Systems, Roles, and Development Methodologies, 8e **(Kendall/Kendall)**
Chapter 6 Agile Modeling and Prototyping

6.1 Multiple Choice

1) Which prototype includes only some, but not all, of the components of the final system?
A) first of a series prototype
B) selected features prototype
C) nonworking scale model
D) patched-up prototype
Answer: B
Diff: 1 Page Ref: 157

2) Which kind of prototyping is most similar to what engineers call "bread boarding"?
A) first fullscale model
B) model bearing some essential features
C) nonworking scale model
D) patched-up prototype
Answer: D
Diff: 3 Page Ref: 156

3) A patched-up prototype is likely to be:
A) controversial.
B) inefficient.
C) nonworking.
D) standardized.
Answer: B
Diff: 1 Page Ref: 156

4) Which of these is a potential disadvantage of prototyping?
A) ineffective for helping users articulate requirements
B) shapes systems before problem is thoroughly understood
C) more expensive than the traditional SDLC
D) slower development than the traditional SDLC
Answer: B
Diff: 2 Page Ref: 161

5) Which of these is <u>not</u> a guideline for developing a prototype?
A) Build the system slowly and carefully.
B) Modify the prototype in successive iterations.
C) Emphasize the user interface.
D) Work in manageable modules.
Answer: A
Diff: 1 Page Ref: 159

6) Which of these is not an advantage of prototyping?
A) affords opportunity to change the system early in its development
B) buffers users against computer malfunctioning
C) helps prevent the adoption of inadequate systems
D) presents more opportunities to improve the user's needs and expectations
Answer: B
Diff: 1 Page Ref: 161

7) Which of these is not a way users can be expected to help in prototyping?
A) experimenting with the prototype
B) giving open reactions to the prototype
C) providing the necessary technical expertise for interfacing with the database
D) suggesting possible deletions to the prototype
Answer: C
Diff: 2 Page Ref: 162

8) Which of the following is not one of the three broad phases of RAD?
A) requirements planning
B) analysis
C) design workshop
D) implementation
Answer: B
Diff: 1 Page Ref: 164

9) In the requirements planning phase:
A) analysts define the requirements that must be met before RAD may continue.
B) analysts and users work to list all the preliminary requirements that must have management support before starting RAD.
C) analysts work with the CIO and strategic planners to understand the data and process details
D) users and analysts meet to identify objectives of the application or system.
Answer: D
Diff: 1 Page Ref: 164

10) During the RAD design workshop:
A) users design the system interfaces, the components that they are going to work with on a day-to-day basis.
B) under the guidance of analysts, users receive training and construct simple screen and report prototypes.
C) users respond to actual working prototypes and analysts refine designed modules based on the responses.
D) users and analysts work to come up with the requirements that must be included in the system.
Answer: C
Diff: 2 Page Ref: 164

11) Which of the following is a disadvantage of RAD?
A) The application has a quick learning curve for programmers, which may not attract people interested in the project.
B) The cost of the project is several times the cost of using the systems development life cycle.
C) The project may not have any documentation.
D) The users may not like the final product since they have not been involved beyond the requirements phase.
Answer: C
Diff: 1 Page Ref: 166

12) The implementation phase of RAD:
A) is performed once all the programs have been developed.
B) is more complicated for ecommerce systems since there may not be an existing system to convert.
C) is a very difficult time for the users since there is little user participation.
D) is in many ways less stressful than other phases.
Answer: D
Diff: 1 Page Ref: 166

13) The agile approach is based on:
A) values.
B) principles.
C) practices.
D) All of the above.
Answer: D
Diff: 1 Page Ref: 175

14) Systems that require constant updating and technical design are prone to which kind of error?
A) Miscommunication.
B) Design.
C) Coding.
D) Documentation.
Answer: A
Diff: 1 Page Ref: 167

15) Which of the following is <u>not</u> one of the four values of agile modeling?
A) Communication.
B) Technical skill
C) Simplicity.
D) Courage.
Answer: B
Diff: 1 Page Ref: 167

16) Which of the following is not a basic activity of agile development?
A) Coding.
B) Listening.
C) Documenting.
D) Designing.
Answer: C
Diff: 2 Page Ref: 169

17) Which of the following can be used to communicate ideas that would otherwise remain fuzzy or unshaped?
A) Testing.
B) Documenting.
C) Scope.
D) Coding
Answer: D
Diff: 2 Page Ref: 169

18) When doing pair programming, which person(s) chooses a partner programmer?
A) The programmers.
B) Management.
C) The project leaders.
D) The project team.
Answer: A
Diff: 1 Page Ref: 171

19) In agile development _____ are on spoken interaction between developers and users, not on written communication.
A) design
B) documentation
C) feedback
D) stories
Answer: D
Diff: 1 Page Ref: 171

20) Which of the following is a lesson learned from the agile approach?
A) A 40-hour work week.
B) Outsource all complex modules.
C) Stick to the plan, even if it is behind schedule.
D) Programmers should be assigned individual programs based upon their ability.
Answer: A
Diff: 2 Page Ref: 171

21) Which of the following statements is not a principle of agile modeling?
A) "Travel light".
B) "Model with a purpose".
C) "Code for tomorrow".
D) "Software is your primary goal".
Answer: C
Diff: 2 Page Ref: 168

22) Which of the following is not a component of the Scrum methodology?
A) Product backlog.
B) Daily scrum.
C) Spring.
D) Demo.
Answer: C
Diff: 3 Page Ref: 175

23) Based on their study of a group of programmers, the best programmers are _____ times more productive than the worst ones.
A) one to two
B) three to five
C) four to eight
D) five to ten
Answer: D
Diff: 3 Page Ref: 177

24) Making all product release deadlines imminent:
A) creates too much programmer stress and should be avoided if at all possible.
B) pushes a realistic expectation for completion to the fore.
C) usually results in minimally functional software.
D) actually slows down project development because of numerous avoidable errors.
Answer: B
Diff: 2 Page Ref: 178

25) It has been noted that dividing up groups and setting up barriers often introduce:
A) scrum.
B) dysfunctional pair-programming teams.
C) errors.
D) redundant code for modules.
Answer: C
Diff: 1 Page Ref: 179

6.2 True/False

1) Prototyping is best applied late in the systems development life cycle.
Answer: FALSE
Diff: 1 Page Ref: 155

2) Prototyping is very useful for eliciting user suggestions about changing the prototyped system.
Answer: TRUE
Diff: 1 Page Ref: 155

3) User reactions to prototyping can be gathered through observation, interviews, and questionnaires.
Answer: TRUE
Diff: 1 Page Ref: 156

4) A disadvantage of prototyping is the relatively large expense associated with redirecting system plans.
Answer: FALSE
Diff: 2 Page Ref: 161

5) A prototype that works but is inefficient is referred to as a "first of a series prototype."
Answer: FALSE
Diff: 1 Page Ref: 156

6) Some prototypes are nonworking models.
Answer: TRUE
Diff: 2 Page Ref: 157

7) Prototypes that are full-scaled and installed at one location with the intention of later implementation at other locations are referred to as "selected features prototypes."
Answer: FALSE
Diff: 2 Page Ref: 157

8) Prototyping may be used as a replacement for the systems development life cycle.
Answer: TRUE
Diff: 1 Page Ref: 155

9) One reason that prototyping is useful is that user requirements are likely to change over time.
Answer: TRUE
Diff: 2 Page Ref: 156

10) An advantage of prototyping is that systems will be more thoroughly understood before the system is shaped.
Answer: FALSE
Diff: 2 Page Ref: 158

11) RAD can be thought of as a specific implementation of prototyping.
Answer: TRUE
Diff: 1 Page Ref: 164

12) Users and analysts meet to identify objectives of the application or system in the RAD design workshop phase.
Answer: FALSE
Diff: 1 Page Ref: 164

13) During the requirements planning phase, users respond to actual working prototypes and analysts refine designed modules based on user responses.
Answer: FALSE
Diff: 2 Page Ref: 164

14) The implementation phase of RAD is in many ways less stressful than other phases.
Answer: TRUE
Diff: 1 Page Ref: 166

15) Projects that are subject to constant updating are prone to miscommunication.
Answer: TRUE
Diff: 3 Page Ref: 167

16) Agile projects should begin with the simplest possible tasks.
Answer: TRUE
Diff: 2 Page Ref: 167

17) Feedback gives the analyst the strength to be able to throw out code and rethink solutions.
Answer: FALSE
Diff: 1 Page Ref: 187

18) Source code is the basis for a living system.
Answer: TRUE
Diff: 2 Page Ref: 169

19) In agile development, onsite customers write stories and communicate to team members.
Answer: TRUE
Diff: 1 Page Ref: 171

20) Pair programming means that you work with another programmer assigned by management or the team leader.
Answer: FALSE
Diff: 3 Page Ref: 171

21) Stories in agile development are on spoken interaction between developers and users, not on written communication.
Answer: TRUE
Diff: 3 Page Ref: 172

22) Analysts can best reflect all of the four values through an attitude of humility.
Answer: TRUE
Diff: 2 Page Ref: 167

23) The word agile in Agile modeling implies maneuverability.
Answer: TRUE
Diff: 1 Page Ref: 172

24) Pair programming means that ownership of the design or software itself is shared as in a partnership
Answer: TRUE
Diff: 1 Page Ref: 178

25) A risk to the adoption of agile methodologies for organizations is the cost involved in education and training of systems analysts and programmers in the new approach.
Answer: TRUE
Diff: 1 Page Ref: 181

6.3 Fill-in-the-Blank

1) Building a _____ of information systems is a useful technique for quickly gathering information requirements.
Answer: prototype
Diff: 1 Page Ref: 155

2) A system that has all necessary features but is inefficient is an example of a _____ prototype.
Answer: patched-up
Diff: 1 Page Ref: 156

3) A regional blood inventory system that is instituted in one regional hospital with plans to install the system in the remaining hospitals is an example of a _____ prototype.
Answer: first of a series
Diff: 2 Page Ref: 156

4) A system for which only input and output are prototyped is called a _____.
Answer: non operational prototype
Diff: 2 Page Ref: 157

5) An advantage of prototyping is tied to the fact that user _____ change over time.
Answer: requirements
Diff: 1 Page Ref: 157

6) The first step of prototyping is to estimate _____ involved for building system modules.
Answer: costs
Diff: 1 Page Ref: 158

7) When prototyping, it is essential that analysts work in _____ modules.
Answer: manageable
Diff: 1 Page Ref: 159

8) _____ software, such as Microsoft products or PeopleSoft may be used for prototyping.
Answer: COTS
Diff: 1 Page Ref: 161

9) Users' roles in prototyping can be summed up in two words: honest _____.
Answer: involvement
Diff: 2 Page Ref: 162

10) It is the responsibility of the _____ to translate suggestions and innovations into workable systems.
Answer: analyst
Diff: 1 Page Ref: 163

11) _____ is an object-oriented approach that includes a method of development as well as software tools.
Answer: Rapid application development
Diff: 1 Page Ref: 163

12) In the _____ phase of RAD, users and analysts meet to identify objectives and information requirements arising from those objectives.
Answer: requirements planning
Diff: 1 Page Ref: 164

13) _____ are a collection of innovative, user-centered approaches to systems development.
Answer: Agile methods
Diff: 2 Page Ref: 166

14) The agile approach is based on _____, _____, and _____.
Answer: values; principles; practices
Diff: 1 Page Ref: 166

15) _____ occurs when customers create functional tests for all of the stories that the programmers have subsequently implemented.
Answer: Feedback
Diff: 1 Page Ref: 167

16) _____ can be used to communicate ideas that would otherwise remain fuzzy or unshaped.
Answer: Code
Diff: 1 Page Ref: 169

17) _____ means that you work with another programmer of your own choosing.
Answer: Pair programming
Diff: 1 Page Ref: 171

18) One of the lessons learned from agile development is that short releases allow systems to _____.
Answer: evolve
Diff: 3 Page Ref: 175

19) Analysts can best reflect all of the four values of agile modeling through an attitude of _____.
Answer: humility
Diff: 1 Page Ref: 167

20) A _____ hour work week improves effectiveness.
Answer: 40-hour
Diff: 1 Page Ref: 176

21) _____ is an agile approach based on rugby.
Answer: Scrum
Diff: 3 Page Ref: 175

22) Pair programming means that ownership of the design or software itself is shared as in a _____.
Answer: partnership
Diff: 1 Page Ref: 178

23) The agile philosophy suggests that system developers create a series of deadlines for many _____ of the system.
Answer: releases
Diff: 1 Page Ref: 178

24) _____ is used in agile methodologies to encourage completion of activities in shorter periods.
Answer: Timeboxing
Diff: 3 Page Ref: 179

25) The adoption of _____ methodologies carries with it the risk that systems created with them will not be successful or will not adequately interface with legacy systems.
Answer: agile
Diff: 3 Page Ref: 181

6.4 Short Answer

1) What are the four values of agile modeling?
Answer: The four values are communication, simplicity, feedback, and courage.
Diff: 1 Page Ref: 167

2) What are the four kinds of prototyping?
Answer: 1. Patched-Up Prototype
2. Non operational Prototype
3. Selected Features Prototype
4. First-of-a-Series Prototype
Diff: 2 Page Ref: 156

3) Which type of prototyping would you recommend for an organization with multiple locations around the world, each with similar needs? Why would you choose this method?
Answer: First-of-a-series prototyping would be useful when many installations of the same system are planned.
Diff: 3 Page Ref: 157

4) What are the three phases of Rapid Application Development?
Answer: 1. Requirements planning phase
2. RAD design workshop phase
3. Implementation phase
Diff: 2 Page Ref: 164

5) What are the reasons for why some analysts argue that prototyping should be considered an alternative to the Software Development Life Cycle (SDLC)
Answer: The first concern is the extended time required to go through the development life cycle. As the investment of analyst time increases, the cost of the delivered system rises proportionately. The second concern about using the SDLC is that user requirements change over time, so during the long interval between the time that user requirements are analyzed and the time that the finished system is delivered, user requirements are evolving.
Diff: 3 Page Ref: 157