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Department of Computer Science and Computer Applications

Ishare

Monthly Magazine

Ishare

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Editorial

We would like to wholeheartedly thank our honorable Chairman, Secretary, Executive Director and Principal for their continuous encouragement and constant support for bringing out the magazine. We profoundly thank our Head of the Department for encouraging and motivating us to lead the magazine a successful one right from the beginning. Ishare serves as a platform for updating and enhancing upcoming technologies in Information and Communication. We are grateful to all the contributors to this magazine so far. The magazine has been sent to almost 60 Institutions in and around Tamilnadu. So far we have received feedbacks and appreciations from various Institutions.

We would be very pleased to receive your feedbacks. Please send your feedbacks to ishare@ksrcas.edu

By,

Editorial Board

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1. Effective Web Design Principles

Mr. T. Vadivel, Assistant Professor,

Department of Computer Applications (UG)

Principle #1: Visual Hierarchy

Squeaky wheels get the grease and prominent visuals get the attention. Visual hierarchy is one of the most important principles behind good web design. It's the order in which the human eye perceives what it sees.

Principle #2: Divine Proportions

Golden ratio is a magical number 1.618 (φ) that makes all things proportioned to it aesthetically pleasing (or so it is believed). Then there is also the Fibonacci sequence where each term is defined as the sum of the two previous terms: 0, 1, 1, 2, 3, 5, 8, 13, 21 and so on. The interesting thing is that we have two seemingly unrelated topics producing the same exact number.

Principle #3: Hick's Law

Hick's law says that with every additional choice increases the time required to take a decision. You've experienced this countless times at restaurants. Menus with huge options make it difficult to choose your dinner. If it just offered 2 options, taking a decision would take much

less time. This is similar to Paradox of Choice – the more choice you give people, the easier it is to choose nothing.

The more options a user has when using your website, the more difficult it will be to use (or won't be used at all). So in order to provide a more enjoyable experience, we need to eliminate choices. To make a better web design, the process of eliminating distracting options has to be continuous throughout the design process.

Principle #4: Fitt's Law

Fitt's law stipulates that the time required moving to a target area (e.g. click a button) is a function of the distance to the target and the size of the target. In other words, the bigger an object and the closer it is to us, the easier it is to use it.

Principle #5: Rule of Thirds

It's a good idea to use images in your design. A visual communicates your ideas much faster than any text. The best images follow the rule of thirds: an image should be imagined as divided into nine equal parts by two equally-spaced horizontal lines and two equally-spaced vertical lines, and that important compositional elements should be placed along these lines or their intersections.

Principle #6: Gestalt Design Laws

Gestalt psychology is a theory of mind and brain. Its principle is that the human eye sees objects in their entirety before perceiving their individual parts.

1. Law of Proximity

People group things together that are close together in space. They become a single perceived object. With effective web design, you need to make sure things that do NOT go together, are not perceived as one. Similarly, you want to group certain design elements together (navigation menu, footer etc) to communicate that they form a whole.

2. Law of Similarity

We group similar things together. This similarity can occur in the form of shape, colour, shading or other qualities. Here we group black dots into one group and whites into another one, because – well, the black dots look kind of similar to each other.
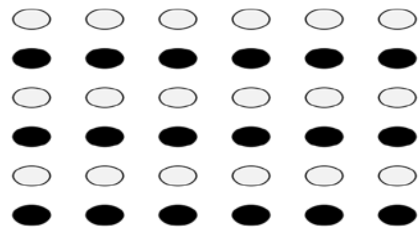
3. Law of Closure

We seek completeness. With shapes that aren't closed, when parts of a whole picture are missing, our perception fills in the visual gap. We see two squares overlaid on four circles even though none of these shapes actually exist in the graphic.
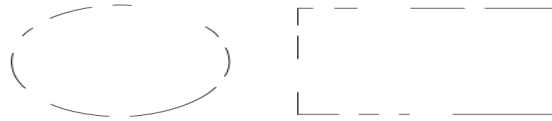
Without the law of closure we, would just see different lines with different lengths, but with the law of closure, we combine the lines into whole shapes. Using the law of closure can make logos or design elements more interesting. A good example of this is the World Wide Fund for Nature designed by Sir Peter Scott in 1961:

4. Law of Symmetry

The mind perceives objects as being symmetrical and forming around a center point. It is perceptually pleasing to be able to divide objects into an even number of symmetrical parts. When we see two symmetrical elements that are unconnected, the mind perceptually connects them to form a coherent shape.

Law of Symmetry

[   ]{   }[   ]

5. Law of Common Fate

We tend to perceive objects as lines that move along a path. We group together of objects that have the same trend of motion and are therefore on the same path.
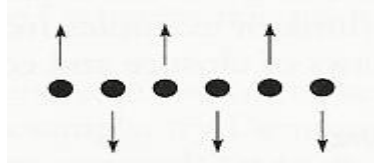
People mentally group together sticks or raised hands pointing somewhere, because they all point in the same direction. You can use this to guide the user's attention to something (e.g. a signup form, value proposition etc).

6. Law of Continuity

People have a tendency to perceive a line as continuing its established direction. In cases where there is an intersection between objects (e.g. lines), we tend to perceive the two lines as two single uninterrupted entities. Stimuli remain distinct even with overlap.

Principle #7: White space and clean design

White space (also called 'negative space') is the portion of a page left "empty". It's the space between graphics, margins, gutters, space between columns, space between lines of type or visuals.

It should not be considered merely 'blank' space — it is an important element of design. It enables the objects in it to exist at all. White space is all about the use of hierarchy. The hierarchy of information is its type, colour or images.

A page without white space, crammed full of text or graphics, runs the risk of appearing busy, cluttered, and is typically difficult to read. This is why simple websites are scientifically better.

Enough white space makes a website look 'clean'. While clean design is crucial to communicating a clear message, it doesn't just mean less content. Clean design means a design that makes the best use of the space it is in. To make a clean design, you have to know how to communicate clearly by using white space wisely.

Principle #8: Occam's razor

Occam's razor is a principle urging one to select among competing hypotheses that which makes the fewest assumptions and thereby offers the simplest explanation of the effect. To put it in the design context, Occam's razor states that the simplest solution is usually best.

2. Speech Recognition from Brain Activity

Ms. J. Mary Dallfin Bruxella, Assistant Professor

Department of Computer Applications (UG)

Brain activity recorded by electrocorticography (blue circles). From the activity patterns (blue/yellow), spoken words can be recognized.

Speech is produced in the human cerebral cortex. Brain waves associated with speech processes can be directly recorded with electrodes located on the surface of the cortex. It has now been shown

for the first time that is possible to reconstruct basic units, words, and complete sentences of continuous speech from these brain waves and to generate the corresponding text. Researchers at KIT and Wadsworth Center, USA presents their "Brain-to-Text" system in the scientific journal Frontiers in Neuroscience.

"It has long been speculated whether humans may communicate with machines via brain activity alone," says Tanja Schultz, who conducted the present study with her team at the Cognitive Systems Lab of KIT. "As a major step in this direction, our recent results indicate that both single units in terms of speech sounds as well as continuously spoken sentences can be recognized from brain activity."

These results were obtained by an interdisciplinary collaboration of researchers of informatics, neuroscience, and medicine. In Karlsruhe, the methods for signal processing and automatic speech recognition have been developed and applied. "In addition to the decoding of speech from brain activity, our models allow for a detailed analysis of the brain areas involved in speech processes and their interaction," outline Christian Herff und Dominic Heger, who developed the Brain-to-Text system within their doctoral studies.

The present work is the first that decodes continuously spoken speech and transforms it into a textual representation. For this purpose, cortical information is combined with linguistic knowledge and machine learning algorithms to extract the most likely word sequence. Currently,

Brain-to-Text is based on audible speech. However, the results are an important first step for recognizing speech from thought alone.

The brain activity was recorded in the USA from 7 epileptic patients, who participated voluntarily in the study during their clinical treatments. An electrode array was placed on the surface of the cerebral cortex (electrocorticography (ECoG)) for their neurological treatment. While patients read aloud sample texts, the ECoG signals were recorded with high resolution in time and space.

Later on, the researchers in Karlsruhe analyzed the data to develop Brain-to-Text. In addition to basic science and a better understanding of the highly complex speech processes in the brain, Brain-to-Text might be a building block to develop a means of speech communication for locked-in patients in the future.

3. Micro-Tentacles

A micro-tentacle developed by Iowa State Engineer spirals around an ant. The tiny tube circled an ant's thorax, gently trapping the insect and demonstrating the utility of a microrobotic tentacle developed by Iowa State University engineers.

"Most robots use two fingers and to pick things up they have to squeeze," said Jaeyoun (Jay) Kim, an Iowa State University Associate Professor of Electrical and Computer Engineering and an associate of

the U.S. Department of Energy's Ames Laboratory. "But these tentacles wrap around very gently."

And that makes them perfect hands and fingers for small robots designed to safely handle delicate objects. The spiraling microrobotic tentacles are described in a research paper recently published in the journal *Scientific Reports*. The paper describes how the engineers fabricated microtubes just 8 millimeters long and less than a hundredth of an inch wide. They're made from PDMS, a transparent elastomer that can be a liquid or a soft, rubbery solid. Kim, whose research focus is micro-electro-mechanical systems, has worked with the material for about a decade and has patented a process for making thin wires from it.

The paper also describes how the researchers sealed one end of the tube and pumped air in and out. The air pressure and the microtube's asymmetrical wall thickness created a circular bend. They further describe how they added a small lump of PDMS to the base of the tube to amplify the bend and create a two-turn spiraling, coiling action.

Kim said the resulting microrobotic tentacle is "S-cubed -- soft, safe and small." He said that makes it ideal for medical applications because the microrobotic tentacles can't damage tissues or even blood vessels.

Kim said the project is a nice combination of two new trends in robotics: "There's microrobotics, where people want to make robots smaller and smaller. And there's soft robotics, where people don't want

to make robots out of iron and steel. This project is an overlap of both of those fields.

4. How to Hack Netgear Router Wi-Fi Password

Mr. A. Mathivanan, Assistant Professor

Department of Computer Science (UG)

Here are the tricks for hacking Netgear router wifi password with android app.

Wireless Router or simply wifi router is a device that functions up to provide wireless access to the internet or any private computer internet. The router devices also provide security to the access of usage of internet by using user Id and password. One can get the access to the device by hacking the router password.

How to Hack Netgear Router Wifi Password

1. First of all go to the Google play store on your android device. These steps are for android devices only and if you have the one then only you could hack up the router password.

2. In the Google play store go to the search option on the above of your screen and then search for the app Netgear Genie. After you find it in the play store install it on your device.

3. Then open up the app and tap on the wireless settings option inside the app. This will take you to the network selection screen. From there select up the wifi network you want to hack.

4. After selecting the network you want to hack you will see the login screen that will show up on the screen of your device. The app will automatically provide up the password to the selected wifi network password you has to just login with that password.

5. Tap on the Login button on the screen and you shall be connected with the network. You shall now be able to use up the network from the selected wifi network.

6. You can also change up the password of the network as the application provides up the option to change the password. You can now change the password of the router and successfully hack it for further use.

How Hackers Hack Whatsapp Account

The two ways to hack whatsapp accounts are :

1. WhatsApp Hack using a Spying App: The Easiest Way

There are different ways to hack a whatsapp account but the easiest way is by using Spying App. If you don't have any technical knowledge or hacking skill even then you can hack by using this method. You just need to install the Spy app as you install other apps.

How to Hack WhatsApp with this App?

1. Install the app on the target phone.

2. After this is done, this app will start to silently record all the whatspp activities in a hidden mode.

3. All the chats recorded will be sent to your online account.

4. Now, you can view all the information anywhere anytime.

2. WhatsApp Hack by Spoofing Mac Address: The Tough Way

Although the above method is easier but it requires the app to be installed in the target's phone. What is the other person don't allow you to install the app or what if the other person uninstalls it. The next method to hack the whatsapp account is by spoofing the Mac address of the target phone on your own phone.

Unlike previous one, this is time consuming and requires technical skill also.

1. Find out the Mac address of the target phone:

- For **Android**– Navigate to Settings —> About Device —> Status—> Wi-Fi MAC address

- For **iPhone**– Navigate to Settings—> General —> About —> Wi-Fi address

3. Once you have the Mac address of the target phone, you can now spoof your own Mac address.

4. Now install whatsapp on your phone, using the target phone Mobile Number.

5. Now, you've an exact replica of the target WhatsApp account and you should receive all the conversation and updates on your phone as well.

DISCLAIMER: Usage of spy app without prior user consent may be against your local laws and you do it at your own risk!

5. The Best Apps to Track and Save Money

Ms. R. Nirmala, Assistant Professor

Department of Computer Science (UG)

If you have not already replaced your 'budget and expenses' diary with a free-of-cost money management app, you are clearly not in touch with the times.

Prudent Personal Finance is so much more than just tracking your expenses. You need to be reminded to pay bills, to transfer money from one bank account to another, and even have the ability to manage your investments on the go.

But with so many apps available to manage your finances, it can be difficult to narrow in on the best ones. That's why we bring you the most recommended finance apps for you to try out:

1. **Mvelopes**

Cost: Free

Operating System: iOS& Android

Mvelopes has a simple yet effective interface helping users turn this app into their personal finance manager. This extremely sophisticated financial app has been rated the best available app in the market today by its users. One can easily set daily, weekly, and monthly financial goals and create a budget on the app to help them cut down overspending. This app also has an option called "bill tracking" which lets you track all your expenses in real time. This not only helps you keep all your financial records in one place but also keeps you on your toes with your spending habits. To ensure 100% accuracy, this app allows users to manually update cash transfers.

2. **Goodbudget**

Cost: Free

Operating System: iOS& Android

The importance of this free-of-cost financial app can be best judged by the people who are unable to budget the different areas of their spending. Good budget lets you divide your monthly budget into

different envelopes wherein each represents a different category, such as "Kids", "Groceries", "Transport, etc.

Once you segregate the money into envelopes, you spend only from those particular envelopes. It not just keeps your spending in different areas in check, but also tracks your savings and overspending. The best part is that all your devices can be synchronized on this app, keeping your entire family updated with essential financial data.

3. **AndroMoney (Expense Track)**

Cost: Free

Operating System: iOS& Android

Tracking each and every expense that you incur with your credit card or debit card can be effortlessly tracked through AndroMoney. Synchronizing the app with your bank account and credit card saves all your information related to your daily expenses, monthly income, and money transfers.

You can also keep your budget in place with the "budget management" feature of this app. It gives you constant reminders about your savings and budget. The striking feature of this app is that it accepts multiple currencies and can convert one currency into another according to the current exchange rate.

This app supports multiple accounts and manages your finances without any hassles.

4. Money Lover

Cost: Free

Operating System: iOS& Android

This financial management app is unquestionably one of the best finance apps available today. In less than 5 seconds, you can set your budget depending upon your savings and expenses. Cloud synchronization is also easy and effective with this app, making it your digital finance manager

Money Lover has immense significance when it comes to the security of your financial accounts. No matter what happens to your device, your data is completely secured in its efficient database. Supporting more than 100 currencies in 30 different languages is a piece of cake for this intelligent app.

This financial app supports multiple accounts for a single person. Synchronizing all your accounts, credit cards, and debit cards with this app gives you a sense of complete relaxation as far as your finances are concerned.

6 practical ways to keep yourself updated on Money matters

Here are some simple ways to get you started.

1. **Read one financial newspaper daily- 20 Minutes**

First things first, get your *newspaperwala*to deliver one good financial newspaper like *the Economic Times*, or *Mint* to your home or read online. This will serve as a daily dose of financial reading for you.

When you read, do it smartly: don't have to read the complete newspaper word by word: be choosy and scan only for topics you want to read like changes in Know Your Customer (KYC) norms, important consumer forum judgments in the area of personal finance, latest announcements from the Income Tax Department etc.. Once you shortlist and read the articles, assess their implication on your finances and take action wherever necessary.

2. **Identify and subscribe to a few good blogs- 20 Minutes**

Good money blogs provide a good source of pros and cons on latest developments so that you can take a thoughtful decision instead of an impulsive one. Our very own blog right here on Tomorrow Makers has personal finance wisdom that comes from various financial experts and thought leaders on matters such as dealing with tough financial situations, recovering from debt, and how to tackle increasing medical costs, among others. Reading one article or infographic a day can help you get rich insights into how the world of finance works all around you.

3. **Subscribe to good personal finance magazines:**

Another way to stay updated on money matters is to subscribe to good personal finance magazines. Some good examples include *Money life* and *Outlook Money*. Then, there are niche magazines like *Mutual fund Insight*(for mutual funds) and *Wealth Insight* (for stocks) by Value research team. Purchasing subscriptions to Money life will also alert you

to periodic personal finance awareness events held by the Foundation and you can also make it a point to attend it as per your convenience.

4. **Watch the right TV shows:**

OK, so if you are not a reading person, no sweat! Amongst the multiple financial news channels in India, there is at least one dedicated programme/show on personal finance per channel. For example, ET Now telecasts shows like *Investor's Guide* which is rich sources to capture & learn about developments in personal finance. You can watch them at scheduled time or even catch up the episodes on YouTube.

5. **Subscribe to some good apps**

Apps can help you stay abreast of your personal finance news on the go, keep track of your expenses, calculate the tax payable for the year or even discern how much you need to achieve your financial goals like retirement. There are many such apps but if you plan to integrate your card and bank accounts ensure that that the app is from a reputed provider and does not compromise on data security.

6. **Engage a financial advisor:**

The media can provide at best generic information. As an investor, if you seek personalized advice & want a professional to guide you in financial matters, or are a senior citizen & need handholding, invest in a financial advisor. Pay him/her a fee for a monthly or a yearly retainer. That way, a financial advisor can help you in the form of discussing the

impact of developments, provide personalized suggestions on what to do or not to do and help you tide through tough times.

See that the advisor is qualified, competent and most importantly, is registered with SEBI. Benjamin Franklin said: "An investment in knowledge always pays the best interest". Likewise, spending some time and little bit of money to stay updated on personal finance is also an investment and the return of this investment is saving yourself from costly mistakes and helping you take the right decisions at the right time for your family's financial wellbeing and secure future.
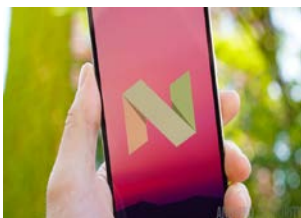
6. Android 7.1

Ms. B. Sowmya, Assistant Professor,

Department of Computer Applications (UG)
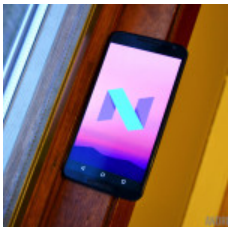
Here is the seventh major version of the Android Operating System "**Nougat**" developed by Google. It was officially released on August 22, 2016, with Nexus devices being the first to receive the update.

Nougat in a nutshell:

From the perspective of the new user, some of the features of Nougat are given below:

Split-screen mode: how it works

Nougat delivers split-screen mode to stock Android, a feature that has been around in manufacturer skins and custom ROMs since forever. Split-screen works in both portrait and landscape mode, with the two 'windows' only are being resizable in portrait mode. App developers can set their own minimum app height, but in landscape mode you're stuck with a 50/50 width split, which actually makes sense.

## Quick switching apps is the best

Quick switching is basically just shuffling between the two most recently used apps. It works system-wide, so you can quick switch whenever you're in a full-screen app and you can also use it in the secondary window of split-screen mode.

The presence of the quick switching action means you can triple task in multi-window mode. For example, you can be watching a YouTube video in the top window and quick switch between two social feeds in the bottom. Or you can be composing an email in the top pane while simultaneously switching between a note app and a web page in the bottom window. It's actually pretty awesome.
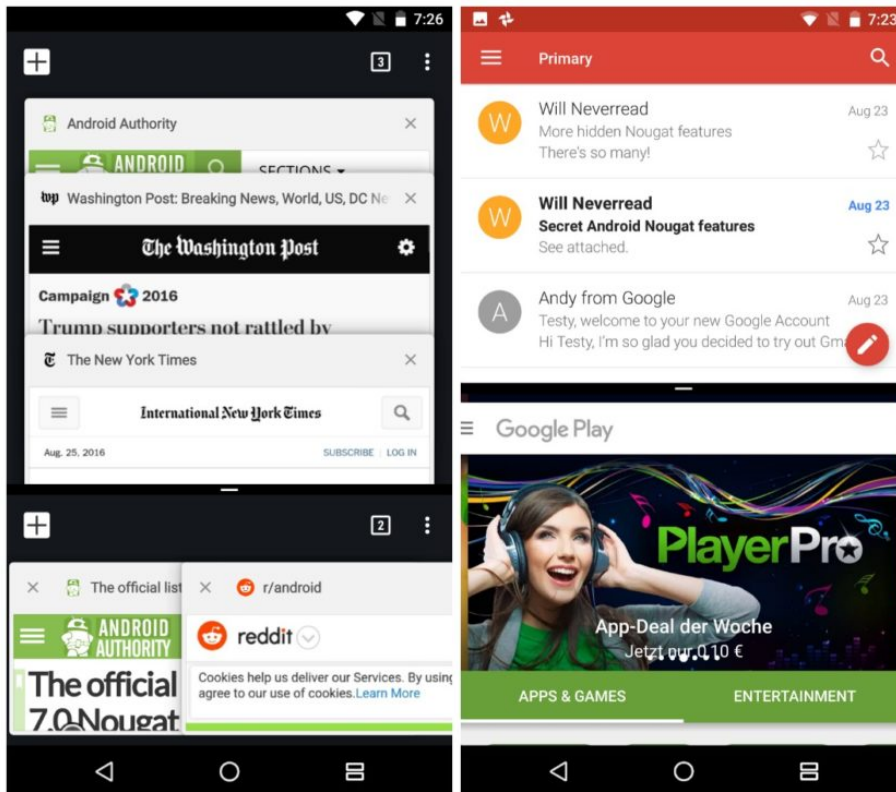
Notifications: redesigned, bundled and Quick Reply-able

The notifications area in Nougat has received a slight makeover, doing away with the Google Now-esque cards from Marshmallow and going super flat and full-width. You get more information and less wasted space in them too, which is exactly what you want from a notification. Likewise, bundled notifications and Quick Reply are so obvious and so useful it's surprising they haven't appeared in stock Android until now.
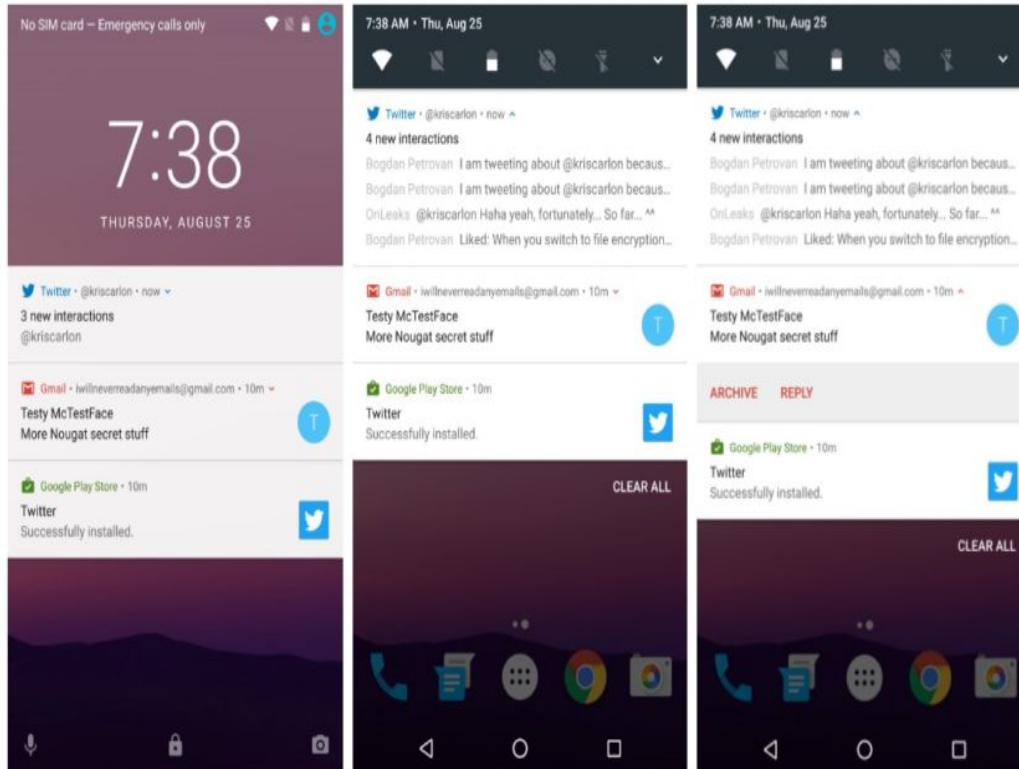
There are basically three views to Nougat notifications: the super-compact lock screen view, the slightly-more-information notifications shade view, and the expanded view with 'quick actions', which you access by swiping down on a notification or by tapping the top part of the notification itself.

Customizable Quick Settings

Quick Settings in Nougat have also been updated. For starters, you'll now always have a handy list of five toggles at the top of your notifications shade. You can edit the order of this list to make sure only the most important shortcuts for you are present. The small arrow on the right hand side will take you to the full Quick Settings page, which you

can also access with the familiar two-finger swipe-down gesture from the top of the screen.

In the full Quick Settings list you can also tap the Edit button at the bottom right to rearrange the tiles or replace them with others. The optional extras list is pretty minimal: just Cast, Data Saver, Invert colors and Hotspot. But developers are now able to create custom Quick Settings tiles for their apps, which will definitely make things a lot more interesting in the coming months.


Doze Mode on the Go

Doze Mode has now been beefed up to work not only when the device is stationary for a while but also when it is in motion. Your screen needs to be off, obviously, but you'll now get to enjoy varying degrees of Doze whenever your phone isn't being used. It's a little too early to say just how much better Doze is in Nougat, but the expanded functionality alone is appreciated.

The new two-layer system essentially means that a phone left in your pocket or bag while you're on the move will shut down network access and only periodically sync data and run tasks. When a device is completely stationary for a while, it will slip into an even deeper hibernation, with no syncing, deferred jobs, no wakelocks and no GPS or Wi-Fi scanning. In this mode, the maintenance windows are even further spread out.

## Multi-language support, emoji and app links

Nougat now lets you set multiple locales as well as a primary and secondary language – and switch easily between them – which is obviously a huge deal for bi-lingual Android users and frequent travelers. You also have full control over how much information is displayed on-screen with the addition of a simple DPI changer in the Display settings.
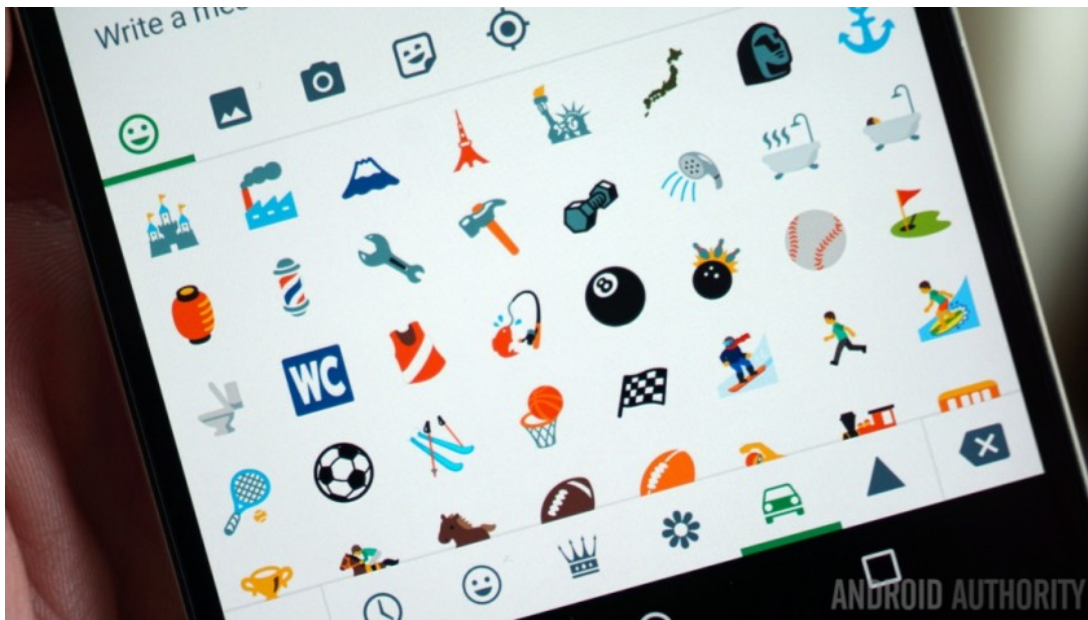
There's 72 new emoji in Nougat including various skin tones courtesy of Unicode 9 and the wallpaper picker allows you to set an image as home screen wallpaper, lock screen wallpaper or both. But perhaps best of all, you can now pin your favorite apps to the top of the share picker. You have to just long-press them from the share picker menu.

New Settings menu

The best part of the new Settings menu though is that the essential information contained in each Settings section is now displayed right there on the main page. You'll instantly know which Wi-Fi network or Bluetooth device you're connected to, how many apps you have installed how much storage you've used and how much longer your battery is expected to last. It's a small addition perhaps, but another massive time saver.
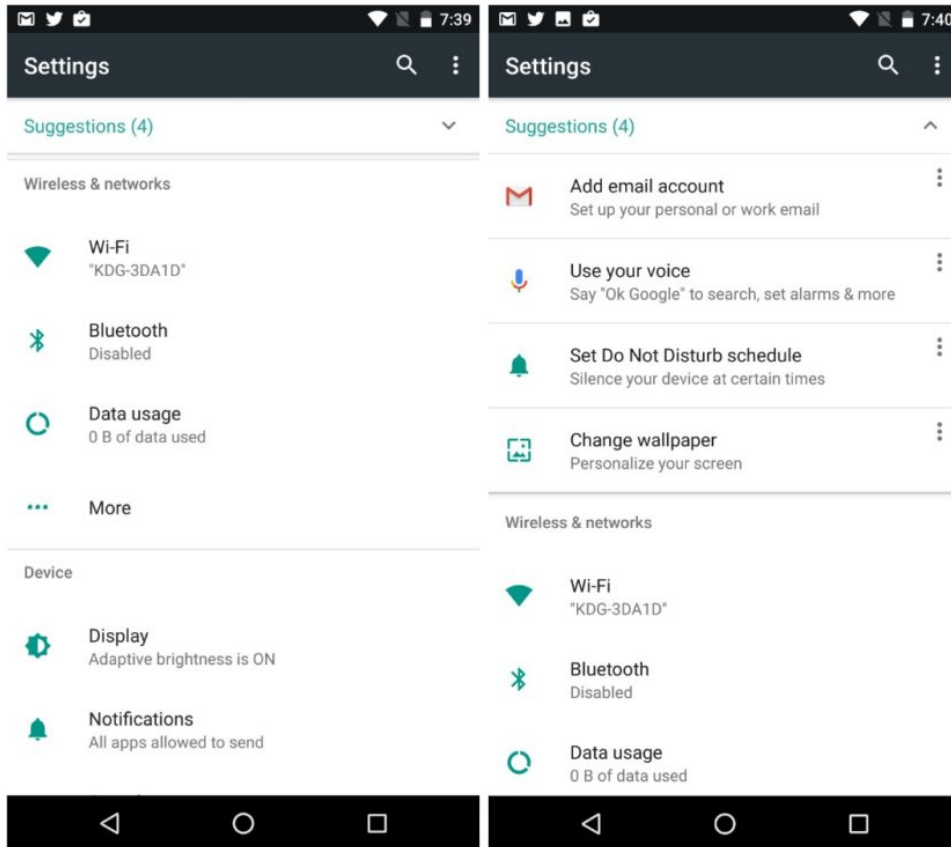
Data Saver

Data Saver is not exactly rocket-science, but it does put the tools in your hands rather than in those of app developers. Data Saver basically lets you deny internet access to background apps when you're connected to cellular data. You'll also get a large reminder at the top of the Settings menu when Data Saver is enabled to remind you it's active.

Data Saver denies internet access to background apps when you're connected to cellular data.

Direct Boot

Direct Boot in Android Nougat aims to take that limbo stage between booting up and decrypting your device and make it a little more

useful. Imagine your phone randomly reboots without you knowing and you then miss an alarm and several important notifications? Well, Nougat will now boot all the way to the lock screen before requiring a PIN or pattern unlock to decrypt, allowing select information to still be delivered to an encrypted device.

File-based encryption

Encryption is a really big deal. Google wants to make sure Android Nougat does.

Suffice it to say that Android 7.0 moves to a file encryption basis as opposed to Marshmallow's full disk encryption system. This means there is now a clear distinction between device-encrypted content (like generic system data) and file-encrypted content (like app and user data). What this means for you is that your personal stuff is better protected while boring system stuff can be made more useful.
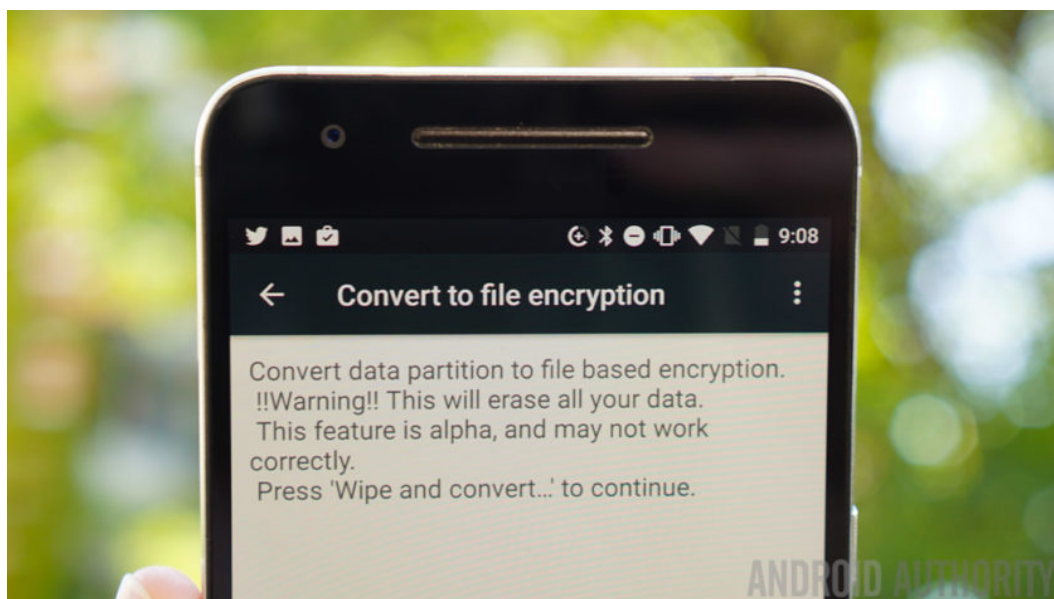
7. New Health Sensing Tool

Ms. R.Sudha, Assistant Professor,

Department of Computer Applications (UG)

New Health Sensing Tool Measures Lung Function Over A Phone Call, From Anywhere In The World:

SpiroCall enables patients to measure lung function over a phone call. It is designed to work with any type of phone around the world, not just smartphones. Credit: University of Washington Most people in the developing world who have asthma, cystic fibrosis or other chronic lung diseases have no way to measure how well their lungs are functioning outside of a clinic or doctor visit.

But many do have access to a phone, though it may be a 10-year-old flip phone or a communal village landline instead of the latest app-driven smartphone.

That's why University of Washington Computer Science and Engineering and Electrical Engineering Researchers have developed SpiroCall, a new health sensing tool that can accurately measure lung function over a simple phone call.

SpiroCall's results came within 6.2 percent of results from clinical spirometers used in hospitals and doctor's offices, meaning it meets the medical community's standards for accuracy.

"We wanted to be able to measure lung function on any type of phone you might encounter around the world—smartphones, dumb phones, landlines, pay phones," said Shwetak Patel, Washington Research Foundation Endowed Professor of Computer Science & Engineering and Electrical Engineering at the UW. "With SpiroCall, you can call a 1-800 number, blow into the phone and use the telephone network to test your lung function."

In 2012, researchers from the UW's UbiComp Lab introduced SpiroSmart—which lets people monitor their lung function by blowing into their smartphones.

The patients take a deep breath in and exhale as hard and fast as they can until they can't exhale any more. The phone's microphone senses sound and pressure from that exhalation and sends the data to a central server, which uses machine learning algorithms to convert the data into standard measurements of lung function.

"People have to manage chronic lung diseases for their entire lives," said lead author MayankGoel, a UW Computer Science and Engineering Doctoral Student. "So there's a real need to have a device that allows patients to accurately monitor their condition at home without having to constantly visit a medical clinic, which in some places requires hours or days of travel."

HUB OF KNOWLEDGE

Over the last four years, the team has collected data from more than 4,000 patients who have visited clinics in Seattle and Tacoma as well as in India and Bangladesh, where clinicians have measured lung function using both SpiroSmart and a commercial spirometer. That comparative data has improved the performance of the machine learning algorithms and laid the groundwork for team's current FDA clearance process.

In surveying patients from India and Bangladesh, though, the team realized that a significant percentage did not own smartphones and would be unable to use SpiroSmart in their own homes—which was a key goal of the project.

The team realized that the only sensor they were using was a microphone, which all phones have. So the researchers decided to develop a system that would work with any phone anywhere in the world by having the patient use a call-in service.

SpiroCall transmits the collected audio using a standard phone channel—as opposed to a sound file that is transferred by a smartphone app over the Internet. The team combined multiple regression algorithms to provide reliable lung function estimates despite the degraded audio quality.

"We had to account for the fact that the sound quality you get over a phone line is worse," said co-author Elliot Saba, a UW electrical engineering doctoral student. "You can imagine how listening to someone play a song over a phone line would sound compared to listening to it on your music app—there's a similar difference with a spirometry test."

Despite those challenges, SpiroCall delivered results over a standard cellphone voice channel that were within 6.2 percent of the same patient's test results from a commercial spirometer. Because of variability in the way a patient exhales during each spirometry test, the industry considers anywhere from 5 to 10 percent to be within an acceptable margin of error. The research team also developed a 3-D printed whistle that can be used in conjunction with SpiroCall that changes pitch when the patient exhales. The whistle is designed to address training challenges by enabling patients to hear what a "good" test sounds like.

The whistle also improved the test performance for patients who are very ill, whose vocal cords are not able produce enough sound for the phone's microphone to pick up. Future steps for the research team include additional data collection and figuring out how best to communicate test results in a way that will make sense to patients.

8. Department Activities

Fifth National Conference on Intelligent Computing (FNCIC-2016)

The Department of Computer Science and Applications organized Fifth National Conference on Intelligent Computing on 17th September 2016.

The Chief Guest of the event Dr. D. Ravindran, Dean, School of Computing Sciences, St. Joseph's College(Autonomous), Trichy delivered his keynote address highlighting the importance of intelligent computing.

Academicians, Research Scholars, and Students from various colleges in Tamilnadu participated in the conference and presented their papers in the technical sessions scheduled.

The research contribution of Ms. Ayesha, M.Phil Scholar, St. Joseph's College, Trichy and Selvan A. Janarthanan, Final BCA, KSRCAS were awarded the Best Paper of the Conference.

Our Principal, Dr. V. Radhakrishnan, awarded the certificates to the participants with appreciation.

MAILING LIST – To Whom We Send

- **Mr.B.Murali, HOD of CS, PSG college of Arts and Science, Coimbatore- 14.**
- **Mr.P.Narendran, HOD of CS, Gobi Arts &Science College, Gobichettipalayam-53.**
- **Dr.Pannir Selvam, HOD of CS, Erode Arts College (Autonomous), Erode - 09.**
- **Mr.S.SureshBabu, HOD of CS, Thiruvalluvar Government Arts College, Rasipuram.**
- **Dr.K.Thangavel, HOD of CS, Periyar University, Salem-11.**
- **Dr.P.Venkatesan, Principal, Vysya College of Arts and Science, Salem-03,**
- **Dr.P.Swaminathan, Dean, School of Computing, SASTRA University, Kumbakonam.**
- **Dr.S.K.Jayanthi, HOD of CS, Vellalar College for Women, Erode-9**
- **Dr.S.Krishnamoorthy, Dean, Anna University, Trichy-24.**
- **Dr. K. Rama, Deputy Adviser, NAAC, Bangalore.**
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- **Dr.R.Balasubramaniam, Prof& HOD of CS, ManonmaniamSundaranar University, Tirunelveli.**

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- **Dr. M.Manivannan, The Registrar, Periyar University, Salem-11.**

- **Prof. Dr.C.Swaminathan, Vice Chancellor, Periyar University, Salem-11.**

- **Dr.T.Santhanam, Reader& HOD of CA, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai –06.**

- **Dr.Premavathy Vijayan, Vice Chancellor, Avinashilingam University, Coimbatore.**

- **Dr.R.S.Rajesh, Reader, Computer Science and Engineering, ManonmaniamSundaranar University, Tirunelveli-12.**

- **Dr.L.Arockiam, Associate Professor, Dept of CS, St. Joseph College, Tiruchirapalli-620002**

- **Mr.V.Saravanan, Associate Professor, Dept of CA, Hindustan College of Arts and Science, Coimbatore – 28.**

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- **Dr.R.Ravichandran, Secretary, Dept of CS, KGISL Institute of Technology, Coimbatore-35.**

- **Dr. N.Sairam, Associate Dean, School of Computing, Sastra University, Tanjore – 01**

- **Dr.T.Senthikumar, Asst Prof, Amrita Institute of Technology, Coimbatore - 12**

- **Mr.S.T.Rajan, Sr. Lectr, Dept of CS, St. Josephs College, Trichy-02.**

- **Dr.R.AmalRaj, Prof. Dept Of CS, Sri Vasavi College, Erode – 16.**

- **Dr.R.Pugazendi, Assistant Professor, Dept. of CS, Government Arts and Science College, Salem-7.**

iPhone 8 to have OLED screens instead of LTPS

Tai Jeng, President of Japanese electronics manufactured shrap, Which supplies smartphone panels to Apple, said that Apple will be using OELD screen instead of LTPS screens in its next gen of iPhone. OLED can offer flexibility and sharper colour contrast compare to LTPS screens. Samsung S7 edge and Note 7 currently us OLED Screens