The Customer

Customer Role

- The customer describes the project vision, the project main stories, and the guidelines according to which development priorities will be set.
- The architects present their vision about the product architecture, including the existing architecture and anticipated changes.

Customer Role

- The project manager presents his or her view of the development process and the working environment as well as his or her personal expectations.
- Other stake holders present their expectations from the development process.

Business days

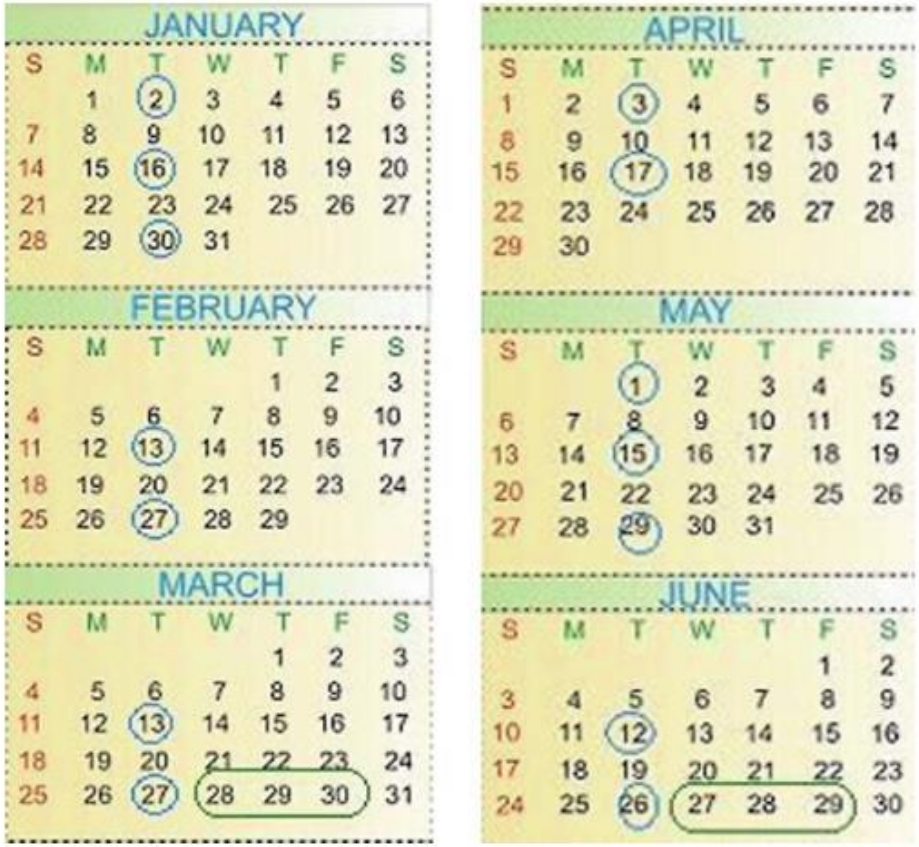


Figure 3.1 *A two-release calendar of 2007 with marked business days.*

Business Day

- The main Business Day activities are:
- presentation of the accomplishments of the ending iteration;
- measures' review;
- customer feedback;
- reflective session;
- planning of the next iteration.

presentation of the system

- The features that are presented belong to specific customer stories of the ending iteration.
- We demonstrate progress by delivering tested, integrated code that implements a story. A story should be understandable to customers and developers, testable, valuable to the customer,

Measures review

- The product metric (the number of written and passed tests),
- The pulse metric (a measure of continuous integration Measures)
- The burn-down metric (an estimation of the convergence to the release/iteration goals),
- and fault metrics (the number of new and open defects).

Customer feedback

- The customer feedback is a short, informal verbal summary of the iteration, given by the customer. This direct feedback usually focuses on the product rather than on the process. It is important to include the customer's message in the iteration summary to signal the customer's importance in the development process. It also helps in focusing people on the product as an end goal,

The reflective session

- The reflective session is intended to discuss a specific issue in the development process, and to change the process if needed.

Planning the next iteration

- Time is an important resource and should be managed wisely.
- The smaller a development task is, the more accurate its development time estimation is. Thus, product delivery on time and of high quality is better ensured.
- An ordered professional work environment is required by professional practitioners; chaos frustrates professionals especially because the resulting products are of low quality and their professionalism is doubted.
- Fairness and a cooperative work environment are valued by professional developers; an open and transparent work distribution, in which all parties are involved, increases practitioners' security, trust, and cooperation.

Customer Collaboration

- To focuses on the common language required in order to maintain ongoing communication with the customers.
- First, be aware of metaphors.
- Second, encourage developers to provide multiple metaphors:

(NOTE: A **metaphor** is a figure of speech that describes an object or action in a way that isn't literally true, but helps explain an idea or make a comparison.)

The User

- The human computer interaction (HCI) field emerged in the early 1960s.
- Norman (2006) suggests abandoning the traditional HCI approach of ‘‘study first, design second’’ and to try the ‘‘design, then study’’ approach.
- The integration of the user in the development environment is accomplished by the **User Centered Design** (UCD) approach, which is a set of design techniques
- that emphasizes user needs during the design of the user interface. This is achieved by managing user evaluation with **validated user evaluation techniques** (Vredenburg et al. 2002).

UCD

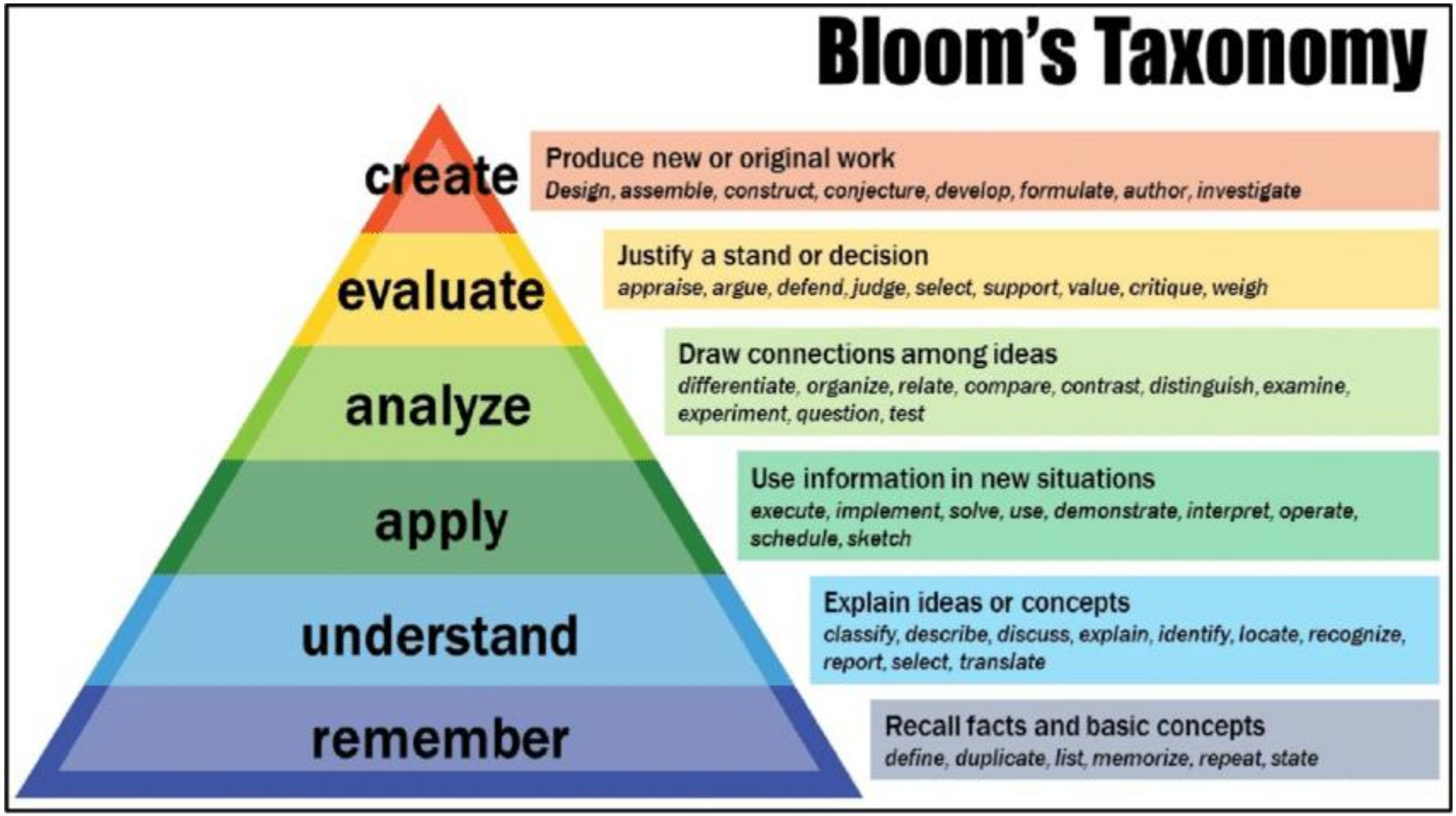
- There are **two main types** of evaluation:

  1. expert-based evaluation and

  2. user-based evaluation.

- **Expert-based evaluation**, a designer or an HCI expert assesses a design of user interfaces based on known cognitive principles or empirical results.
- **The user based evaluation** is based on user participation, i.e., evaluation that involves the people who are going to use the system. User-based evaluation techniques include experimental methods, observational methods, questionnaires, interviews, and

Cognitive principles



Combining UCD with Agile Development

- 3.5.1.1 Case Study 3.1. Merging Development Iterations with User Evaluation Iterations
- This case study illustrates the combination of UCD with agile software development in a specific software project called Catalogue Browsing Project (CBP) in

CBP

- The first release of CBP was developed by two people during four months and divided into four iterations of about three to five weeks. Customer collaboration and user evaluation were emphasized during the development process.

An automatic time measure

Table 3.1 Average search time (in minutes) (With kind permission of Springer Science and Business Media.)

Group	Average search duration	Average Non-S search duration	Average S search duration
Non-S → S	54.66	28	81.33
S → Non-S	26.58	14	39.16

Customers and Users in Learning Environments

- Elicit Communication
- Use Metaphors or ‘‘Other World’’ Concepts
- Case Studies of Metaphor Use
- Case Study 3.2. Identification of Short Sequence Repetitions in a DNA Sequence
- Case Study 3.3. Personal Information Organizer

Table 3.2 Metaphors for the SSR project

	Biology terminology	Metaphoric expressions
Teammate # 1	The DNA sequence	A sequence of 0s and 1s as electrical pulses of a computer
	The SSR	It contains sequences of 0s and 1s
Teammate # 2	The DNA sequence	A topographic road map with slopes, traffic signs, traffic lights, etc.
	The SSR	Contains repetitions of sequences
Assistant	The DNA sequence	A sequence of bits received when listening to the network by a communication card
	The SSR	The repetition of new packet bits

Case Study 3.4. Simulator of the Unix TM File System Module

Table 3.3 Students' metaphors for the Unix™ file system educational computer program

Project terminology	Metaphoric expressions
Creating a GUI	Painting a picture
Simulation screen in our project	A transparent phone that enables us to see how the system works inside
The project as a whole	– A piece of land on which we begin to build rooms, and then add details inside the rooms – A vehicle that has many parts and together they enable it to move
Files permissions in the Unix™ file system differ between file owner, the group, and others	At the bank, the clerk has permission to look at the accounts. The bank manager and the client have other permissions