



US010296641B2

(12) **United States Patent**  
**Sogani et al.**

(10) **Patent No.:** **US 10,296,641 B2**

(45) **Date of Patent:** **May 21, 2019**

(54) **TECHNIQUES FOR EFFICIENT ACCESS OF SOFTWARE APPLICATION FUNCTIONALITY IN SEARCH**

(58) **Field of Classification Search**

CPC ..... G06F 17/30864; G06F 3/04842; G06F 3/0482; H04L 67/06; H04L 67/02; G06Q 10/02; G06Q 30/0251

See application file for complete search history.

(71) Applicant: **Samsung Electronics Co., Ltd.**,  
Suwon-si, Gyeonggi-do (KR)

(56) **References Cited**

(72) Inventors: **Shravan Sogani**, San Ramon, CA (US);  
**Liron Shapira**, Mounain View, CA (US); **Eric J. Glover**, Palo Alto, CA (US)

U.S. PATENT DOCUMENTS

9,600,259 B2 \* 3/2017 Shapira ..... G06F 17/30392  
9,621,650 B2 \* 4/2017 Raman ..... H04L 67/1095

(Continued)

(73) Assignee: **Samsung Electronics Co., Ltd.**,  
Suwon-si (KR)

OTHER PUBLICATIONS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 636 days.

App. Indexing: <<https://web.archive.org/web/20140225132807/https://developers.google.com/app-indexing/webmasters/>>, Dec. 4, 2013.

(Continued)

(21) Appl. No.: **14/685,739**

*Primary Examiner* — Leslie Wong

(22) Filed: **Apr. 14, 2015**

(74) *Attorney, Agent, or Firm* — Jefferson IP Law, LLP

(65) **Prior Publication Data**

US 2016/0179956 A1 Jun. 23, 2016

(57) **ABSTRACT**

Techniques include transmitting a search query to a search system and receiving search results from the search system. The search results include an application access mechanism (AAM) that specifies a native application state and an application download address (ADA) that indicates a location for downloading the application. The search results also include preview data associated with the state and/or a web access mechanism (WAM) that specifies a web-based application state. The techniques further include generating a selectable link including the AAM, ADA, and one or both of the preview data and WAM, displaying the link, and receiving a user selection of the link. The techniques also include, in response to receiving the user selection, performing one or more of downloading, installing, and launching the native application, and setting the application into the state, displaying the preview data, and launching the web-based application, and setting the application into the web state.

#### Related U.S. Application Data

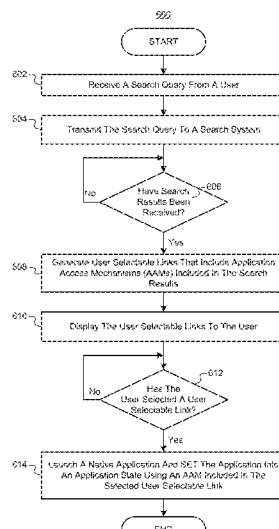
(60) Provisional application No. 62/095,980, filed on Dec. 23, 2014.

(51) **Int. Cl.**  
**G06F 17/30** (2006.01)  
**H04L 29/08** (2006.01)

(Continued)

(52) **U.S. Cl.**  
CPC ..... **G06F 17/30864** (2013.01); **G06F 3/0482** (2013.01); **G06F 3/04842** (2013.01);  
(Continued)

**27 Claims, 19 Drawing Sheets**



- (51) **Int. Cl.**  
**G06F 3/0482** (2013.01)  
**G06F 3/0484** (2013.01)  
**G06Q 10/02** (2012.01)  
**G06Q 30/02** (2012.01)
- (52) **U.S. Cl.**  
CPC ..... **G06Q 10/02** (2013.01); **G06Q 30/0251**  
(2013.01); **H04L 67/02** (2013.01); **H04L 67/06**  
(2013.01)
- (56) **References Cited**
- U.S. PATENT DOCUMENTS
- |                   |         |          |       |               |
|-------------------|---------|----------|-------|---------------|
| 9,659,100 B2 *    | 5/2017  | Shapira  | ..... | G06F 17/3087  |
| 9,720,672 B2 *    | 8/2017  | Lipton   | ..... | G06F 8/61     |
| 2012/0089678 A1 * | 4/2012  | Cort     | ..... | G06Q 50/01    |
|                   |         |          |       | 709/204       |
| 2013/0290322 A1 * | 10/2013 | Prosnitz | ..... | G06F 17/30554 |
|                   |         |          |       | 707/723       |
| 2014/0040226 A1 * | 2/2014  | Sadhukha | ..... | G06F 8/61     |
|                   |         |          |       | 707/706       |
| 2014/0052683 A1 * | 2/2014  | Kirkham  | ..... | G06Q 30/0631  |
|                   |         |          |       | 706/46        |
| 2014/0172911 A1 * | 6/2014  | Cohen    | ..... | H04L 67/42    |
|                   |         |          |       | 707/770       |
| 2014/0195921 A1 * | 7/2014  | Grosz    | ..... | G06F 3/1242   |
|                   |         |          |       | 715/738       |
| 2014/0337414 A1 * | 11/2014 | Sojoodi  | ..... | H04L 67/02    |
|                   |         |          |       | 709/203       |
| 2015/0156061 A1 * | 6/2015  | Saxena   | ..... | G06F 17/30864 |
|                   |         |          |       | 715/733       |
- OTHER PUBLICATIONS
- App Indexing Technical Details: <<https://web.archive.org/web/20140210182226/https://developers.google.com/app-indexing/webmasters/details>>, Feb. 1, 2014.  
Indexing Apps Just Like Websites: <<http://googlewebmastercentral.blogspot.com/2013/10/indexing-apps-just-like-websites.html>>, Oct. 31, 2013.  
Google Search Now Discovers Content Within Android Apps: <http://searchengineland.com/google-search-now-discovers-content-within-android-apps-178960>, Dec. 4, 2013.  
Google's Search Results Can Deep-Link to Your Android Apps: <<http://techcrunch.com/2013/10/31/android-4-4-kitkat-app-indexing/>>, Oct. 31, 2013.
- \* cited by examiner

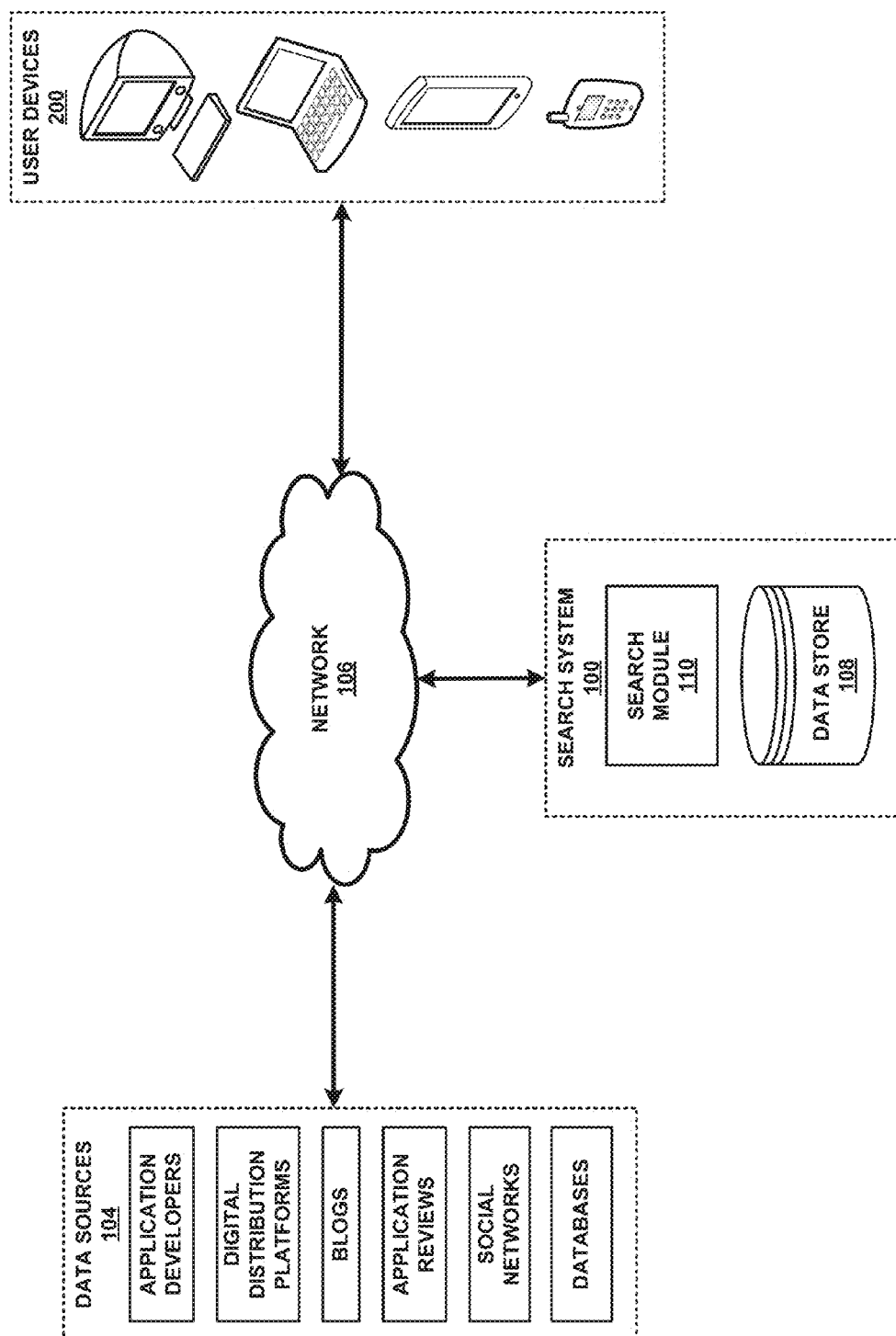


FIG. 1

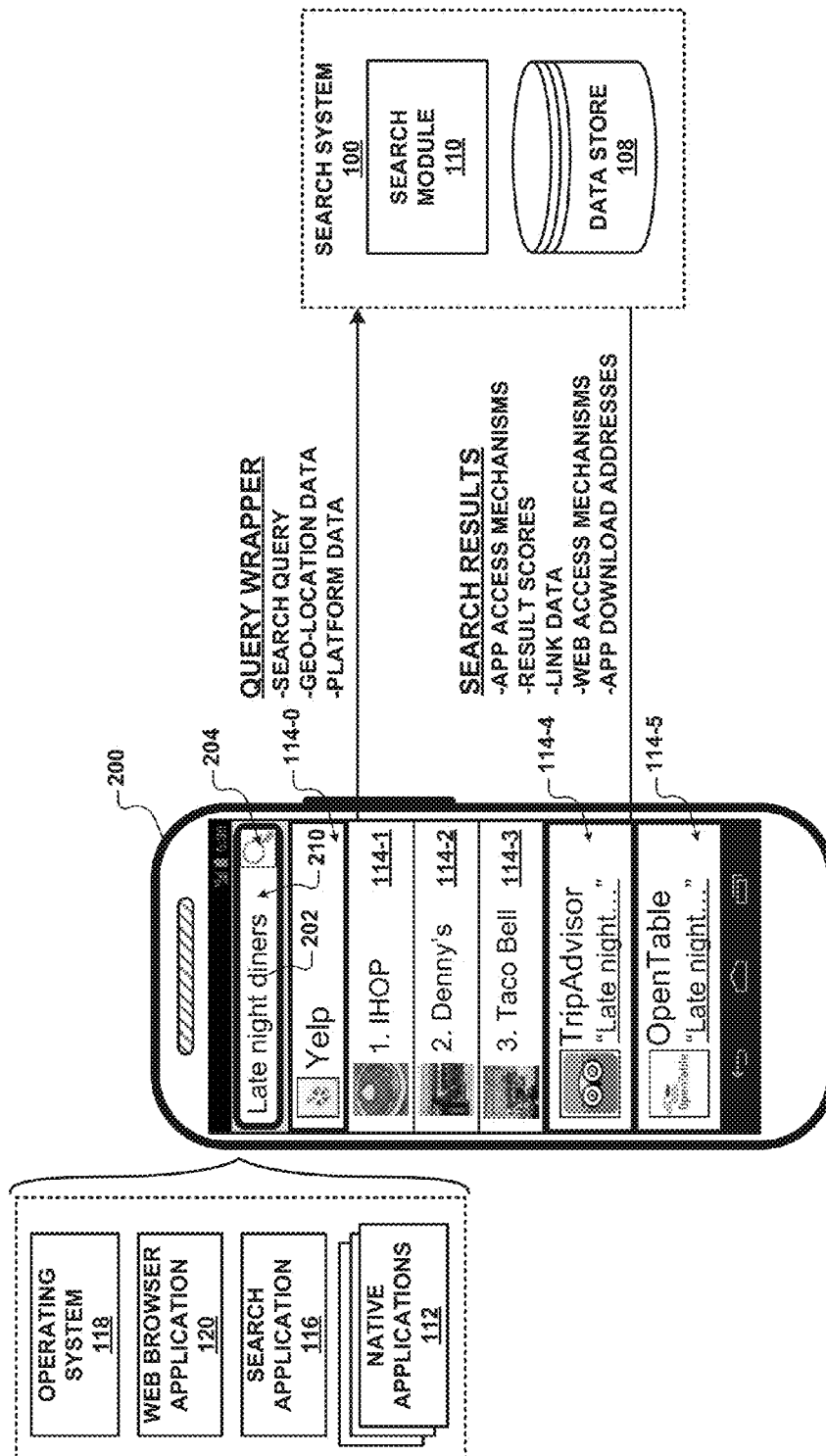


FIG. 2

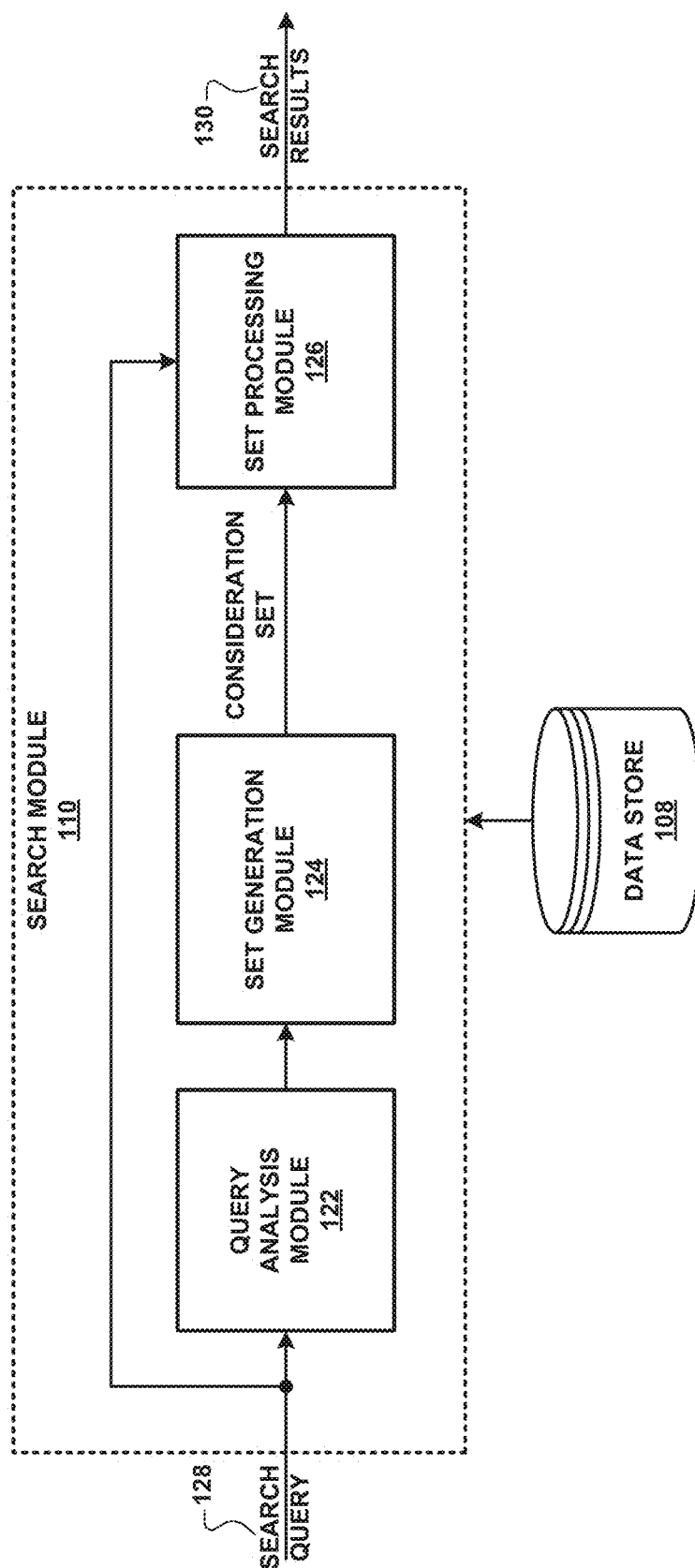


FIG. 3A

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.