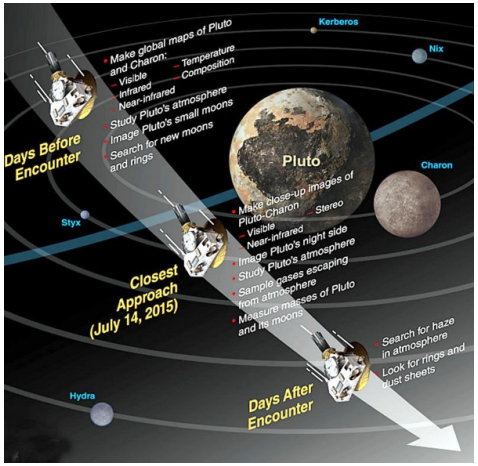
Finalize the Schedule Based on Resource Availability

Resources


Kerberos
Nix
Make global maps of Pluto and Charon:
Visible
Infrared
Near-infrared
Temperature
Composition
Study Pluto's atmosphere
Image Pluto's small moons
Search for new moons and rings
Days Before Encounter
Pluto
Charon
Styx
Make close-up images of Pluto-Charon
Visible
Near-infrared
Stereo
Image Pluto's night side
Study Pluto's atmosphere
Sample gases escaping from atmosphere
Measure masses of Pluto and its moons
Closest Approach (July 14, 2015)
Search for haze in atmosphere
Look for rings and dust sheets
Hydra
Days After Encounter

Resources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Apollo Guidance Comput...
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The Free Encyclopedia
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Interaction
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Community portal
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Apollo Guidance Computer
From Wikipedia, the free encyclopedia
The Apollo Guidance Computer (AGC) was a digital computer produced for the Apollo program that was installed on board each Apollo Command Module (CM) and Lunar Module (LM). The AGC provided computation and electronic interfaces for guidance, navigation, and control of the spacecraft.[2] The AGC had a 16-bit word length, with 15 data bits and one parity bit. Most of the software on the AGC was stored in a special read only memory known as core rope memory, fashioned by weaving wires through magnetic cores, though a small amount of read-write core memory was provided.
Astronauts communicated with the AGC using a numeric display
Apollo Guidance Computer
Apollo Guidance Computer and DSKY
Invented by MIT Instrumentation Laboratory
Manufacturer Raytheon
Introduced August 1966; 49 years ago
Discontinued July 1975; 40 years ago
helper
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Resources

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IdeaPad Y Series - Wikipe...

https://en.wikipedia.org/wiki/IdeaPad_Y_Series#Y50

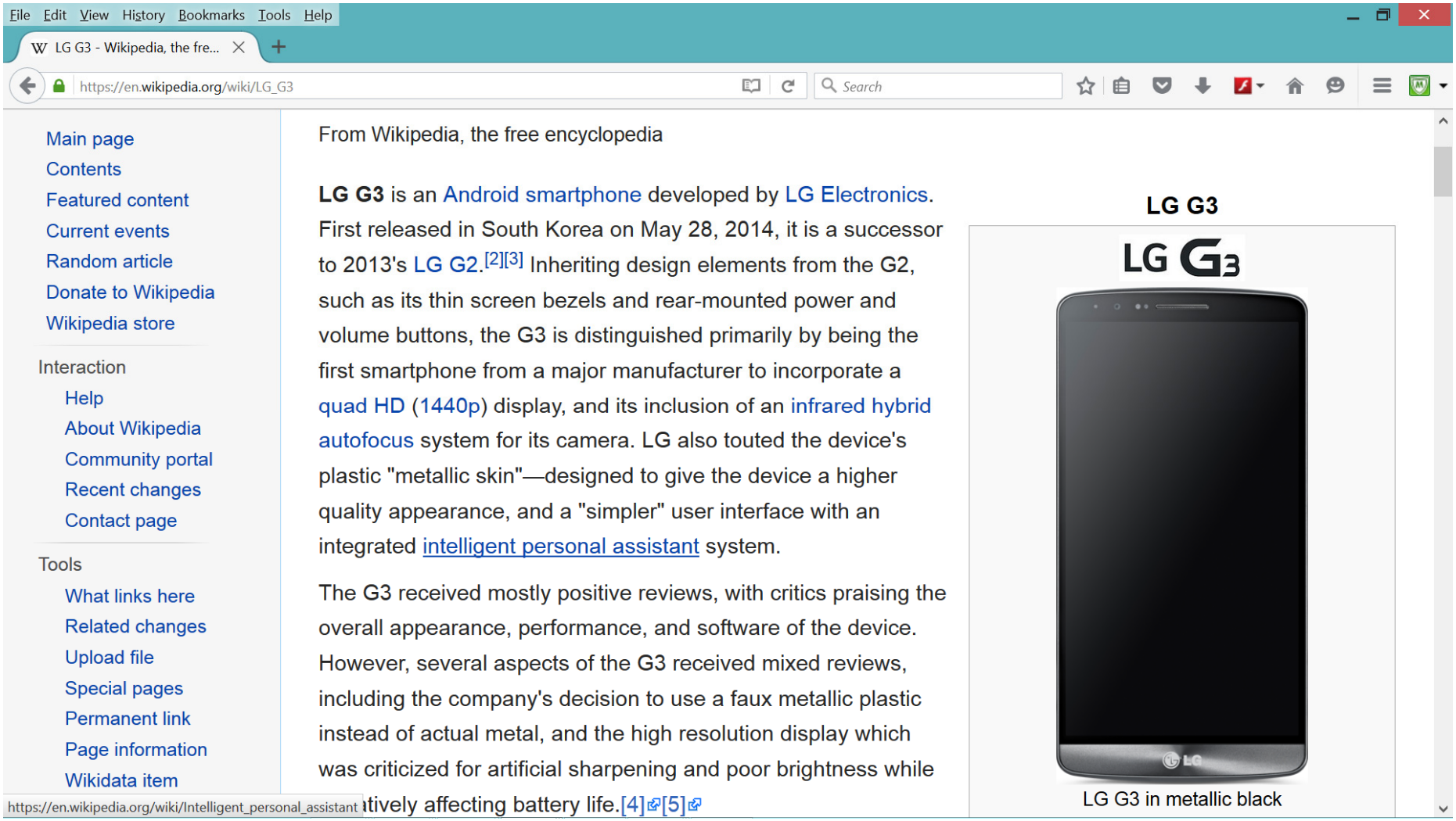
Search

Y50 [edit]

Lenovo IdeaPad Y50 was released in the second quarter of 2014.

- CPU/Chipset: 4th Generation Intel Core i7-4710HQ Processor (2.5 GHz 1600 MHz 6MB)
- Memory: up to 16 GB PC3-12800 DDR3L SDRAM 1600 MHz
- Hard Drive: 256 or 512 GB SSD or Hybrid 500 GB or 1TB 5400 RPM + 8 GB SSHD
- Graphics: NVIDIA GeForce GTX 860M 2GB or 4GB
- Display: 15.6" UHD LED Glossy (3840x2160)or FHD (1920x1080) or FHD (1920x1080) multitouch
- Operating System: Windows 8.1
- Weight: 2.4 kg (5.29 lbs)
- ODD: External BD/DVD
- Keyboard: Backlit AccuType® keyboard
- Camera: 720P
- Storage: Up to 1TB HHD or up to 1TB Hybrid SSHD with integrated
- Audio: JBL® 2.1 speakers with Dolby® Advanced Audio V2
- Battery: Up to 5 hours WiFi browsing depending on configuration
- Bluetooth®: Bluetooth® 4.02, 802.11 a/b/g/n or 802.11 a/c WiFi
- Connectors: 2 x USB 3.0, 1 x USB 2.0, Audio Combo Jack (headphone and mic), HDMI-out, 4-in-1 (SD / MMC / SDXC / SDHC) card reader, RJ45, SPDIF

Resources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Contents
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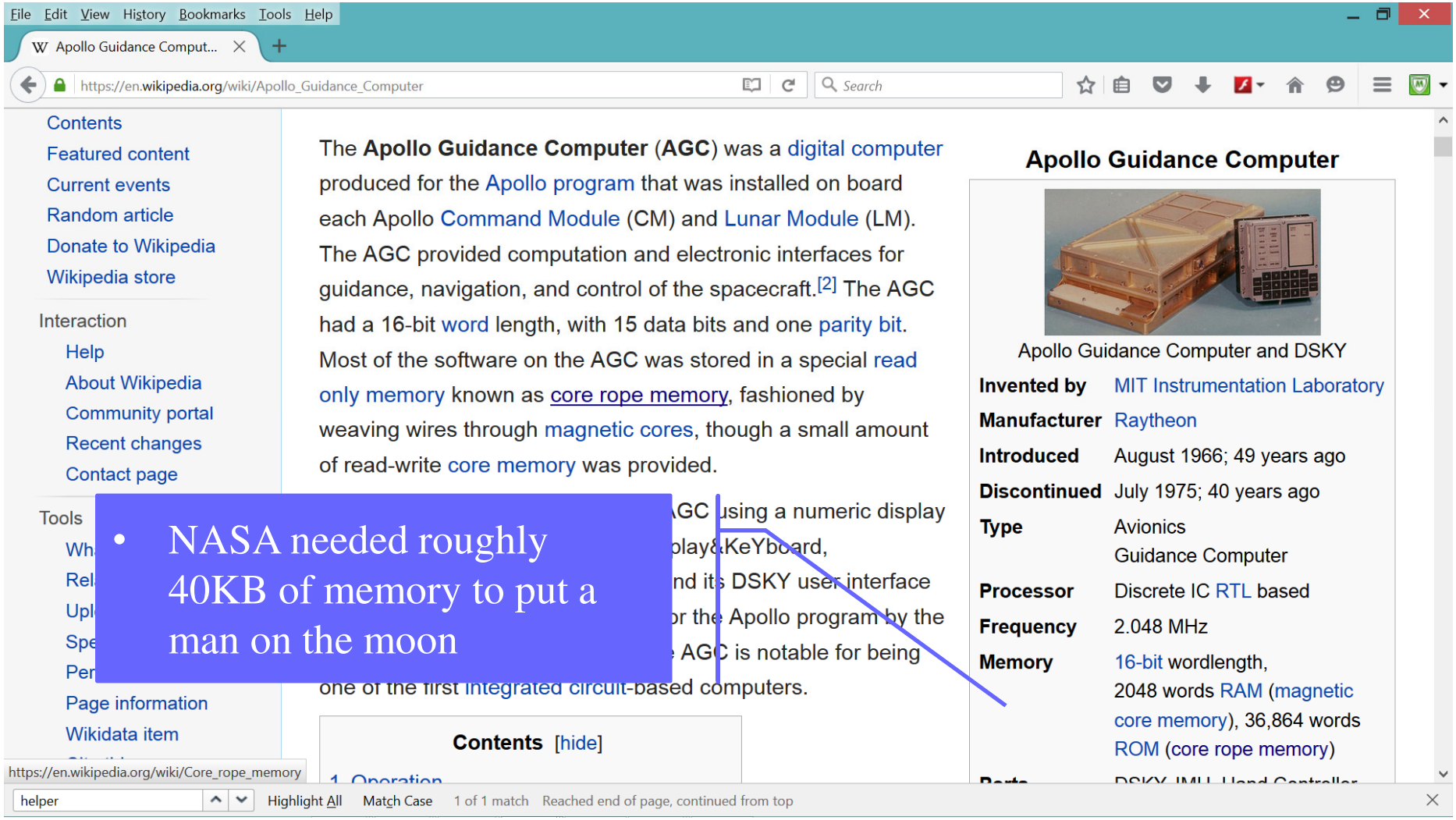
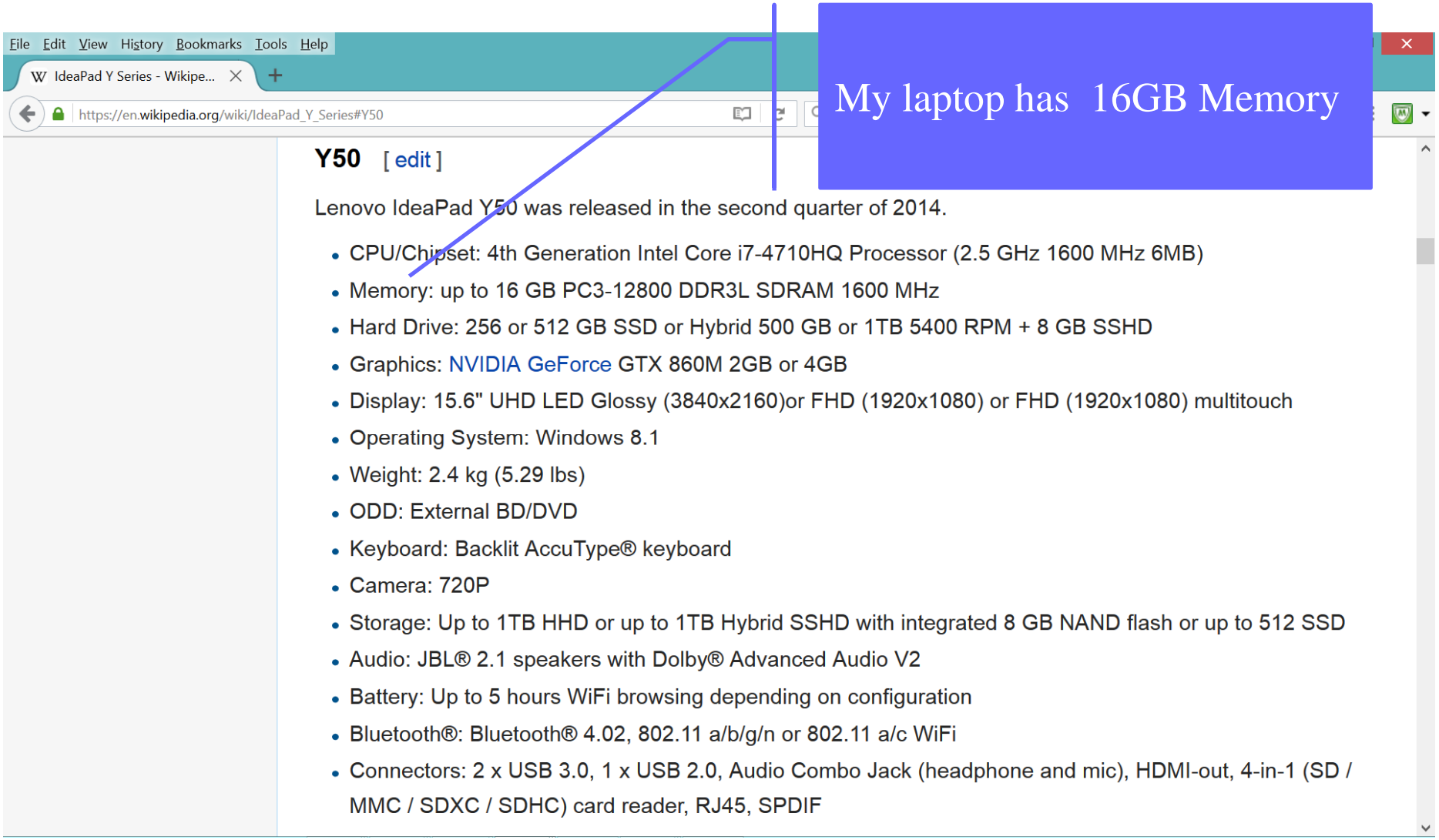
Current events
Random article
Donate to Wikipedia
Wikipedia store
Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact page
Tools
What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Wikidata item
From Wikipedia, the free encyclopedia
LG G3 is an Android smartphone developed by LG Electronics. First released in South Korea on May 28, 2014, it is a successor to 2013's LG G2.[2][3] Inheriting design elements from the G2, such as its thin screen bezels and rear-mounted power and volume buttons, the G3 is distinguished primarily by being the first smartphone from a major manufacturer to incorporate a quad HD (1440p) display, and its inclusion of an infrared hybrid autofocus system for its camera. LG also touted the device's plastic "metallic skin"—designed to give the device a higher quality appearance, and a "simpler" user interface with an integrated intelligent personal assistant system.
The G3 received mostly positive reviews, with critics praising the overall appearance, performance, and software of the device. However, several aspects of the G3 received mixed reviews, including the company's decision to use a faux metallic plastic instead of actual metal, and the high resolution display which was criticized for artificial sharpening and poor brightness while
tively affecting battery life.[4][5]
LG G3
LG G3
LG G3 in metallic black
https://en.wikipedia.org/wiki/Intelligent_personal_assistant

Resources



- NASA needed roughly 40KB of memory to put a man on the moon

Resources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IdeaPad Y Series - Wikipe...
https://en.wikipedia.org/wiki/IdeaPad_Y_Series#Y50
My laptop has 16GB Memory
Y50 [edit]
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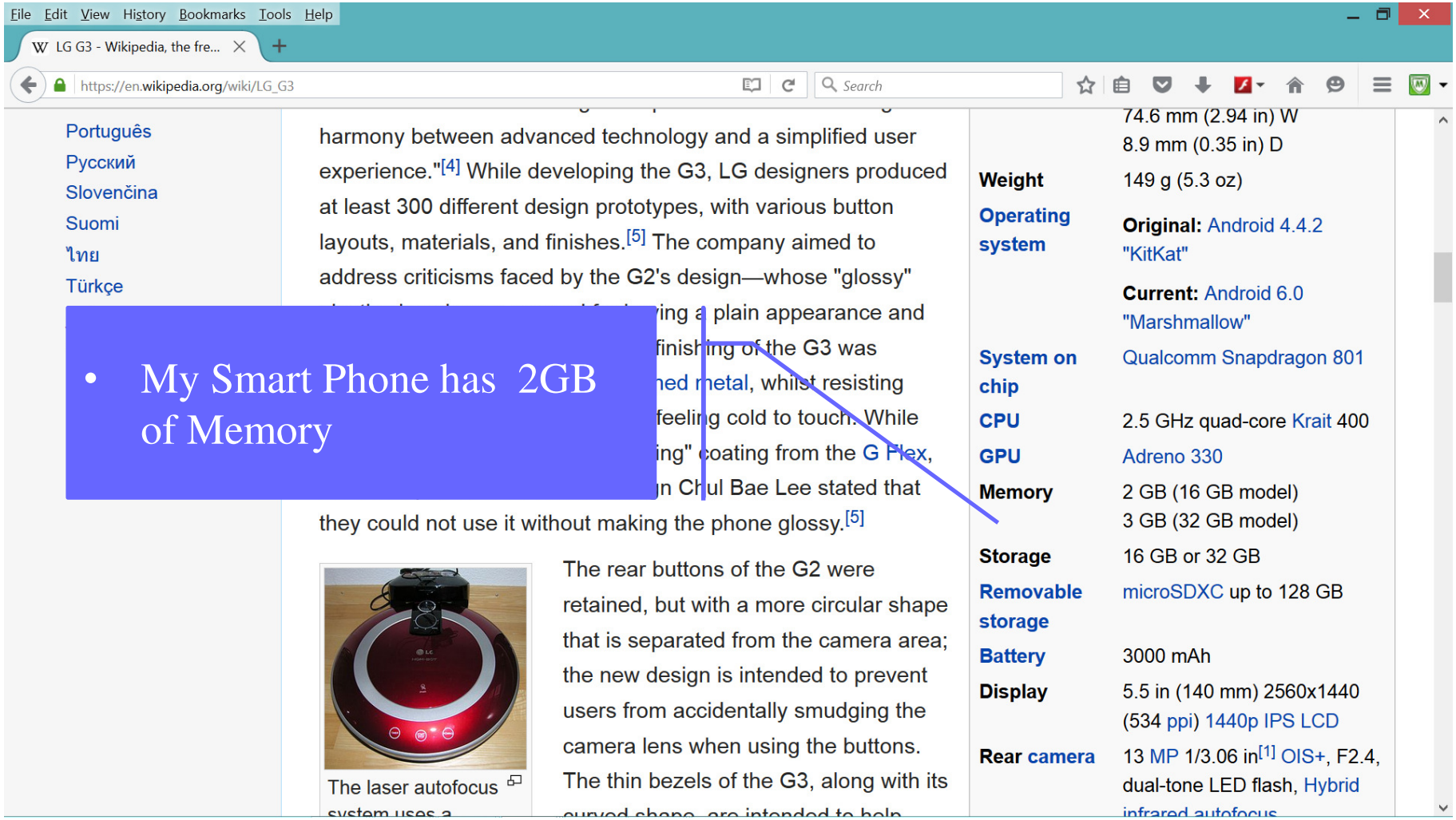
ODD: External BD/DVD
Keyboard: Backlit AccuType® keyboard
Camera: 720P
Storage: Up to 1TB HHD or up to 1TB Hybrid SSHD with integrated 8 GB NAND flash or up to 512 SSD
Audio: JBL® 2.1 speakers with Dolby® Advanced Audio V2
Battery: Up to 5 hours WiFi browsing depending on configuration
Bluetooth®: Bluetooth® 4.02, 802.11 a/b/g/n or 802.11 a/c WiFi
Connectors: 2 x USB 3.0, 1 x USB 2.0, Audio Combo Jack (headphone and mic), HDMI-out, 4-in-1 (SD / MMC / SDXC / SDHC) card reader, RJ45, SPDIF

Resources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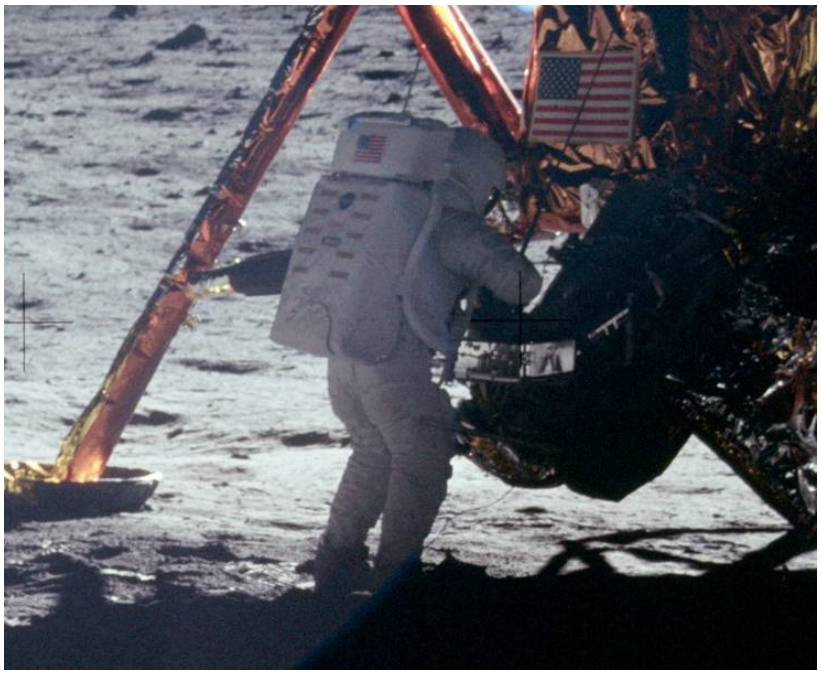
LG G3 - Wikipedia, the fre...
https://en.wikipedia.org/wiki/LG_G3
Search
Português
Русский
Slovenčina
Suomi
ไทย
Türkçe
harmony between advanced technology and a simplified user experience."[4] While developing the G3, LG designers produced at least 300 different design prototypes, with various button layouts, materials, and finishes.[5] The company aimed to address criticisms faced by the G2's design—whose "glossy"
ving a plain appearance and
finishing of the G3 was
ned metal, whilst resisting
feeling cold to touch. While
ing" coating from the G Flex,
n Chul Bae Lee stated that
they could not use it without making the phone glossy.[5]
The rear buttons of the G2 were retained, but with a more circular shape that is separated from the camera area; the new design is intended to prevent users from accidentally smudging the camera lens when using the buttons. The thin bezels of the G3, along with its
The laser autofocus
system uses a
74.6 mm (2.94 in) W
8.9 mm (0.35 in) D
Weight
149 g (5.3 oz)
Operating system
Original: Android 4.4.2 "KitKat"
Current: Android 6.0 "Marshmallow"
System on chip
Qualcomm Snapdragon 801
CPU
2.5 GHz quad-core Krait 400
GPU
Adreno 330
Memory
2 GB (16 GB model)
3 GB (32 GB model)
Storage
16 GB or 32 GB
Removable storage
microSDXC up to 128 GB
Battery
3000 mAh
Display
5.5 in (140 mm) 2560x1440 (534 ppi) 1440p IPS LCD
Rear camera
13 MP 1/3.06 in[1] OIS+, F2.4, dual-tone LED flash, Hybrid
infrared autofocus
• My Smart Phone has 2GB of Memory

Resources

- Good Resource Management and Planning made it possible to land a man on the moon



Resources

- Resources might not be available according to the project schedule.
- In such cases, the project manager alter the original project budget, time, and resource allocations to resolve the scheduling problem.
- Therefore, additional time, budget will be needed in order to comply with the new schedule.

Leveling Resources

- Resource leveling is a process that the project manager follows to schedule how each resource is allocated to activities in order to accomplish the work within the scheduled start and finish dates of the activity.
- Resource leveling always creates problems for organizations, some of these problems are:
  - Committing people to more than they can reasonably handle in the given time frame
  - Changing project priorities and not considering the impact on existing resource schedules
  - The absence of a resource management that can measure and monitor the capacity of the resource pool and the extent to which it is already committed to project

Leveling Resources

- When we were creating the project network diagram, the critical path was the principal focal point for trying to finish the project on specific date.
- Resource over-allocation or under-allocation was not a consideration, because it is important to focus our attentions on planning one portion of the project at a time.

Leveling Resources

- The scheduled start and finish dates of every activity are constrained by the project plan to lie entirely within their ES-LF window.
- As resources are leveled, they must be constrained to the ES-LF window of the activities which they are assigned, or the project manager must seek other alternatives to resolve the conflict between resource availability and project schedule.

Leveling Resources

- The resource schedule needs to be leveled for two reasons:
  - The first is to ensure that no resource is over-allocated.
  - A second reason to level resources is that the project manager wants the number of resources (people in most cases) to follow a logical pattern throughout the life of the project. We don't want the number of people working on the project to fluctuate wildly from day to day or from week to week.
  - Resource leveling avoids this by ensuring that the number of resources working on a project at any time are fairly constant.

Resources Leveling Strategies

- Three approaches to level project resources:
  - Slack
  - Shifting the project finish date
  - Smoothing

Slack

- Slack is the difference between the ES-LF window of an activity and its duration. For example, if the ES-LF window is four days and the duration of the activity is three days, its slack is 4-3, or one day.
- Slack can be used to alleviate the over- allocation of resources. With this approach, one or more of the project activities are postponed to a date that is later than their early start date but no later than their late finish date. In other words, the activities are rescheduled but remain within their ES-LF window.

Shifting the Project Finish Date

- Not all projects are driven by the completion date. For some projects, resource availability is their most severe constraint.
- For these type of projects, the critical path may have to be extended to achieve an acceptably resource-leveled schedule.
- In cases where the project manager is caught between over-allocated resources on a schedule that cannot be acceptably leveled and a firm fixed completion date, you may have to consider reducing the scope of the project. Consider delaying some of the features to the next release as one way of resolving the issue.

Smoothing

- Overtime may accomplish the work within the scheduled start and finish dates of the activity.

- Overtime can help alleviate some resource over-allocation because it allows more work to be done within the same scheduled start and finish dates.

Alternative Methods of Scheduling Activities

- Rather than treating the activity list as fixed, you could resolve the leveling problem by considering further decomposition of one or more activities:
  1. Further Decomposition of Activities
  2. Stretching Activities
  3. Assigning Substitute Resources

Further Decomposition of Activities

- Suppose that an activity requires one person for the three days within a five-day window. There are two days of slack in the schedule for that activity. In other words, the ES-LF window of the activity is five days and the activity duration is three days.

- If the resource is available for the first two days in the five-day window and for the last day in the in the five-day window.

- To simplify the scheduling of the resource the project manager could decompose the five-day activity into two activities—one two-day activity and one one-day activity.

- The two-day activity would then have an FS dependency on the one-day activity. The scheduled start and finish dates of the two activities would be set so that they fit the availability of the resource.

Stretching Activities

- Another alternative that preserves the continuity of the activity work is to stretch the work over a longer period of time by having the resource work on the activity at a percent per day lower than was originally planned.
- For example, suppose the resource is available 80 percent of each day in the five-day window and you need four days of work. The resource is therefore available for .80 times five days, or four days of work, over the five-day window
- Because the resource can only work 80 percent of the time on the activity, the resource will accomplish four days of work in five days.

Assigning Substitute Resources

- The estimates of activity durations are based on the assumption that a typically skilled resource will be available to work on the activity. That may not be possible, though, because of unavailability of the resource.

- This will be especially true in the case of scarce resources such as some of the newer technologies.

- One approach to solve this problem would be to use less-skilled resources and add to the total number of hours requested; a less-skilled resource would require a longer period of time to complete the activity work.

Work Packages

- Within the JPP session, the project work has been defined as a list of activities; activity duration and resource requirements are specified, the project network is built, the activity schedule is done, and resources have been scheduled.

- During the JPP session, the project team has agreed on the activity list, activity duration and resource requirements.

- What is left by now is to define the work to be done in each activity but at the task level; activities are made up of tasks.

- The work to be done within an activity is called a work package.

- The work package is a statement by each activity manager as to how he or she plans to complete the activity within the scheduled start and finish dates.

Purpose of a Work Package

- It describes in detail the tasks, start/end dates, that need to be done in order to complete the work for an activity.
- The work package manager, or activity manager, may choose to include the start and end dates for each task in the package but that may allow others to micromanage your work items.
- The work package also can be adapted to status reporting. Some organizations use the percent of tasks completed as the percent of activity completion.

Format of a Work Package

- There are two work package documents:
  - The first is called a ***work package assignment sheet***. It is used as a ready reference for the project manager and contains some basic information about each work package and its manager.
  - The second is a detailed description of the activity plan, called the ***work package description report***. It contains much of the same information that is found in a project plan but focuses on activities, not projects.

Work Package Assignment Sheet

- The work package assignment sheet is available for the project manager only.
- It includes the earliest start and latest finish times for each activity.
- This is one of the few resources available to the project manager and should not be made available to anyone other than the project manager.
- The work package assignment sheet has limited value in smaller projects but very valuable in larger ones. Especially for cases where we have thousands of activities, 5+ years life-span, and 5000+ activity managers.

Work Package Assignment Sheet

WORK PACKAGE ASSIGNMENT SHEET	Project Name	Project No.	Project Manager

Work Package		Schedule			
Number	Name	Early Start	Late Finish	Work Package Manager	Contact Information
A	DESIG	03/01/00	04/01/00	ANNA LYST	
B	PROD.EVAL	04/02/00	07/02/00	HY ROWLER	
C1	PLACE.LOCATE.PT1	04/02/00	03/04/01	SY YONARA	
M	SYSTEM.ACCEPT	05/01/02	06/19/02	ANNA LYST	

Prepared by	Date	Approved by	Date	Sheet 1 of 1

Work Package Description Report

- A work package is a document prepared by the activity manager in which he or she describes the details of how he or she will accomplish the work of the activity.
- Once the project plan has been approved, it is the activity manager's responsibility to generate the work package documentation.
- It is the project manager who will decide which activities need a work package description report.

Work Package Description Report

WORK PACKAGE DESCRIPTION	Project Name	Project No.	Project Manager

Work Package Name	Work Package No.	Work Package Manager	Contact Info.	Date

Start Date	End Date	Critical Path Y N	Predecessor Work Package(s)	Successor Work Package(s)

TASK	

No.	Name	Description	Time days	Responsibility	Contact Info.

Prepared by	Date	Approved by	Date	Sheet 1 of 1

Organize and Conduct the Joint Project Planning Sessions

Joint Project Planning Sessions

- All of the planning activities take place in the Joint Planning session (JPP) in order to create the detailed project plan.
- The JPP is a group session in which all of the people who are involved in the project meet to develop the detailed plan.
- The session can last from one to three days, and it can be work-intensive.
- The final result of the JPP session is an agreement about how the project can be accomplished within a specified time frame, budget, resource availabilities, and customer specification.
- The objective of a JPP session is to develop a project plan that meets the Conditions of Satisfaction as negotiated between the Customer and the project manager (Product Line Manager), and as described in the Project Overview Statement.

Planning the JPP Session

- Team planning is needed from a technical perspective; more attention into task milestones.
- Project planning need by the project manager to lead the project into a successful completion; more geared toward activity milestones.
- Who are the attendees in JPP session?

The JPP session Attendees

- The JPP participants are the people who have input into the project or may provide deliverables should be invited to participate in the JPP. The following is a typical list of participants:
  1. **Facilitator**. This person is responsible for conducting the JPP; more or less an advocate
  2. **Project manager**. The project manager is not the leader of the planning session, only in charge of planning the project.

The JPP session Attendees

3. **Technographer (Recorder)**. The JPP facilitator is supported by a technographer. JPP facilitator is coordinating the planning activities, the JPP technographer is recording planning decision on the computer as they occur in real time.
4. **Core project team**. professional expertise needed for estimating activity duration and resource requirements.
5. **Customer representative**. Only needed in cases there would be a dispute regard the final delivery date.
6. **Resource managers**. Needed in order to get their input regard availability of resources within certain time window.
7. **Functional managers**. functional managers manage areas that can either provide input to or receive output from the project deliverables and they will be responsible for the success/failure of tasks/activities.

The JPP session Attendees

8. **Project champion**. The project champion drives the project and sells it to senior management; the champion can be the customer. In some cases, the project champion can be the one of the senior managers of the division, department.
9. **Process owner**. If the project deliverables do not smoothly integrate into the process of the process owner, either the project plan or the affected process (es) will have to be altered.

The JPP session Agenda

- The agenda for the JPP session can be completed in one, two, or three sessions.
- Session # 1 : Negotiate the Conditions of Satisfaction
- Session # 2 : Write the Project Overview Statement
- Session # 3
    1. Entire planning team creates the first-level WBS.
    2. Subject matter experts develop further decompositions
    3. Estimate activity durations and resource requirements.
    4. Construct project network diagram.
    5. Determine critical path.
    6. Revise and approve project completion date.
    7. Finalize resource schedule.
    8. Approve the final project plan.

The JPP session Deliverables

1. Work Breakdown Structure
2. Activity duration estimates
3. Resource requirements
4. Project network schedules
5. Project notebook

Project Proposal

- It represents the roadmap for the project
- The project proposal is the deliverable from the JPP session and that will be sent to the senior management team for approval to do the project.
- It describes the business value of the project to the higher level management; cost and time estimates. In addition to this information, the proposal details what is to be done.

Contents of the Project Proposal

- The exact format for the project proposal will depend highly on the corporate culture and its industry segment.

- The following is a general list for the contents of project proposal:

Contents of the Project Proposal

1. **Background**. Description of the situation that led to the project proposal; business conditions, opportunities, and problems that motivated the emergence of the project.
2. **Objective**. What will be achieved from conducting this project. States the business case not the technical details.
3. **Overview of approach to be taken**. High-level outline of the approach that will be practiced. No low-level technical details.

Contents of the Project Proposal

4. **Detailed statement of work**. Details about the approach that will be applied
   - what will be done,
   - when it will be done,
   - who will do it,
   - what criteria will be used to measure completeness/success/failure. This is the roadmap of all the project work.
   - Use Gantt charts to present the schedule.

Contents of the Project Proposal

4. **Time and cost summary**
5. **Appendices:** Generally it includes supporting data like High-Level architecture view of the existing system and how the new system will fit into it, etc.

Managing the Project Team

Project Manager vs. Functional Manager

- The objective of the project manager is to complete the project on time, within budget, and according to specification.

- The objectives of the functional (or technical) manager include development of staff skills to meet project requirements and assignment of technical staff to projects.

Conflicting Objectives

- Functional managers look for opportunities to deploy staff to project assignments that provide opportunities to learn new skills.

- On the other hand, the project manager, would like to have experienced staff.

MOTIVATORS & DEMOTIVATORS

- A survey conducted by Herzberg in 1959 listed the following:
  - **MOTIVATORS**
    - Recognition
    - Advancement and growth
    - Responsibility
    - Work itself
  - **DEMOTIVATORS**
    - Company policy
    - Administrative practices
    - Working conditions
    - Technical supervision
    - Interpersonal relations
    - Job Security
    - Salary

Recruit the Project Team

- To ensure the successful completion of the project we have to recruit and build an effectives team; technical skills are not enough communications skills must have.
- A project team has three separate components:
  1. Project manager
  2. Core team
  3. Contracted team

The Project Manager

- Project managers are the leaders of the projects.
- The project manager represents the project to the organization and to external groups.
- Selection criteria for project managers:
  1. Background and experience
  2. Leadership and strategic expertise
  3. Technical expertise
  4. Interpersonal competence, to “interact successfully”

The Core Team Members

- Selection Criteria for the core team members
  1. Commitment
  2. Shared responsibility
  3. Flexibility
  4. Task orientedness; results to be delivered
  5. Ability to work within schedule and constraints
  6. Willingness to give trust and mutual support "Operate in good faith"
  7. Team-orientedness
  8. Ability to work across structure and authorities
  9. Ability to use project management tools

The Contracted Team Members

- It is becoming more common that companies are outsourcing services and processes that are not part of their core business.
- And the software development and testing is no exception for outsourcing.
- Outsourcing will be mainly needed whenever we have a shortage in:
  1. Skills
  2. Staff

Selection Criteria for the Contracted Team

- Identify the types of skills needed, the number of personnel, and the time frame within which they will be needed.
- Write the request for proposal.
- Establish the criteria for evaluating responses and selecting the vendor(s).
- Distribute the request for proposal.
- Evaluate the responses.
- Reduce the list of vendors to a few who will be invited on site to make a formal presentation.
- Conduct the onsite presentations.
- Choose the final vendor(s), and write and sign the contract.

Types of Proposals

- Three types of proposals to provide contracted members:
  1. **Request for Information (Discover)**: purpose of the RFI is to discover vendors and products that the organization will investigate further
  2. **Request for Proposal (Evaluate)**: The REP includes specification and price; discover good vendors.
  3. **Request for Quote (Negotiate)**: the (RFQ) is used to find the best price-to-performance ratio for a certain product; pool of vendors is known.

Types of Contracts

- Four types of contracts:
  1. **Retainer (Borrow a service: manpower + horsepower)**. organizations pay the contractor a fixed fee per period (monthly) and can terminate the contract any time.
  2. **Time and materials**. detailed specification and product delivery is expected; no limit on cost, huge risk for the company.
  3. **Time and materials-not to exceed**. Same as above but limit on cost; huge risk for vendor.
  4. **Fixed bid**. detailed specification and product delivery is expected; vendor is willing to meet the deliverables and a deadline date for a specified figure. There a schedule for payment and delivery.

Team Meetings

- The team will need to decide on the following:
- **Meeting frequency**.
- **Agenda preparation**. A team member can receive agenda items and prepare and distribute the agenda; this role is circulated among the team members
- **Meeting coordinator**. Coordination involves reserving a time, place, and equipment.
- **Recording and distributing meeting minutes**.