



*Build up the Future*

# ACCRUE



**ANAND INSTITUTE OF INFORMATION SCIENCE**

**(Managed by Shri Ram Krishna Seva Mandal)**

**Re-accredited by NAAC**

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## OUR FOUNDER



**Late. (Hon.) Dr. Gordhanbhai Shanabhai Patel**

**'VakilSaheb'**

**(Pioneer and Source of Inspiration, Founder Secretary)**

### **Vision**

The Institute shall be an enabler in the moulding of very competent and effective personnel, who besides being skilled I.T. professionals, shall be endowed with the highest standards of ethics and humanity.

### **Mission**

To prepare highly skilled and competent I.T. professionals, meeting the ever increasing demands, of the already highly demanding I.T. industry.

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Anand Homeopathic Medical College and Research Institute	Anand High School,(Primary and Secondary)
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Anand Institute of Social Works (MSW / BSW)	Anand Hospital

## From the Director's Desk

Dear Readers,

It is indeed a pleasure for us to welcome you all for this new academic session. Accrue, our own magazine's first issue was published in September 2004, we have completed successful eleven years with support of our students and editorial team.

It is important to maintain regularity and quality in all academic activities. I am sure that your support has helped us to maintain standards till today and in future also your help will motivate us for betterment in standards. The topics for ACCRUE are selected by students and staff members by keeping in mind the current trends of IT industry. You must have read many articles about Wearable computing in news papers, magazines, research Journals etc. Some of you might be having wearable watch also. Being MCA students, as we have discussed in first meeting of Readers' club you should improve your observation skills, you have to be keen in knowing new developments of IT field. You should be eager for experiencing and experimenting on various new trends and technologies.

I have observed that many or say almost all of you try your best for improvement in academic grades, but very few of you are putting extra efforts for your overall development. Our institute is providing platform to groom you by organizing various activities under various groups – NSS, Yoga club, Readers club, CSI student branch, women cell etc. Many of you are not very clear about your goals, next ten years progress path is yet not clear in your mind. I would like to request all of you to note down your goals and set deadlines for these goals, and keep monitoring your progress. If needed you can take help from your parents, family members, teachers or friends. A life without goal is no more useful for Humans, a sensitive, intelligent, emotional creature of the GOD.

Your support is essential for improving your caliber, we are always eager to provide platform to showcase your talent and improve your ability to place yourself in the market. I would like to quote few words at end, "Where there's a will, there's a way", and we wish that all of our students have some will and they will certainly find out their glorious path for bright future.

Dr. Chhaya Patel

Director

Anand Institute of Information Science

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## **Wearable computing: Introduction**

The terms “wearable technology“, “wearable devices“, and “wearables” all refer to electronic technologies or computers that are incorporated into items of clothing and accessories which can comfortably be worn on the body. These wearable devices can perform many of the same computing tasks as mobile phones and laptop computers; however, in some cases, wearable technology can outperform these hand-held devices entirely. Wearable technology tends to be more sophisticated than hand-held technology on the market today because it can provide sensory and scanning features not typically seen in mobile and laptop devices, such as biofeedback and tracking of physiological function

Wearable computing facilitates a new form of interaction between the human and the computer comprising a small body worn computer that is always accessible and ready for use. A wearable computer used for such operations is incorporated into the personal space of the user, control by the user and is always on and accessible. For a layman, it is like becoming a ‘Superhero’, where you can be at more than one place at the same time. A wearable computer is more than just a wrist watch or regular eyeglass, rather it functions just like a computer system. The fact that segregates wearable devices from wearable computer is that unlike those other wearable devices that are not programmable; the wearable computer is as reconfigurable as the familiar desktop. These computers contrary to their size can perform, if not more than equal number of computations as any PC or laptop. The above mentioned definition of wearable computing requires six tests that products must pass to be considered within the scope of this research

## **Wearable tech: A brief history and a look into the future**

Much has changed since the invention of the first computer that was available for the masses. After several decades, computers have become smaller, more efficient, and more powerful. Modern computers no longer need to occupy huge spaces. They can even be pocketed and now worn as fully-functional gadget accessories. Before ogling on the magnificent Google Glass and looking forward to the future of wearable tech, it may be worth some time looking back at the history and development of the geeky wearable devices the current generation is now enjoying.

A few takeaways:

- Wearable computing is not exactly new, but the concept has been refined over the decades.
- The definition of wearable computers has evolved over time, much like how the definition of “smartphones” has changed.
- Wearable tech has mostly involved head-mounted displays and wrist-mounted user-interfaces like watches.
- Wearable computing is no longer reserved for uber-geeks, especially with Google Glass and smartwatches now going mainstream.
- These user interfaces are not just reserved for mobile computing, but also for other purposes, like accessibility, learning, research and navigation.

## **The advent of wearable computers**

Wearable computers are basically small and compact electronic devices designed to be worn by a user. They are also referred to as body-borne computers, considered as a type of wearable technology that has in its core an electronic device that performs calculations and processes information. With this definition, watches from the 1990s that doubled as calculators can be considered as wearable computers. However, today's concept of a wearable computer has advanced into something that is more than just simple calculations and information processing. This is similar to how devices are being classified as smartphones. Before, many advanced phones were already referred to as smartphones but were eventually relegated to being simply called "feature phones" as more powerful smartphones emerged. Today's wearable computers are characteristically more powerful, more efficient, and more compact. They also possess a greater range of features and are more convenient to wear. Additionally, they feature better technologies in terms of displays, processors, batteries, and input and output systems. There's still so much room for improvement but we may have to revisit the predecessors and forefathers of these modern wearable tech to better appreciate all the features we already have.

### **1980s**

This is the decade when the pioneering wearable computers were introduced. In 1981, a 6502-based multimedia computer was designed to be worn as a backpack by Steve Mann, a researcher and inventor renowned for his works on computational photography, high dynamic range imaging, and wearable computing. In 1983, toe-



operated computers were commercialized based on the Z-80s for counting cards. In the latter part of the decade, a head-mounted display called Private Eye was developed and marketed by Reflection Technology. It had a red monochrome display with a resolution of 720×280 pixels and a 1.25-inch screen size that appeared like a 15-inch display when viewed from an 18 inch distance.



## 1990s

The first student electronic notebook that featured the Private Eye and mobile IP was demonstrated during the start of the 1990s. It used a Toshiba diskless AIX notebook computer prototype and featured TCP/IP based services, NFS mounted file systems, stylus-based input, and a virtual keyboard. In 1991, through



a *Scientific American* article entitled “The Computer for the 21st Century,” Mark Weiser proposed the idea of ubiquitous computing. In 1993, a wearable computer system was developed using a kit made by Park Enterprises, a Private Eye display, and the Twiddler chording keyboard produced by Handykey. This system eventually evolved into what is now known as the MIT Tin Lizzy wearable computer design. Fall of the same year, BBN completed the Pathfinder system, a wearable computer that features a radiation detection system and GPS. Also in 1993, the KARMA (Knowledge-based Augmented Reality for Maintenance Assistance) system was developed. By 1994, a wearable computer capable of continuously recording interactions with people and devices was developed. This was called “Forget-Me-Not” and it featured wireless transmitters. Still in 1994, a “wrist computer” was invented and introduced during the CHI-94 conference in Boston. It was developed from a modified HP 95LX palmtop computer and featured a half-QWERTY keyboard. 1994 saw two more major developments in wearable computing with the initiation of DARPA’s Smart Modules Program and the development of a head-mounted camera called “Wearable Wireless Webcam.” These progresses in wearable technology became more exciting as Boeing hosted a wearables conference in Seattle in 1996 and the first IEEE International Symposium on Wearables Computers was held in 1997. In 1998, the Trekker was introduced. It was available to the public for a ridiculously high \$10,000 price tag.



## **2000s**

The earlier years of the new millennium weren't as productive in the field of wearable computing as today. No major milestones were reached, but there were a few systems created in the pursuit of wearable computing. Nevertheless, the Tinmith wearable computer by Dr. Bruce H. Thomas and Dr. Wayne Piekarski was introduced in 2000 at the ISWC conference. It was a system created to support research in augmented reality.

In 2002, Xybernaut's Poma Wearable PC was introduced. It won an award from a tech magazine but did not find commercial success. In 2003, the Fossil Wrist PDA was released, running on Palm OS 4 and offering MicroUSB to PC synchronization. Moreover, the W200 wearable computer from Glacier Computer was introduced in

2009. It was designed to run either Windows CE or the Linux operating systems. It featured a touch color display with a 320×240 resolution, backlit keyboard, and integrated wired and wireless connectivity including Bluetooth, Wi-Fi and GPS. The W200 was designed for emergency services, field logistics, and security and defense purposes.

## **2010s**

The new decade is ushering in renewed interest in wearable computing as many technologies have matured. With components such as displays, processors, batteries, and memories becoming cheaper, more efficient, and more advanced, developing wearable tech has become easier. The early 2010s has seen the introduction of the sixth generation iPod Nano, which comes with a wristwatch attachment that enables it to act as a wearable wrist-worn computer. The new decade also popularized the smartwatches and established them as a new segment in consumer electronics. Likewise, the 2010s brought us Google Glass, which can arguably be considered the best form yet of the earlier wearable computers pioneered by Steve Mann. Of course, similar products from other companies are expected to rival or even surpass Google Glass but as of this writing, only Google Glass has reached traction so far, with verifiable details, features and specifications.

## Wearable tech:

### Smartwatches

After the rise of the smartphones, wearable computing technology has jumped on the “smart” bandwagon to come up with a counterpart or complementary device: the smartwatch. Wristwatches have adopted new technologies to do more than just displaying time and date. They now come with significantly better displays, connectivity, and software that match those of smartphones. The definition for a smartwatch, however, is quite ambiguous. There are no well-established standards as to what qualifies as a real smartwatch. Nevertheless, among major international manufacturers, it is Sony that introduced the world’s first smartwatch in what the company aptly but uncreatively calls the Sony SmartWatch. This smartwatch does its job as a wristwatch and pairs with a smartphone to offer a number of functions like viewing social media feeds, reading text messages, receiving notifications, and serving as a remote control for a smartphone. Sony’s smartwatch fits the bill on what can be the ideal wrist-worn device.



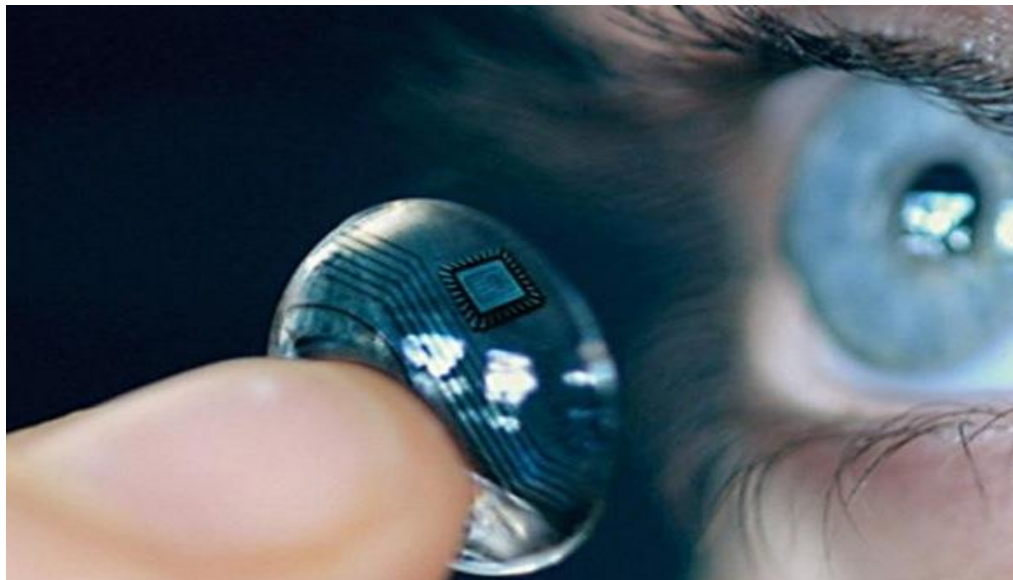
Of course, before Sony outed its own smartwatch, there were a number of smaller companies that already came up with their own versions of the device. Chinese manufacturers have already developed wristwatches that were capable of making calls and accessing the Internet even before the Japanese electronics giant introduced its smartwatch. These devices left a lot to be desired in terms of quality and reliability, but they were already able to implement the concept of a wristwatch that can make calls, receive text messages, process information, make calculations, and access the web. Other players in the consumer electronics field are widely believed to be in the final stages of developing their own versions of the smartwatch. Apple, for instance, has already applied for an “iWatch” patent in Japan and beyond. Qualcomm is expected to launch the Zola smartwatch in September. Intel is reported to be experimenting with smartwatch product. A Samsung VP confirmed that it is currently working on a smartwatch. Google is also rumored to be developing a smartwatch based on the Android operating system. However, it is a group of college students from India that could be considered the first to launch a smartwatch that offers the full features of the Android OS, also capable of making calls and taking photos. This £150 (\$227) smartwatch is called Androidly and offers Bluetooth, GPS and Wi-Fi connectivity. Other smartwatches worth mentioning are the Pebble Watch, MotoActv and WIMM One. Pebble Watch is a smartwatch developed by Pebble Technology under a crowd-funded model launched on Kickstarter. It features a 144×168 pixel 1.26-inch low power memory LCD display more commonly referred to as an “e-paper.” The MotoActv is Motorola’s version of a smartwatch that comes with a 600 MHz OMAP3 ARMv7 CPU, 256 MB of RAM, 8 GB flash memory, and Bluetooth connectivity. It also has an FM tuner and runs on Android. Its display is a 1.6-inch capacitive multi-touch



LCD with a resolution of 220×176. WIMM One, on the other hand, runs on a modified version of Android and features a transfective bi-modal screen, 3-axis magnetometer, 3-axis accelerometer, Bluetooth, Wi-Fi, and USB connectivity.

## **Google Glass and other “eyewear computers”**

Fortunately or unfortunately, there isn’t a generic term yet for this new type of mass market wearable computer pioneered by Google. (While Google is certainly not the first ones to design a wearable device in the form of glasses, they are the first ones who have successfully garnered enough mainstream interest.) Google Glass would seem to establish a new kind consumer electronics device distinguished by its integration of an optical head-mounted display, augmented reality, camera, web access, and voice-based interaction.





Aside from being considered a wearable computer, Google Glass is also categorized as an “ubiquitous” computer — mainly because it is meant to be used both actively and passively. Some of the device’s notable features are 5 MP camera with 720p HD video recording, touchpad input, a 640×360 display, Wi-Fi, Bluetooth, gyroscope, accelerometer, magnetometer, ambient light sensing, and a bone conduction transducer. It has an OMAP 4430 dual-core CPU and runs on the Android operating system. A number of companies are expected to release their Google Glass counterpart devices. One of them is Scope Technologies, which has partnered with Epson in developing a computer-assisted eyewear dubbed as an “augmented reality training system.” Another possible rival is the Spark from Seebright. Spark is a head-mounted device intended to provide an immersive experience by allowing its user to look into the small details of an object being examined or to see different points of view. Innovega, on the other hand, is embarking on a more ambitious goal of developing a contact lens that presents images right on top of a user’s eye to enhance normal vision. Then there’s also Vuzix, which has been touted as one of the bigger potential competitors against Google Glass.

## **Technologies that improve wearable computers**

Thanks to the advancement of various technologies, using wearable computers has now become less unwieldy and awkward. More efficient and smaller high capacity batteries provide enough power to run wearable devices. Thinner and sharper displays now make it possible to create more comfortable means through which users interact with their devices. Touch input systems have become more

responsive. Likewise, processors have become faster without overheating or requiring active cooling systems. They can even be enclosed in dust- and water-protected cases without becoming overheated. Sensors have also become smaller. Who would have thought that it is now possible to clump an IR blaster, accelerometer, barometer, thermometer, proximity sensor, pedometer, and gyroscope in a 7.9-millimeter thin device?



What good is a wearable device if you can't power it with wearable batteries, too?

Things will only get better as companies perfect their more power efficient, sharper, and flexible displays. The Koreans have also reported having developed a flexible battery. NFC has made file sharing and the interconnection of devices easier.

Moreover, hydrophobic coating technologies have advanced that, now, devices don't need to be sealed to be made water-resistant or waterproof. We are still in earlier years of the decade but the amount of new technologies and technological advancements we are witnessing makes the future of wearable tech more anticipating than ever.

## **What do we need wearable computers for?**

I would have wanted to write this part in an earlier paragraph. However, considering how wearable technology has been progressing, it would seem more appropriate to somewhat use this enumeration of purposes as a summary after examining the development of wearable computers through the years. Wearable computers have doubtlessly become significantly better since they were conceptualized before the 1980s. They are expected to achieve near-perfection and possibly undergo another technological revolution in the years to come. Therefore, wearable computers are expected to be more useful in serving the scope of purposes listed below:

- Enabling ubiquitous computing and wireless communications
- Assisting visually-impaired and hard-of-hearing individuals in interacting with their environment
- Aiding deaf-mutes in communicating with other people
- Recording and documenting activities, processes, and events (especially for scientists, or perhaps intelligence agents)
- Accessing and sharing information quickly and wirelessly

- Making computations and preparing electronic documents on-the-go
- Multimedia entertainment
- Schedules setting and tracking
- Capturing and sharing textual, audio, and visual data
- Interacting with or controlling other electronic devices
- Facilitating learning and instruction

Even with Google Glass expected to go mainstream soon, we're only hitting the tip of the iceberg in terms of the potential of wearable computing, especially with how quickly development has accelerated compared to the previous decades. In the future, instead of smartphones and tablets, perhaps we will all be plugged into the cloud through our eyeglasses, watches and even our clothes. Isn't this an exciting time we live in?

## **Features of Wearable Computer:**

The salient features in this novel interaction between human and computer which make it outstanding are:

**Consistency:** The computer runs continuously and is user friendly. Unlike, a hand held device like tablets or laptops, it does not need to be opened up and turned on prior to its use. The signal flows from human to computer and computer to human continuously to provide a constant user interface.

**Enhancement:** Traditional computing archetypes are based on the notions that computing is the primary task. On the contrary, wearable computing does not follow the above notion. The assumption of the wearable computing is that the user will be doing something else along with computing. Thus, the computer should serve to increment the intellect or augment the senses.

**Mediation:** Wearable computing unlike traditional computing acts as a mediator as it aids its users by providing its umpteen applications in medical care, domestic use, corporate world, military etc.

**Privacy:** Wearable computing can be used to create a new level of privacy because it is much more personal as it is worn so it helps to develop a close synergy between human and computers.

**Convenient:** Wearable technology is of utmost convenience to the user as the right person can use it at the right time and at the right place which offers a great comfort zone and helps to increase its overall utility.

**Unrestrictive:** Wearable devices enable a person to do multi tasking and do not restrict the focus of a person to one particular thing. For example to access a data on a PDA (Public Digital Assistant), the user must interrupt what he is doing and then focus on the device. This restricts the activities of the user unlike in the case of wearable computing.

## Applications of Wearable Computer

**Augmented Memory:** The Remembrance Agent Rememberance Agents (RAs) are wearables that continuously remind the wearer of potentially relevant information based on the wearer's current physical and virtual context. RAs generally have features available that are not present in current laptops or Personal Digital Assistants (PDAs, such as Palm-top computer), one of them being that it is always on and always active and working, instead of being 'woken up' when needed. It is the combination of the real and the virtual to assist the user in his/her environment. There are lots of applications for this field: devices for the disabled, architecture construction and telemedicine.

**Finger Tracking:** This is one of the simplest applications of camera-based wearable computing. The computer would be able to visually track the user's finger, such an interface can therefore replace conventional components like the mouse with his/her own finger. The user would then be able to control the operating system in this manner, or even digitize an image and virtually annotate it.

**Face Recognition:** Working in conjunction with appropriate face-finding software, face recognition system can be adapted for use in wearable computing. Names would be overlaid on faces as the user moves about the world in his/her wearable computer. Markets include the police, reporters, politicians, the visually disabled (with an audio interface), and those with bad memories for faces.

**Visual filter:** This is particularly useful for the visually disabled, for example to map around 'blind spots'. The wearable computer can digitally magnify an image or



a prose through the use of a 'virtual fish eye lens' for help in reading. This can be done through the use of a digital visual filter. The basic concept is to process video images digitally in real time to assist the user in everyday tasks.

**Navigation:** connecting a Global Positioning System (GPS) to a wearable and certain mapping software allows the user to track himself while exploring a city. A visually impaired person might be able to receive warnings of approaching objects and hence promote safety in their daily lives.

**Wearable Audio Computing (WAC):** So far we have seen wearables derive their interfaces from concept in desktop computing such as keyboards, pointing devices and graphical user interface. To make the wearable computer more 'usable' or more user-friendly, one can choose to rely on audio as a primary medium of the interface, such that the wearable can become as natural as clothing.

**Communications Management:** A WAC can be used to manage personal communications naturally with much mobility. Mobile phones and email can be integrated into a single interface. Synthetic speech can be used to read email and voice messages to the user; speech recognition can be used to convert the user's responses (with constraints on vocabulary and grammar) into text for email responses. This, in turn, combines speech recognition, synthesis and digital audio recording to act as a virtual secretary which manages mobile communications, thus saving manpower for other more important things.

**Remote sensing and maintenance:** In maintenance, repair, construction and manufacturing there is always a need for effective communication and collaboration with the use of wearables, especially in providing hands-on expert advice and

information for the field or repair workers. To have a wearable means that field workers would be able to get remote assistance and expertise through digital data, audio and image. With these help, even non-expert maintenance personnel can accomplish simple repairing tasks with the aid of remote experts at the help desk.

## **Wearable computing: 10 things you should know**

Without a doubt, wearable technology is the most prevailing topic in early 2014. Call it out on its hype, but it stands to reason this trend will not only stay with us, but become integrated into society and useful in everyday life. Here are 10 things we think you should know about wearables and the many directions they're headed:

### **1. Health and fitness wearables will continue to reign in popularity**

Activity monitors, heart-rate monitors, and pedometers are among the most common devices, taking shape in wristbands, watches, clothing, and accessories. Fitness enthusiasts love to track movement, vitals, body temperature, sleeping patterns, and speed. According to Gartner, apps and services for personal health and fitness may generate up to \$5 billion by 2016. These devices won't just be for consumers, but also healthcare systems and businesses that want to monitor activity

and provide incentives for employees' healthful living, according to a recent Forrester study called "[The Enterprise Wearables Journey.](#)"

## 2. Wearables are moving away from the face and wrists

Glasses and wristbands probably come to mind first when you hear wearable computing. But in order to appeal to the general public in the future, companies must combine technology with everyday items. Sensors and wires embedded in clothing, jewelry, headphones, and shoes will gain traction. A study by Forrester showed that 29 percent of respondents are willing to wear devices clipped on clothing and 15 percent would prefer it embedded. Still, wristbands are the most accepted and demanded wearable, which leaves us anxiously awaiting devices like [Apple's iWatch.](#)

## 3. Look out for brave attempts at fashionable bluetooth jewelry and clothing

In order to appeal to more women, developers such as CSR have released [necklaces](#) and other pieces that flash or sound, alerting the wearer of incoming messages. Beware: they're extremely gaudy right now. But that may soon change, said Angela McIntyre, research director for Gartner, Inc. She's seen models of wired evening gowns and leather bracelets that communicate via vibration, light, and sound. "It gives the effect of having diamonds or some kind of sparkle on you, so it doesn't scream that it is a light flashing."

#### 4. To better appeal to the mass market, companies will focus on design

It's a subtle but especially relevant point of growth for developers to make sure wearables can reflect individual styles and personalities. As the technology becomes more widespread and affordable, people who scoffed at [Google Glass](#) will soften to the idea of staying connected via these devices. That is, as long as they're unobtrusive and somewhat fashionable, McIntyre said. This is the next step in removing the social stigma.

#### 5. Kickstarter fueled the wearable revolution, and it's still rapidly growing

Just 18 months ago, [Pebble](#) broke records on Kickstarter and put smart watches on the map. Founder Eric Migicovsky planned to raise just \$100,000, but hit \$10 million with more than 85,000 backers. It proved that people will pay for practical (or, perhaps even impractical) wearable devices. That knowledge has led to hundreds of novel ideas on crowd funding sites that have reached their goals, such as [meMINI](#), a camera that captures moments after they occur, and [FitBark](#), a fitness wearable for your dog.

#### 6. Wearables will propel the Internet of Things

You've ead the phrase floating around, and wearable computing is positioned to be a gateway technology for this phenomenon. It will empower both physical and virtual scenarios. Health and environmental contexts are sensed and monitored, the data is recorded (whether that's video, voice, photos, or location), and users and systems can do interesting things with the information. According to Forrester research, 2014 to 2016 will see early adoption before wearables move into

mainstream society. By 2020, wearables will be central to business, healthcare, and personal systems.



### 7. Wearables will integrate more seamlessly into daily life

We're all guilty of it: checking out of a face-to-face conversation while you peek at your messages; looking down at your lap to make sure you didn't miss a call; obviously tuning out of conversations due to "FOMO" (fear of missing out). According to Kleiner, Perkins Caufield & Byers' Internet Trends study, the average person checks their [smartphone 150 times a day](#). With the device on your wrist, shirt, or head, staying updated won't seem as rude.

### 8. Prepare for a shift to contextual computing

Soon, wearable technology will be about more than simply tracking basic data. It will use combinations of hardware, software, and networking to find precise information that we can utilize and analyze. This goes hand-in-hand with integrating wearables into our everyday lives.

The best example is [Google Now](#), which gathers excessive amounts of information about you so that it can anticipate your needs and better present data to you in the future.

#### 9. Adding more sensors will consolidate devices and broaden market appeal

The more data a smartwatch or other wearable can track, the more practicality. Think about a smartwatch. It was primarily designed as a secondary screen to the smartphone. But with added sensors, we could get alerts, track data, and monitor vitals and activity. Soon enough, it becomes a wellness device with generalized features that a non-athlete or fitness enthusiast can enjoy and wear often.

#### 10. In addition to more generalized devices, we will see wearables for immediate, contextual usage

On the opposite hand, a new trend is targeting particular consumers or markets. As these devices become more integrated into our lives, we will see more opportunities for occupation-specific uses as an extension of mobility. "They need to do one or two things really well, and target a particular type of user," McIntyre said. According to Forrester, 46 percent of business leaders view mobile strategy as a high priority, and wearables represent the next phase. [Google Glass](#), [Lumus Personal Display](#), [Epson Moverio](#), and other smart glasses will increasingly fill niches as developers create them for contextual usage. Think law enforcement, engineering, construction work—the opportunities are endless.



## College Activity List 2015-16

Sr. No.	Date	Activity
1	21 <sup>st</sup> June, 2015	Celebrated International Yoga Day.
2	14 <sup>th</sup> & 15 <sup>th</sup> July, 2015	SDLC Workshop by Mr. Dipak Rai from RIL.
3	24 <sup>th</sup> July, 2015	Technical Session on php by Mr. Niraj Chauhan under Alumni Association of AIIS.
4	3 <sup>rd</sup> August, 2015	Orientation Programme for MCA - 3 <sup>rd</sup> Semester Students.
	8 <sup>th</sup> August, 2015	Established Reader's Club.
5	12 <sup>th</sup> August, 2015	Session on Innovative techniques in IT by Mr. Mitul Patel under Alumni Association of AIIS.
6	14 <sup>th</sup> August, 2015	Tree Plantation at Anand ITI by NSS unit of AIIS.
7	21 <sup>st</sup> August, 2015	Celebrated "Sadbhavna Divas" by taking oath.
8	22 <sup>nd</sup> August, 2015	AIIS Organized Inter college art & creativity hunt Kaladarshan - 2015.
9	1 <sup>st</sup> September, 2015	Thalassemia checks up & Blood donation camp organization by NSS Unit.
10	12 <sup>th</sup> September, 2015	GUJCOST sponsored Seminar on Data Mining & Data Warehousing.