DoDots™

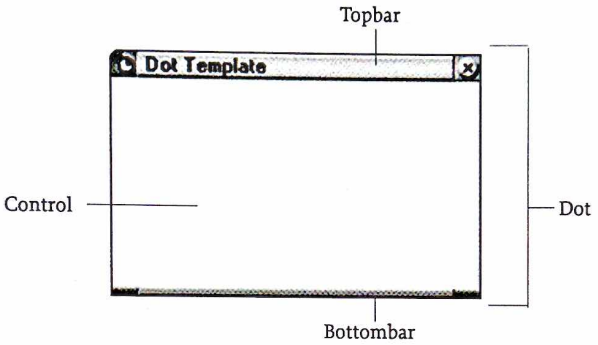
DoDots Technical Overview

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

DoDots Technical Overview

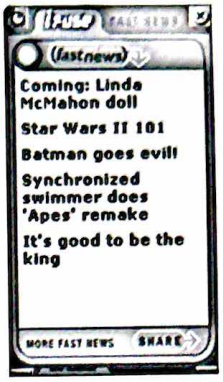
THE DOT™ DEFINES THE PACKAGE FOR CONTENT AND APPLICATIONS

Dots™ are packaged pieces of branded Internet content and applications. The Dot descriptions are constructed of three primary elements: the Topbar, the Bottombar, and the Web Control. Groups of Dots, called DotPacks™, can work together, using Dot messaging, to give users a full application experience. Through the DevDot™ and Dot messaging, developers have access to all the elements of Dots and DotPacks, and can create branded, smart packages targeted to specific customers.



In the Topbar, Dot developers can increase customer awareness of brand. Dot developers have complete control of the title, background color, and image of the Topbar and can easily add branding information to the Dot. Every time users open Dots they see brand images and names. Data collected from users indicate that Dots get opened more often and stay open longer than Web pages. Complete control of Dot branding, combined with this frequent use and persistence, results in significant gains in brand impressions.

The Topbar of a Dot also holds controls for users: the Dot Menu and the Close Dot Button. Users access the Dot menu by clicking on the Dot icon in the Topbar. The Dot menu contains standard menu items and items that are developer-defined. Clicking the close button on the right side of the Topbar closes a Dot. Users can also collapse a Dot by double-clicking the Topbar. This collapses the Dot so only the Topbar and Bottombar are visible. Users collapse Dots to make room on the display while keeping it ready for use. A collapsed Dot displays the branding information of the Topbar and Bottombar and increases the duration of brand impression.



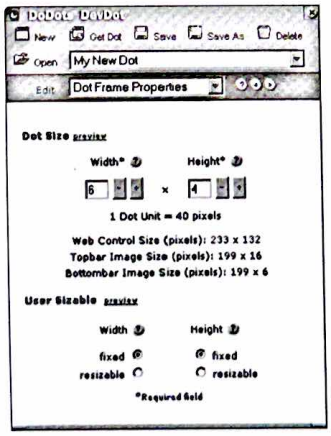
The Bottombar defines the lower edge of the Dot. Dot developers control the look and images displayed in the Bottombar and can use the Bottombar to extend branding. The Bottombar can hold user interface widgets for resizing Dots.

The Web Control of a Dot delivers the application or content rendered in a Dot. Dot developers can use the Web Control to render any information or function that can be delivered on a Web page, including HTML, JavaScript, streaming media, Flash, and others. The Web Control completes the Dot. The Topbar and Bottombar define the package. The Web Control contains the payload.

DOT DEVELOPMENT IS EASY

The first step to Dot development is designing and generating content for the Dot. Any content that can be displayed in a Web page can be delivered by a Dot. Dot developers can use their existing tools and methodologies to develop Dot content.

Developing a Dot requires very little effort beyond that needed to generate HTML for a Web site. Creating a new Dot creates an empty Dot description. The DoDots DevDot™ gives access to all elements of the Dot description. Configuring input fields provided by the DevDot, a Dot developer quickly sets parameters for the attributes of the Topbar, Bottombar, and Web Control.



The following table lists the elements of a Dot that can be configured using the DoDots DevDot.

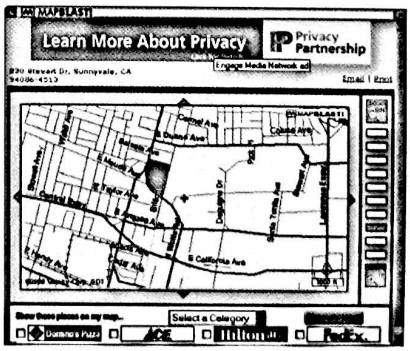
CONFIGURIBLE ELEMENTS OF A DOT

Dot Frame Properties	Dot dimensions; User resizing options
Topbar Properties	Dot title and alignment;Bar color and contained images; Bar style; Mouse-over and mouse-down user feedback; Options; Title width
Web Control Properties	URL to content
Bottombar Properties	Bar color and contained image
Dot Menu Properties	Menu items and JavaScript functions called by the item
Dot Index Category	(Dot categories are used to organize Dots in lists of available Dots accessed by users who are looking for Dots to collect)
Dot Publishing Options	Small logo for Dot links; Description of Dot for Dot links and promotion; Screenshot of the Dot for Dot promotion

The DevDot can be used by anyone who uses HTML or JavaScript, putting the benefits of Dots in the reach of everyone with a Web site.

DOT MESSAGING EXTENDS THE VALUE OF INTERNET CONTENT AND APPLICATIONS

Internet packaging is more than branding, size, and look. Internet users expect interactivity. Dots and DotPacks enable developers to create packages with the required interaction. Dot messages are extensions to JavaScript that enable Dot developers to build packs of Dots that behave like multi-window applications. Anyone who can create interesting Web pages can create great Dot applications.



This means that you can develop fully branded, Internet-driven applications that run on your customers' desktops.

Though it involves a bit more work, Dot messaging enables Dot developers to build application features into Web content without developing custom client software. For example, including the following code in an HTML source file can change the size of a Dot:

```
<Script Language = "JavaScript">
<!--
function Initialize(){
dot.size(6,8);
}
-->
</Script>
<Body ONLOAD="Initialize()">
```

Dot messaging includes messages that enable developers to control almost all characteristics of Dots. The brand impact made by Dot applications and the value delivered to users are limited only by imagination.

DOTS ARE DISTRIBUTED TO USERS

In contrast to destination-based and page-based Web content, Dots are distributed to users. Users instantly collect the Dots they want. Once collected, a Dot remains with the user until the user decides to discard it. DoDots provides several ways to distribute Dots:

- Links to Dots can be inserted anywhere a Web link can be placed, including on Web pages and in email.
- Users can collect Dots from an index of Dots maintained by DoDots.
- Users can use DoDots' share function to quickly send copies of favorite Dots to friends and co-workers.

GROW WITH A SCALABLE DIGITAL INFRASTRUCTURE

The DoDots server can serve millions of Dot definitions and user profiles because both are small and manageable. Dot providers serve Dot content the same way they serve Web content. No additional server software is required to provide Dots to customers. This infrastructure makes Dot development easy and inexpensive for providers.

THE DODOTS CLIENT SOFTWARE PROVIDES THE FOUNDATION FOR THE DOT EXPERIENCE

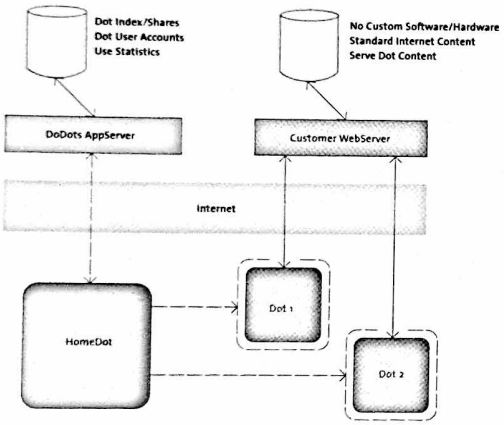
Users are asked to Dot-enable their computers the first time they request a Dot. Dot-enabling a computer installs a copy of the DoDots client software. The user also receives a unique Dot-user account, a Welcome Dot, and the HomeDot. Users organize Dots and collect more Dots with the HomeDot. After Dot-enabling their computers, users are ready to collect and use Dots.

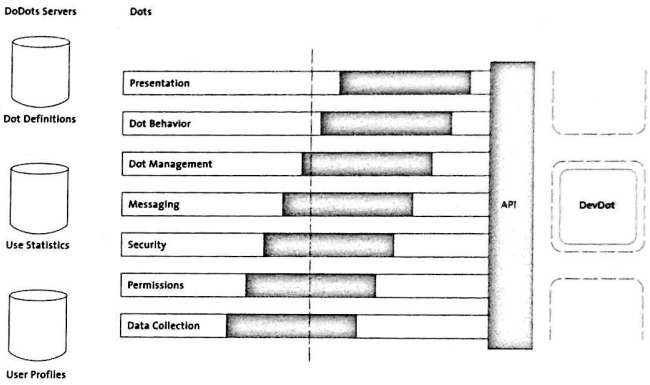
DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

DODOTS AND DOT PROVIDER SERVERS WORK TOGETHER

DoDots software provides a scalable infrastructure for Dot distribution and use. This infrastructure involves interaction between the DoDots server, the DoDots Client Software, and the Dot provider's Web server.

The DoDots client software and two servers work together to provide a great Dot experience. When a Dot developer creates and publishes a Dot, a new Dot description is saved to the DoDots application server. The Dot description defines the Dot package and behavior. URLs in the Dot description point to Dot content on the Dot provider's Web server.





When the DoDots Client Software launches, it requests the user's account from the DoDots application server. The user's account contains descriptions of all the Dots the user has collected and a snapshot of the state saved when the user logged off. The DoDots server returns the user's account, and the previous state of the Dots is restored.

DODOTS SOFTWARE IS DESIGNED AS A LAYERED, EXTENSIBLE ARCHITECTURE

DoDots software is built on a structure of data collections and horizontal layers. The data collection design lets DoDots manage high volumes of user activity. The horizontal layers enable delivery of solutions today, within the capabilities of current technology, while providing a path for growth and support for future technology. This architecture was designed for stability, flexibility, and extensibility.

THE DODOTS APPLICATION SERVER SUPPORTS THE DODOTS SYSTEM

The DoDots application server supports functional layers of DoDots software and contains three primary databases:

· Dot Descriptions
· User Accounts
· Dot Use Statistics

The Dot Descriptions database contains descriptions of all published Dots. A Dot description depicting a Dot's package is created when Dot developers create new Dots.

The Dot Use Statistics database is used to generate statistics about Dot use.

The User Accounts database contains user account information, descriptions of all Dots collected by a user, all DotPacks collected and created, and the saved state of Dots. When a user collects a Dot, the Dot description is retrieved from the Dot Descriptions database and added to the user's account.

APPLICATION LAYERS SUPPORT THE PACKAGING AND APPLICATION FEATURES OF DOTS

DoDots software is built in five layers:

· Data collection
· Permissions
· Security
· Messaging and API
· Dot management

THE DATA COLLECTION LAYER POPULATES THE PRIMARY DATA COLLECTIONS

DoDots software is able to collect data about how Dots and DotPacks are used. The data is used to prepare reports that Dot providers use to determine the success of Dots. The basic information reported to Dot providers includes:

· Number of users who have collected a Dot
· Number of times Dots were opened
· Duration of Dot openings

This information can be used to improve Dots, test ideas, and validate successful Dot applications. In the future, the data collection layer will be expanded in response to customer and market requests.

THE PERMISSIONS LAYER DEFINES DIGITAL BOUNDARIES FOR DOTS

Dots are given digital boundary settings in the permissions layer. Dot developers can set Dot permissions to limit access to Dots. Access can limit:

· The users who can collect and view a Dot or DotPack
· The other Dots that can send messages to a Dot or DotPack

THE SECURITY LAYER PROTECTS DOTS

The DoDots security layer works with the permissions layer to protect Dots from unauthorized use, whether by users or other Dots. The security layer gives developers a logical safe haven where they can create and test Dots before making them publicly available. The security layer also defines Dots that are allowed to share Dot messages.

DOT MESSAGING IS AN EASY PATH TO FULL-FEATURED INTERNET APPLICATIONS

The messaging layer gives access to a primary tool used by Dot developers. Dot developers can give full application behavior to Dots and DotPacks using Dot messaging. The messaging layer defines JavaScript syntax to identify and control Dots. Messages can open, close, and change the appearance of Dots, as well as control Dot behavior.

THE DOT MANAGEMENT AND USER EXPERIENCE LAYER MAKES USING DOTS GREAT

DoDots software delivers Dot collection, management, and behavior features to users. The HomeDot enables users to collect, organize, and open Dots. DoDots client software delivers a complete user interface layer. Building on the foundation of common UI, Dot Developers use messaging to deliver a great experience matched to targeted users.

DoDots gives developers an opportunity to appropriately package Web applications and content. Tools provided by DoDots make it easy and fast to create great user experiences for customers.

DODOTS CUSTOMER REPORTING

DoDots provides each customer with a suite of audience and user measurement reports on a complete range of parameters - page views and uniques, clickrates and clickthroughs, "stickiness," and more - all optimized to help you make informed business decisions. Consistent with today's advertising sales models, DoDots reports show the relationships between specific content and audience, and against specific demographics.

To deliver comparable and auditable measurements and metrics, DoDots reports are being developed with MediaMetrix, Nielsen/NetRatings, PCDataOnline, independent auditors, and DoDots customers. All metrics and reporting will be certified by an independent third party.

Available in HTML with live drill-down links, DoDots reports open seamlessly in spreadsheets like Microsoft Excel and document processors like Word and PowerPoint. Reports are published daily on a secure server, with other report and data transfer options available. Weekly, monthly, quarterly, and annual reports roll-up to summary reports.

Comprehensive, auditable DoDots reports cover:

- Dot views
- Clickthroughs by Dot, DotPack, and customer total
- Dot users - active and inactive population by Dot, DotPack, and customer total
- User profiles - modeled much like television ratings, with demographics by time of day and "Dot comparables" indicating audience "share"
- Dot usage by time, day, time interval, and internal versus external content
- Dot sharing patterns and trends
- Unique users and user retention
- Dot duration - average and total time each Dot is open by Dot, DotPack, and customer total
- Dot Views (openings) - active and inactive population by Dot, DotPack, and customer total
- Dot usage versus ad campaign revenue streams
- URLs served through Dots by Dot, DotPack, and customer total
- Active and inactive Dots by Dot, DotPack, and customer total
- Dot distribution by source, share, HomeDot, customer site, banner ads, etc.

Trend-lines can be added to all standard reports. In addition, DoDots offers custom data mining capabilities, providing reports and analyses based on your specifications.
You can find out more about DoDots and Dot development by emailing: info@dodots.com or by calling DoDots for information at 408-331-7200.

DoDots, Dots, HomeDot, DevDot, DotPacks and the DoDots logo are trademarks and service marks of DoDots, Inc.
All other trademarks and service marks contained herein are the property of their respective owners.
© 2000, DoDots, Inc. All rights reserved

DoDots™

DoDots, Inc.
830 Stewart Drive
Suite A
Sunnyvale, CA 94085

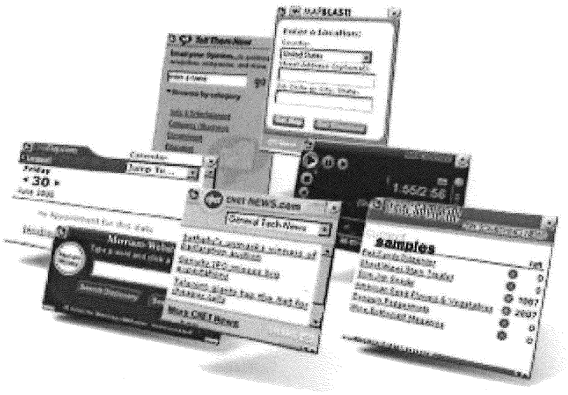
Phone: 408 331 7200
Fax: 408 331 7410

www.DoDots.com

mpn-082500.2

DoDots™

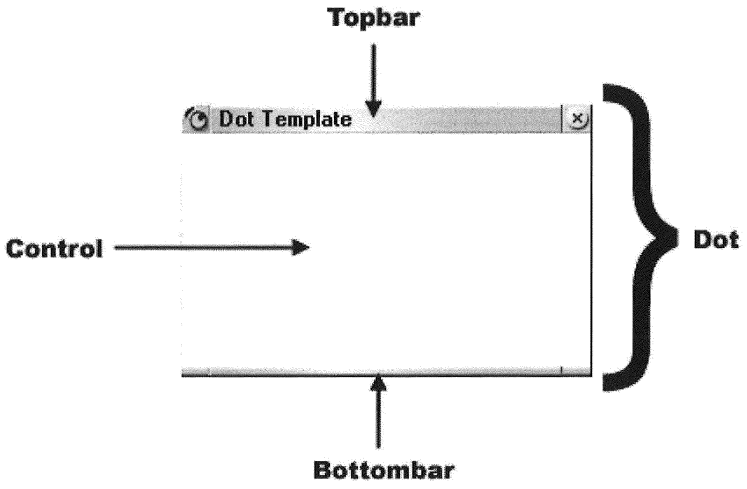
DoDots Technical Overview



THE DOT ™ DEFINES THE PACKAGE FOR CONTENT AND APPLICATIONS

Dots™ are packaged pieces of branded Internet content and applications. The definition of a Dot is constructed of three primary elements, the Topbar, the Bottombar and the Web Control. Groups of Dots, called DotPacks™, can work together, using Dot messaging, to give users a full, application experience. Through the DevDot and Dot messaging developers have access to all the elements of Dots and DotPacks, which means they can create branded, smart packages targeted to specific customers.

DODOTS' DEVDOT-ENABLES DEVELOPERS TO DEFINE ALL THE ELEMENTS OF A DOT DEFINITION



DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

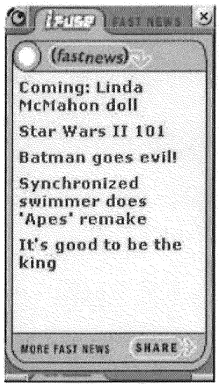
DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

Access to the Topbar enables Dot developers to increase customer awareness of brand. Dot developers have complete control of the title, background color and image of the Topbar and can easily add branding information to the Dot. Every time a user opens a Dot they are presented brand images and names. Data collected from users indicate that Dots get opened more often and stay open longer than web pages. Complete control of Dot branding combined with this frequent use and persistence results in significant gains in brand impressions.

The Topbar of a Dot also holds controls for users: the Dot Menu and the Close Dot Button. Users access the Dot menu by clicking on the DoDots icon in the Topbar. The menu contains standard menu items and items that are developer defined. Clicking the close button on the right side of the Topbar closes Dots. Users can also collapse Dots by double-clicking the Topbar. This collapses the Dot so only the Topbar and Bottombar are visible. Users collapse Dots to make room on the display while keeping it ready for use. A collapsed Dot displays the branding information of the Topbar and Bottombar and increase the duration of brand impression.

CNET Dot

ZDNet Tech News Dot



iFUSE Dot

The Bottombar defines the lower edge of the Dot. Dot developers control the look and images displayed in the Bottombar and can use the Bottombar to extend branding. The Bottombar can hold user interface widgets for resizing Dots.

The Web Control of a Dot renders the application or content delivered in a Dot. Dot developers can use the Web Control to render any information or function that can be delivered on a web page, including:

- HTML
- JavaScript
- Streaming Media
- Flash
- …and others

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

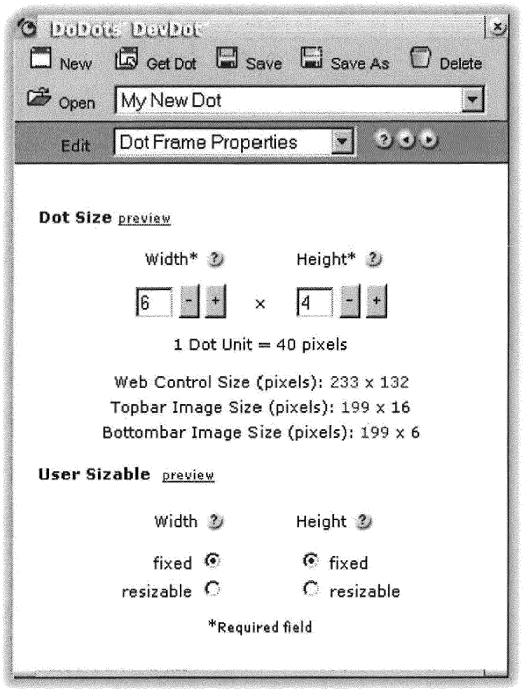
DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

The Web Control completes the Dot. The Topbar and Bottombar define the package. The Web Control contains the payload.

DOT DEVELOPMENT IS EASY

The first step to Dot development is designing and generating content for the Dot. Any content that can be displayed in a web page can be displayed by a Dot. Dot developers can use their existing tools and methodologies to develop Dot content.

Once the content has been defined, developers can create a New Dot using the DevDot.



DoDots DevDot

Developing a Dot requires very little effort beyond that needed to generate HTML for a web site. Creating a new Dot creates an empty Dot definition. DoDots' DevDot gives access to all elements of the Dot definition. Configuring input fields provided by the DevDot, a Dot developer quickly sets parameters for the attributes of the Topbar, Bottombar and Web Control.

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

The following table lists the configurable elements of a Dot that can be configured using the DoDots DevDot.

Configurable Elements of a Dot

Dot Frame Properties	Dot dimensions User resizing options
Topbar Properties	Dot title and alignment Bar color and contained images Bar style Mouse-over and mouse-down user feedback options Title width
Web Control Properties	URL to content
Bottombar Properties	Bar color and contained image
Dot Menu Properties	Menu items and JavaScript functions called by the item
Dot Index Category	(Dot categories are used to organize Dots in lists of available Dots accessed by users who are looking for Dots to collect)
Dot Publishing options	Small logo for Dot links Description of Dot for Dot links and promotion Screenshot of the Dot for Dot promotion

The DevDot can be used by anyone who uses HTML or JavaScript, putting the benefits of Dots in the reach of everyone with a web site.

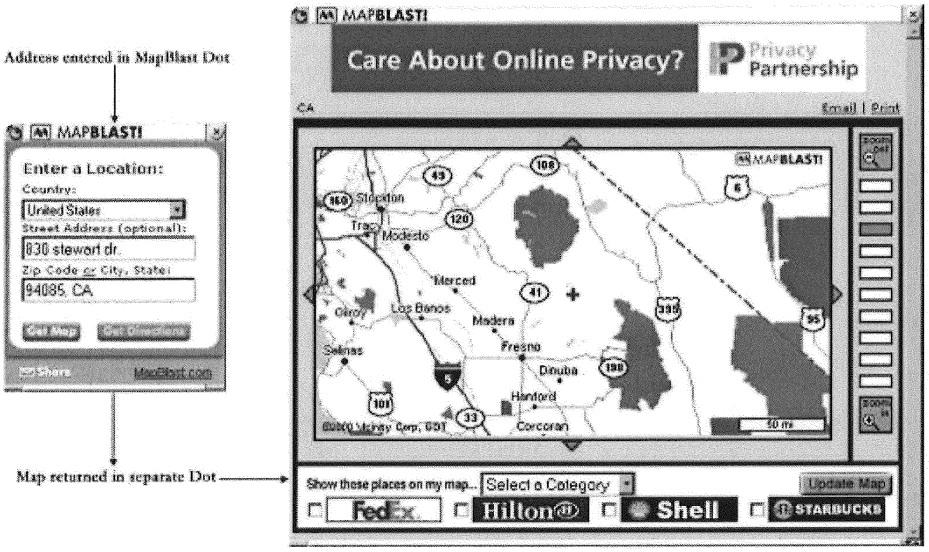
DOT MESSAGING EXTENDS THE VALUE OF INTERNET CONTENT AND APPLICATIONS

Internet packaging is more than branding, size and look. Internet users expect interactivity. Dots and DotPacks enable developers to create packages with the required interaction.

Dot messages are extensions to JavaScript that enable Dot developers to build packs of Dots that behave like multi-window applications. Anyone who can create interesting web pages can create great Dot applications.

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408.331.7200 main 408.331.7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701



MapBlast Dot

This means that you can develop fully branded, Internet driven applications that run on your customers' desktops.

Dot messaging involves a bit more work, but allows Dot developers to build application features into web content that were previously impossible without developing custom client software. For example, including the following code in a HTML source file can change the size of a Dot:

```
<Script Language = "JavaScript">
<!--
     function Initialize(){
          dot.size(6,8);
               }
-->
</Script>
<Body ONLOAD="Initialize()">
```

Dot messaging includes messages that enable developers to control almost all characteristics of Dots. The brand impact made by Dot applications and the value delivered to users are limited only by imagination.

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

DOTS ARE DISTRIBUTED TO USERS

In contrast to destination and page-based web content, Dots are distributed to users. Users instantly collect the Dots they want. Once collected, a Dot remains with the user until the user decides to discard it. DoDots provides several ways to distribute Dots:

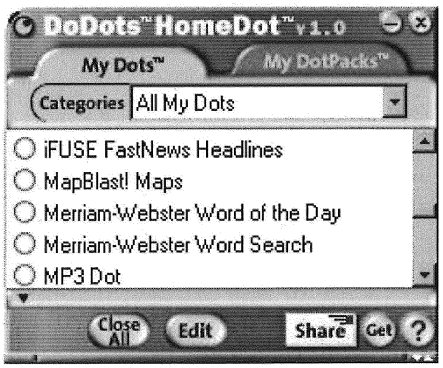
- Links to Dots can be inserted anywhere a web link can be placed including links on web pages and in email
- DoDots maintains an index of Dots where users can collect Dots
- Users who like a Dot can quickly send a copy to friends and co-workers using DoDots' share function.

GROW WITH A SCALEABLE, DIGITAL INFRASTRUCTURE

The DoDots server can serve millions of Dot definitions and user profiles because both are small and manageable. Dot providers serve web content to Dots the same way content is delivered to web pages. No additional server software is required to provide Dots to customers. This infrastructure makes Dot development easy and inexpensive for providers.

THE DODOTS CLIENT SOFTWARE PROVIDES THE FOUNDATION FOR THE DOT EXPERIENCE

Users are asked to Dot-enable their computers the first time they request a Dot. Dot-enabling a computer installs a copy of the DoDots client software. The user also receives a unique Dot-user account, a Welcome Dot, and the HomeDot. Users organize Dots and collect more Dots with the HomeDot. After Dot-enabling their computers users are ready to collect and use Dots.



DoDots HomeDot

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408.331.7200 main 408.331.7410 fax

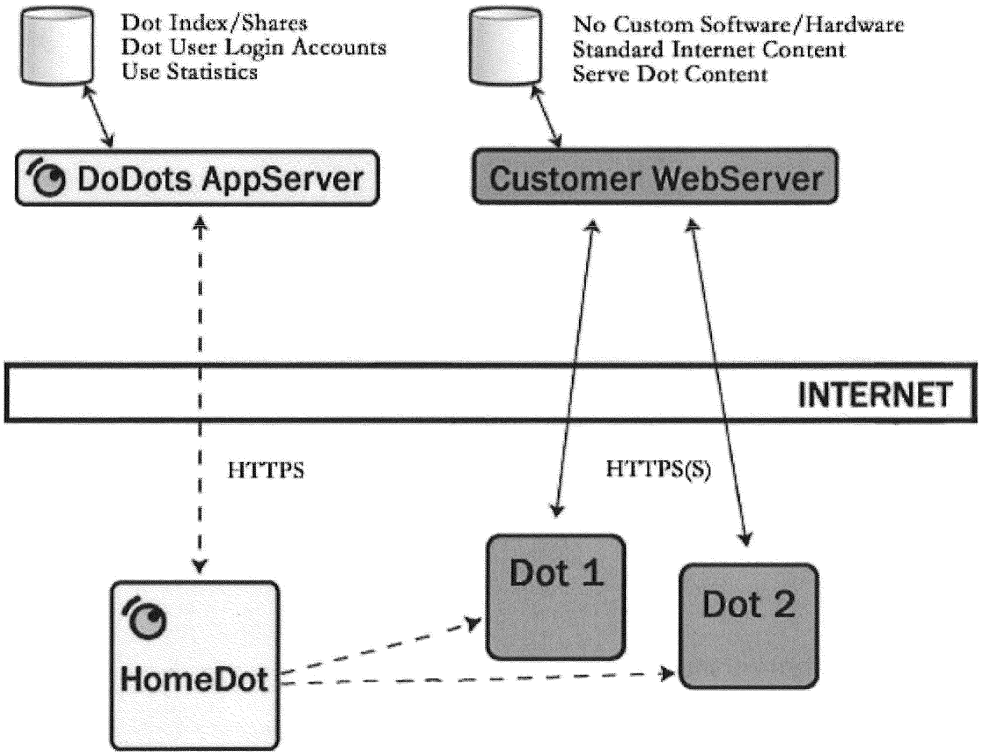
DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

DoDots™

DoDots and Dot Provider Servers Work Together

DoDots software provides a scalable infrastructure for Dot distribution and use. This infrastructure involves interaction between the DoDots server, the HomeDot and the Dot provider's web server.

The DoDots client software and two servers work together to provide a great Dot experience. When a Dot developer creates and publishes a Dot, a new Dot description is saved to the DoDots application server. The Dot description defines the Dot package and behavior. URLs in the Dot description point to Dot content on the Dot provider's web server.



When a user starts DoDots software and logs in, the HomeDot requests the user's profile from the DoDots application server. The user's profile contains descriptions of all the Dots the user has collected and a snapshot of state saved when the user logged off. The DoDots server returns the user's profile, the DoDots client software launches and the previous state of the Dots is restored.

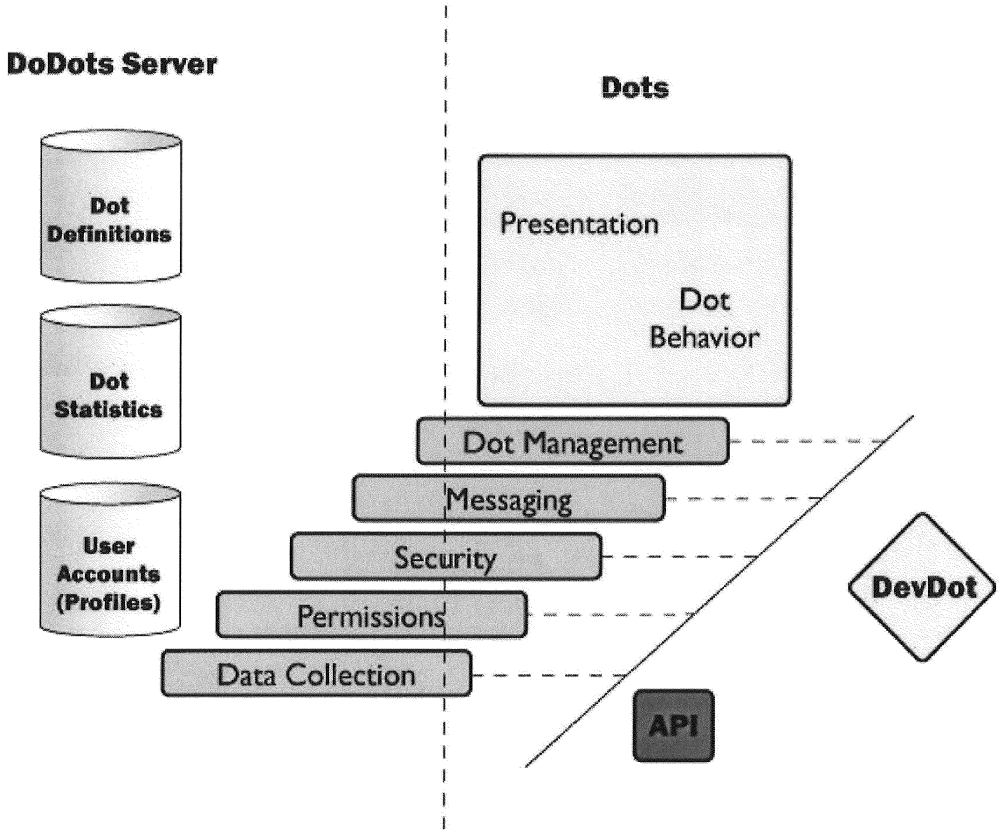
DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

To open a Dot, the user clicks the name of the Dot in the HomeDot. The Dot description in the user's profile is used to instantiate an empty package. The URLs in the Dot description request content from the Dot providers web server. The Dot package renders this content to populate the Dot.

DoDots Software is Designed as a Layered, Extensible Architecture

DoDots software is built on a structure of data collections and horizontal layers. The data collection design lets DoDots manage high-volumes of user activity. The horizontal layers enable delivery of solutions today, within the capabilities of current technology, while providing a path for growth and support of future technology. This architecture was designed for stability, flexibility and extensibility.



DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

THE DODOTS APPLICATION SERVER SUPPORTS THE DODOTS SYSTEM

The DoDots application server supports functional layers of DoDots software and contains three primary data collections.

- Dot Definitions
- Dot use statistics
- User profiles

The Dot Definitions database includes descriptions of all published Dots. A Dot definition describes a Dot's package and is created when Dot developers create new Dots.

The Dot and user statistics database is used to generate statistics about Dot use.

User profiles contain user account information, definitions of all Dots collected by a user, all DotPacks collected and created, and the saved state of Dots. When a user collects a Dot the Dot definition is retrieved from the Dot Definitions database and added to the user's profile.

APPLICATION LAYERS SUPPORT THE PACKAGING AND APPLICATION FEATURES OF DOTS

DoDots software is built in five layers:

- Data Collection
- Permissions
- Security
- Messaging and API
- Dot Management

THE DATA COLLECTION LAYER POPULATES THE PRIMARY DATA COLLECTIONS

DoDots software is able to collect data about how Dots and DotPacks are used. The data is used to prepare reports that Dot providers use to determine the success of Dots. The basic information reported to Dot providers includes:

- Number of users who have collected a Dot
- Number of times Dots were opened
- Duration of Dot openings

This information can be used to improve Dots, test ideas, and validate successful Dots and DotPacks. In the future, the Data Collection layer will be expanded in response to customer and market requests.

THE PERMISSIONS LAYER DEFINES DIGITAL BOUNDARIES FOR DOTS

Dots are given digital boundary settings in the permission layer. Dot developers can set Dot permissions to limit access to Dots. Access can limit:

- The users who can collect and view a Dot or DotPack
- The other Dots that can send messages to a Dot or DotPack

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408.331.7200 main 408.331.7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701

DoDots™

THE SECURITY LAYER PROTECTS DOTS

The DoDots Security layer works with the permissions layer to protect Dots from unauthorized use, whether by users or other Dots. The security layer provides developers a logical safe-haven where they can create and test Dots before making them publicly available. The security layer also defines Dots that are allowed to share Dot messages.

DOT MESSAGING IS AN EASY PATH TO FULL FEATURED INTERNET APPLICATIONS

The Messaging layer gives access to a primary tool used by Dot developers. Dot developers can give full application behavior to Dots and DotPacks using Dot messaging. The messaging layer defines JavaScript syntax to identify and control Dots. Messages can open, close and change the appearance of Dots and control Dot behavior.

THE DOT MANAGEMENT AND USER EXPERIENCE LAYER MAKES USING DOTS GREAT

DoDots software delivers Dot collection, management and behavior features to users. The HomeDot-enables users to collect, organize and open Dots. DoDots client software delivers a complete user interface layer. Building on the foundation of common UI, Dot Developers use messaging to deliver a great experience matched to targeted users.

DoDots provides developers an opportunity to appropriately package web applications and content. Tools provided by DoDots make it easy and fast to create great user experiences for customers. You can find out more about DoDots and Dot development by emailing *info@dodots.com* or by calling DoDots for information at 408-331-7200.

DoDots Inc. 830 Stewart Drive Sunnyvale, California 94086 www.DoDots.com
408. 331. 7200 main 408. 331. 7410 fax

DoDots Exhibit 2028
Samsung v. DoDots - IPR2023-00701