

Google Board

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Abstract: Nowadays, everything is old school. People who are having new and unique ideas survive. Ideas related to technology go further and create a revolution about a product or software. People get attracted to use something different which they have never heard or thought of. If we go on thinking, each and everything around us is perfect. You can switch on your laptop, put a status on Facebook from your phone, listen to a song just by calling its name or even make hand gestures to control your television. So we think everything is perfect. One cannot make his life easier. Then comes Automation. The power of doing the most using the least resources, time and efforts or in our case battery. Google Board helps you save time and quickly Google anything you wish from anywhere in your phone. You just need a keyboard and Internet in your phone. Once the keyboard is up, you can just type ‘g’ and then write about the term you wish to search for. Whenever ‘g’ is typed it’ll trigger a command to search whatever is written ahead of it. If someone uses his/her phone way too fast, he/she knows the effort of going to browser, typing Google.com, write the search term and then get the search results. This is just a step ahead towards saving one’s time by using Google and doing what Google cannot do.

Keywords: Keyboard, Google, Trigger, Google Board, Hot Key.

I. INTRODUCTION

Electronic devices like portable PCs, PDAs, and tablets have made our life simple. It spares time, endeavors and builds productivity of work. Presently it has turned out to be almost incomprehensible for us to work things without these electronic hardware. Almost all things work utilizing Internet today. Web was designed for open use on September 2, 1969.

Mobiles and tablets have applications which can control numerous angles and things which happen in our everyday lives. Today, one awakens utilizing a caution application, gets prepared, checks email and numerous informal organizations, checks market status, looks for transport or books a taxicab for office, once when achieved office pays toll, imparts utilizing messages, deals with a desktop application like program or composes programs in various applications, plays diversions when exhausted, leaves office and books a taxicab to achieve home, peruses book while voyaging, if lost on course utilizes maps to discover it. Today one can even stay fit utilizing wellbeing applications, shop basic need and different items, check sports scores, book travel. A man does such an excess of utilizing diverse applications for various errands. Notwithstanding when there are such a large number of applications accessible to perform diverse undertakings, each application deals with its distinctive space. Today, every space has lakhs of applications in its store. Presently in the middle of, if a man needs to Google look something essential, he needs to close

the dynamic application and open a Google application to perform the hunt. That takes a great deal of time.

Time is to save and not spend like money. Today, people prefer heavy budget smartphones which have high processor capacity and power which can help them to save time in switching different apps and perform tasks smoother and faster. Companies have developed all types of tricks and apps to save user’s time. Now it’s automation’s turn!

Existence of automation came into existence long back. Automation can be referred as automatic control, where various controlling units are used in order to achieve something. Very less people are using or developing something that can automate things. People use Google for a lot of things to search. According to a survey, above 75% of people use or have used Google Search at least once in their lifetime. People use Google search for different purposes like, shopping products, travel routes, business, news, etc.

Some statistics of Google Search by Google: Growth in Google searches

The below graph shows the growth rate of Google up-to-date comparing both Desktop and mobile use.

Mobile shows the highest amount of growth in Google searches while the desktop is decreasing.

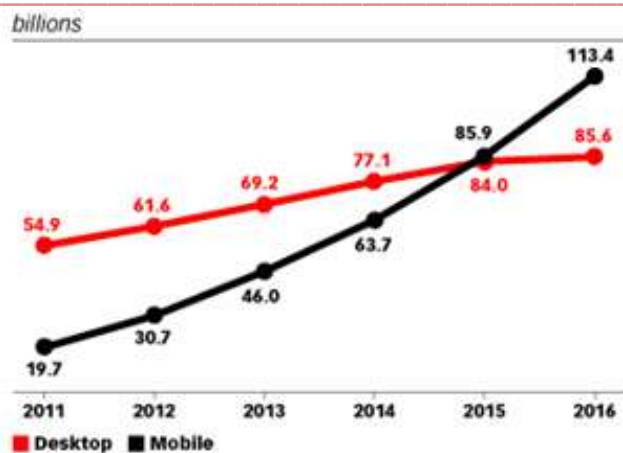


Figure 1 – Line Graph for showing Growth in Google searches [Source]

Facts about Google Search:

1. Google owns 64-69% of the search engine market share.
2. 91% of the online experiences just begin with a search engine.
3. Marketing Charts reports, that over 38% of the
4. Customers come from search
5. There are over 100 billion global searches being conducted each month.
6. 78% of internet users use Google search.

Why Google?

According to the survey Google is used about 78% as compared to other Search Engines, following pie chart shows the same.

Query Growth Driven by Mobiles & Tablets

The graph below displays the increasing query growth driven by mobiles as well as tablets as compared to desktops.

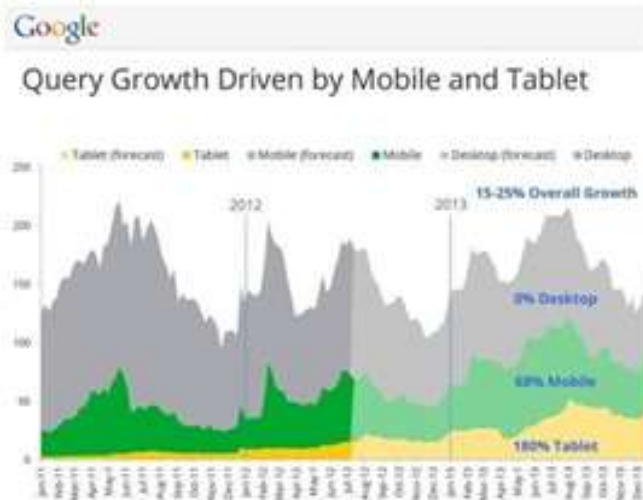
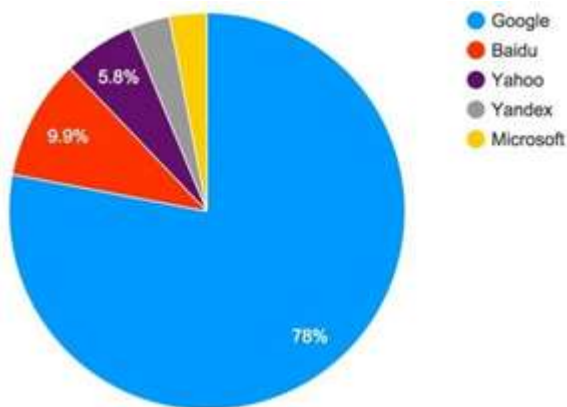


Figure 3 - Graph showing Query Growth [Source]

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Google Search Volume

The below chart shows the increment in search volume in last 3 years, comparing with respect to Desktops and mobiles.

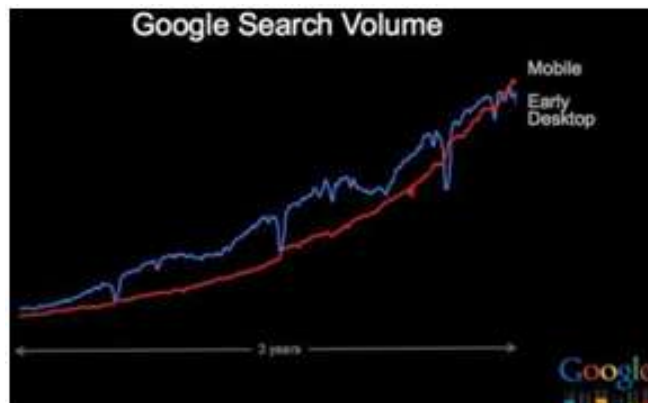


Figure 4 - Graph showing Google Search Volume [Source]

Google Board

Google Board is an application for smartphones where it would automate the Google search just through your keyboard. This would eventually take minimal time compared to the normal way you search on your smartphone. This keyboard’s interface will be like a normal looking keyboard in phone so that it can be used for normal typing too.

Format - /g <search-term>

Whenever above format will be seen, a new pop up browser window will open with search results of term written.

It uses the Key Trigger concept, passing data to application and script to perform the search.

Key Trigger

It triggers any specified task when a specific key or combinations of keys are typed on the keyboard, it also allows to configure the trigger for a specific application. It has several properties that can be used to set a key trigger.

For Google Board the trigger condition will be - when ‘/’ and g are typed together, it will allow hot keys to move or pass through to browser application in phone. So the hot-key combination for this application would be a combination of letters i.e. ‘/g’.

When the user types this hotkey with the searching parameters it would redirect to Google with the search results. Automation is growing day by day. Bots are the new geeks. Future will consist of Artificial Intelligence and automated things will surely save time of the world. This is a step taken to combine chat and Google and make good use of the keyboard.

II. ALGORITHM - RESEARCH METHOD

The aim of this paper is to save time users spent to just open Google search while using any other app in the smartphone using the Key Trigger concept. It performs any specified task when a specific key or a combination of keys is typed; it also allows configuring the trigger for a specific application. The key trigger concept can be used in Google Board for declaring combination of hot keys (‘/g’) and setting value of trigger word to the same.

The hot key trigger is perhaps the most common and most basic of all triggers. When you press the configured keyboard key, the system swallows the keystroke, and Keyboard Maestro executes the macro. The key can be a letter, number, symbol or function key, often in combination with one or more modifiers (Shift, Control, Option and/or Command). Almost any key can be a trigger, and keep in mind the number pad counts as different keys to the numeric keys on the main keyboard. You can configure the hot key trigger to execute when the key is tapped (press and released quickly) each time, the first tap, double tapped, triple tapped, or quadruple tapped (v7.0+).

Keep in mind that Keyboard Maestro cannot see the future, so “tapped once” will fire even on the first tap even if you tap the key twice (“tapped” would fire both times).

Algorithm for setting the hot key trigger on the keyboard

Assumptions:

- [1] A trigger word is set – ‘/g’.
- [2] Trigger word’s value is assigned to hot key on the keyboard.
- [3] Application is connected to a server via outgoing webhook.
- [4] Server is enabled and connected to application.
- [5] Trigger word is enabled by the server to work on the keyboard.
- [6] User’s keystrokes are transferred to server for checking if trigger word is present in them.
- [7] If it is found, a string is set with a default value: ‘https://www.google.com/search?q=’.
- [8] Text after the trigger word i.e. search term is appended to the string.
- [9] Default browser application installed in the phone or tablet is provoked and launched.
- [10] String is passed to browser’s URL as input parameter and executed.

Property	Description
Trigger on the following hot key	If enabled, specifies the hot key combination to be monitored. The default value is Alt+A. This parameter is enabled by default.
Allow hot key to pass through to application	If enabled, specifies that the hot-key combination will continue to be active in an open application. If disabled, the hot-key combination will have no effect on any application other than AutoMate (disabled by default). This parameter is available only if the Trigger on the following hot key parameter is enabled.
Trigger on the following auto-keys	If enabled, the trigger will monitor for the specified word or phrase to be typed (disabled by default). If this parameter is enabled, the Trigger on the following hot key parameter is ignored.
Erase text before triggering task	If enabled, the monitored text will erase itself from any document or application before triggering the task. However, if you want the typed text to appear in the open application or document, disable this parameter (disabled by default). This parameter is available only if the Trigger on the following auto-keys parameter is enabled.
Only when the following process is active	If enabled, the trigger will activate only when the selected process is active on the system during the time that a user enters the specified hot-key, word or phrase (disabled by default). Full path to the process is required. The drop-down arrow will show a list of running processes to select from, or you can use the Folder icon to navigate to the desired process.
And the application is in the foreground	If enabled, the trigger will activate only when the selected process is active and the application window corresponding to that process is currently in the foreground during the time that a user enters the specified hot key, word or phrase. This parameter is available only if the Only when the following process is active parameter is enabled.

Property	Description
Trigger on startup if condition is true	If enabled, the system will act upon conditions that already exist upon startup of the current trigger. For example, if the Notepad window is already open on the desktop, a newly created Window trigger set to monitor for the existence of a Notepad window will immediately launch the task as a result. If disabled, the trigger will ignore the open Notepad window upon startup. This parameter is disabled by default.
Trigger after the condition has been met 'X' times.	If enabled, specifies how many times the trigger condition must be met before the task is started. For example, if a Window trigger is set to monitor for the appearance of a Notepad window and this parameter is set to 3, the task will not launch until the third instance of Notepad appears on the desktop.

Table 2 – Behavior Properties

[11] Search results are shown on webpage having URL:

'https://www.google.com/search?q=<search term>'

Pseudo code for allowing hot key to pass through to application

1. Declare variable triggerWord as '/g'.
2. Declare variable searchURL and assign it value as 'https://www.google.com/search?q='.
3. Declare variable searchTerm.
4. Function CreateQuery(Argument: searchURL) which will append searchTerm to searchURL and open the browser with the search term.
5. Connect to node.js server using curl commands.
6. If the server returns with success, Call function CreateQuery(searchURL) .

III. RESULT AND ANALYSIS

From the above algorithm we can find out the difference between the time taken by the phone and tablets previously and now. It has enhanced drastically on a much bigger scale saving more than 90% of the time people spent earlier doing the same.

Table 1 – Time Improvement Study

(CASE: An application is already open. We have to close it, go to browser and search 'cricket' on Google and see results.)

Sr. No.	Mobiles/ Tablets	Time spent previously (seconds)	Time spent now (seconds)	Improvement (% time saved)
1	Apple iPhone 6s	20	6	70
2	Samsung Galaxy S6 Edge	23	8	65.21
3	Moto G 3 rd Generation	25	8	68
4.	Lumia 950	26	9	65.38
5	Samsung Galaxy Tab A	30	10	66.66

The above case is tested properly taking each and every aspect in consideration of the phone and tablet model. The battery improvement was also found to be impressive as it didn't need pressing back and home buttons, launching the home screen, etc. Google search app or browser is widely

used and is present in more than 98% of devices available in market now.

Result of this is a keyboard having a feature i.e. time-saving, efficient and using less power or battery.

IV. CONCLUSION

People crave for applications that save their time and efforts. Time saving is a huge need in today's lives. It is a personified property in general, like a human can save your time by helping you in some task; same is the keyboard that can help you eliminate some keystrokes, battery usage and getting directly to the target application with parameters to perform the task needed. This paper focuses on the issue that people face while working under so much pressure and intense work environments. It is making use of hot key trigger concept in keyboard application that can help set and search for a trigger word and hence assign proper task needed to implement what keyboard is designed for. It considers hot key trigger concept as a solution to save people's time while using the keyboard application. It is highly likely that these type of concepts will be implemented on a much bigger scale and would be used for much bigger things as well. The main conclusion of this paper and the keyboard application would be a keyboard having a personified feature i.e. time saving and would be used as a normal keyboard too.

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