform?**

Using SimplyMobile or DoMo HomePage as a "template" application, you can quickly build your own web-based or PC-based client in which to offer the types of services provided in GoWare's technology. In addition, GoWare can provide consulting services and documentation to facilitate the creation of plug-ins.

3. **What were the revenue metrics on which GoWare was pitching its story?**

GoWare pitched a multi-ad impression system whereby a single usage could generate up to 7 impressions across PC (the application interface), SMS (when communicating about content updates or additions), and Mobile Web (for content display). In addition, ad delivery could happen outside of the user when content is added to sub-users in additional buckets. Based upon analysis of the initial outreach and usage patterns, we determined an average of 3.5 impressions per user.

4. **What was GoWare's approach to open standards in building their technology platform?**

GoWare actively supported open standards, evidenced by its participation on the Mobile Web Initiative of the W3C. The fundamental DoMo Framework technologies are built on XML and heavily utilize other open-standard technologies like XSLT and XHTML to render and transform content. None of the code upon which the DoMo Framework is built utilizes any open-source components.

**5. What are the competitive advantages to the GoWare technology and products?**

First and foremost, DoMo is a platform. That separates it completely from other products in the market (such as MobileMe or Mesh) that are “one-off” solutions to specific issues. GoWare designed the system to be extendable and scalable through plug-ins and open APIs allowing for easy integration into existing products and services. In addition, the built-in multi-impression advertising model also separates it from competitors who have ad models focused entirely on a single channel (i.e., Mobile Web).

**6. How does GoWare’s technology compare with other solutions in the market like MobileMe and Mesh?**

As an underlying platform which can be extended and integrated through plug-ins, DoMo is fundamentally different from MobileMe and Mesh. Integrated deeply into the OS to promote content acquisition utilizing pre-existing user behaviors, DoMo was always meant to be an extension of the mobile to the PC (and vice-versa). Although DoMo provides many of the same features as MobileMe and Mesh, its true value in acquiring, converting, and rendering content from any source (including PC-based software) significantly separates it from the other market entrants.

**7. How does GoWare’s technology compliment industry mobile initiatives like Android?**

Android, iPhone, even Windows Mobile 6 are all about personalization. Whether that is the interface, the phone features, or how the phone consumes content, there is a growing industry movement towards allowing the user the ability to tailor the phone experience to their unique needs. As a personalization software platform, DoMo works seamlessly with these solutions and GoWare was already planning to support iPhone and Android (with custom applications and additional

APIs) on the product roadmap.

**8. How scalable is a solution deployed on the DoMo Framework?**

The design of the DoMo Framework (i.e., the DoMo HQ and DoMo Command Center architecture) allow it to scale to a number of users only governed by the available resources of servers, hard drives, and bandwidth. In addition, because of its open architecture, the DoMo Framework can easily integrate with other software (i.e., via the plug-in system) that can output in XML format.

**9. What are the principle drivers to growing a solution or product based on GoWare's technologies?**

Like all software solutions, the key to growing a product based on the DoMo Framework or SimplyMobile Platform is marketing and awareness. If an acquirer of the GoWare technology assets already has a robust product and distribution channel then this can simply be seen as a "ride-along."