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2) Mr. King coaches Sally on her project.

(Background on Mr. King, his experience and expectations about working with Sally) During his lunch period, Mr. King logs onto the VSF. Sally's project opens automatically, because that is how he last left MOOsburg. He opens her calendar by selecting Calendar in the Construction menu. It displays the current week, and he can see that she grayed out all the afternoon hours. He presses the Request button and types a brief message: "Can we work starting at 8 PM?" A feedback message confirms that an appointment request has been emailed to Sally Harris. When he checks at home after dinner, he has email from Sally agreeing to the request, so he goes back to the VSF.

Mr. King can see that Sally is already there when he arrives: The Current Visitors list shows her name. When he arrives, his name is added and flashes briefly in red, so Sally notices him arrive and greets him with a chat message. He quickly notes that she has already added several new items—a title page (which is displayed by default in the main view) and a slide show. He selects her name in the Visitors list, and then uses Control+I to see what she is viewing. The miniature window titled Slide Show flashes in red, so he figures she must be working on her slides. Leaving her name selected in the list, he uses Control+F to synchronize his view with hers. His main viewing area updates to display the message, "Slide show being modified." PowerPoint then opens to the side, positioned at the slide she is working on. Mr. King's view of the slides is now controlled by Sally; when she moves to a new slide, so does he. He watches and makes suggestions as she refines the slides, using the text chat.

Sally tells Mr. King that several elements in the template are still empty, but that she has developed most of her material and is about to upload it. Because he is still synchronized with her, he is able to watch this process. She selects a template icon, then selects Get File from the Construction menu. A familiar file-browsing dialog box appears, and he watches as she selects the files from her PC and then presses the Upload button. After each upload, the miniaturized window updates and flashes in red briefly.

Mr. King recognizes the Data Analysis file as an Excel document. Curious, he wonders if he can get to the actual data or if this is just a results presentation. He is unable to open it and is confused for a minute, but then realizes that he is still synchronized with Sally. He quickly presses Control+F to leave this mode, and then double-clicks the Excel icon. As he expected, Excel opens to the side, and he can edit the charted data. He plays with it a bit and is relieved to see that while he can edit the chart inside Excel, he is not allowed to Save changes to Sally's exhibit.

As they work, Mr. King begins to get concerned that Sally is bringing in too much material. She has filled in all the template elements, and added several unique ones of her own,

(continued)

Figure 5.5 Fully detailed interaction scenario describing the coaching activity.

Figure 5.5 *(continued)*

including an Authorware star-model simulation. He types a message reminding her that visitors and judges do not have unlimited time, and need a good first impression. She agrees and they chat for a bit about which of the extra icons really work as part of the overview.

He tries out the simulation. When he selects the icon, he is shown an animated demo in the main view. But then he opens it with a double-click and plays around with it. This time he sees that Sally has allowed him to save his work as a new file. He advises Sally that this could be bad for the exhibit, crowding the display. She agrees, but thinks the visitor experimentation is one of her innovations and will win points with the judges.

Mr. King wants to help with this, so while Sally goes back to refine her title page, he explores the Construction menu; Nested Components looks promising. It is grayed out until he selects an exhibit component, but then he sees a dialog box that prompts uploading of material into a "back layer" of the selected component. He tells Sally about this, and they decide to create and nest a Visitor Experiments folder to hold visitors' contributions.

3) Alicia and Delia go to the science fair.

(Background on Alicia, her attitudes about science fairs, motivations regarding Delia, and so on.) Delia calls her mom over to see an email reminder about the virtual science fair. She points to the underlined text and says that it's a URL and they can go right now if she wants. So they do.

When they arrive, Alicia sees that they are in MOOsburg (she has recently worked with some Tech grad students to create a site for her store). She recognizes the layout—a main view in the top, a map in the lower right with a green dot indicating their position, various icons placed around in the view, and a chat tool in the lower left. But the map is not of Blacksburg as usual; after looking for a moment, she recognizes the floor plan of the high school, and shows Delia the main office where she worked for a while. She can see by the green dot that the VSF is located in the high school gym; the panorama photo in the main view reinforces this, and she even sees the bleachers to the side.

There are lots of objects in the main view. A banner on the back wall welcomes them, thanks the organizers, and announces that judging will be on Thursday. They see other visitors—Alicia explains to Delia that some of them have custom icons because they have edited their personal profiles. Delia and she show up as the default "middle-school girl"

Figure 5.6   Fully detailed interaction scenario describing the visiting activity.

icon because Delia has never changed this part of her profile. Their icon flashes red briefly, which Delia finds a bit embarrassing; she hates to be noticed in a crowd.

There are also a number of objects that Alicia and Delia infer are exhibits: They all have the same icon, a miniature board with graphics; Alicia sees her neighbor Jeff Smith's name underneath one. Delia points to some black and yellow flags across some of the exhibits, suggesting that these must be "under construction."

Delia starts to open an exhibit in the middle with lots of people around it, but then Alicia notices her friend Marge. She tries the technique she has used elsewhere in MOOsburg, selecting Marge's icon and then using "Control+I" to see if she is working with anything. An exhibit with the label "Sally Harris" flashes briefly in red, so they decide to open this one instead.

The exhibit appears in a separate window. Like the VSF itself, it has a main view that is currently showing Sally's title page, "Black Holes: Magnets of the Universe!" In place of the map in the lower left, Alicia sees a group of what appear to be miniature windows. The one labeled "Title Page" is currently selected, and when she selects "Abstract," the main view updates its content to show a brief paragraph introducing the exhibit. There is a list of visitors to the left, a list of exhibit tools, and a chat window. As before, Delia's name flashes in red for a few seconds when they arrive, and Marge and Sally pause their conversation to say hi.

Alicia and Delia don't want to interrupt, so they explore the other exhibit elements. Alicia is impressed when Delia recognizes the Excel file, opens it, and starts playing around with Sally's data; she didn't realize until now how much computer software Delia has been learning about in science classes. When they start up the slide show, they hear Sally's voice-over explaining key points.

Delia notices an FAQ board as part of the exhibit. By now she is very comfortable with the little windows, so she double-clicks to open it on the side. She sees that questions have people's names attached; in fact she discovers a question left by her friend Martin. She elaborates on his question and is a bit surprised when the VSF tells her that he has been sent a notice of the updated discussion—now he is sure to tease her in school tomorrow!

Alicia is curious about something labeled "Star Model." When she clicks on it, they see an animation of a black hole gradually sucking in surrounding stars. They wonder whether this element is also interactive like the Excel file, so they double-click. Sure enough, a separate window opens to the side, displaying Sally's simulation model, along with sug-gestions about experiments, and a folder of earlier experiments. When they select one created by Martin, yet another window opens and shows Martin's animation. They don't have time to make their own right now. But Delia thinks this is neat, so she plans to come back later with her friend Heather.