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1 import {
2   Stitch,
3   RemoteMongoClient,
4   StitchAppClient,
5   AnonymousCredential,
6   RemoteMongoDatabase,
7   StitchUser
8 } from 'mongodb-stitch-browser-sdk';
9 import { ObjectId } from 'bson';
10
11
12 /**
13  * Type of log. Holds both the event and details fields when it comes to CSV file
14  * generation.
15  */
16 export enum LogItemType {
17   CREATE_START,
18   CREATE_PASSWORD,
19   CREATE_RESET,
20   CREATE_READY,
21   CONFIRM_SHOW,
22   CONFIRM_INCORRECT,
23   CONFIRM_CORRECT,
24   CONFIRM_COMPLETE,
25   TEST_SHOW,
26   TEST_INCORRECT,
27   TEST_FAIL,
28   TEST_PASS,
29   FINISH
30 }
31
32 /**
33  * Document holding a specific log
34  */
35 export class LogItem {
36   _id: ObjectId | undefined;
37   readonly scheme: string = "colourCircles";
38   readonly mode: string = "9:0-7";
39
40   constructor(
41     private time: Date,
42     private userId: ObjectId,
43     private site: string, // type
44     private eventAndDetails: LogItemType, // event_details (separated by an
underscore)
45     private data: string,
46     private progressId: ObjectId
47   ) { }
48
49   // convert the object to Atlas-friendly JSON
50   toJSON() {
51     return {
52       time: this.time.getTime(),
53       userId: this.userId,
54       site: this.site,
55       scheme: this.scheme,
56       mode: this.mode,
57       eventAndDetails: LogItemType[this.eventAndDetails],
58       data: this.data,
59       progressId: this.progressId
60     }

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61 }
62
63 // build an object from Atlas
64 static fromJSON(json: any): LogItem {
65     const eventAndDetails: LogItemType = (LogItemType as any)[json.eventAndDetails];
66     const item = new LogItem(
67         new Date(json.time),
68         json.userId,
69         json.site,
70         eventAndDetails,
71         json.data,
72         json.progressId
73     );
74     item._id = json._id;
75     return item;
76 }
77 }
78
79 /**
80  * Document holding the progress of a participant through the entire process.
81  */
82 export class ProgressItem {
83     _id: ObjectId | undefined;
84
85     constructor(
86         private userId: ObjectId,
87         private userName: string, // participant number === `Participant ${i}`
88         private emailPassword: string,
89         private bankingPassword: string,
90         private shoppingPassword: string,
91         private testedEmail: boolean,
92         private testedBanking: boolean,
93         private testedShopping: boolean
94     ) { }
95
96     // convert the object to Atlas-friendly JSON
97     toJSON() {
98         return {
99             userId: this.userId,
100             userName: this.userName,
101             emailPassword: this.emailPassword,
102             bankingPassword: this.bankingPassword,
103             shoppingPassword: this.shoppingPassword,
104             testedEmail: this.testedEmail,
105             testedBanking: this.testedBanking,
106             testedShopping: this.testedShopping
107         }
108     }
109
110     // build an object from Atlas
111     static fromJSON(json: any): ProgressItem {
112         const progress = new ProgressItem(
113             json.userId,
114             json.userName,
115             json.emailPassword,
116             json.bankingPassword,
117             json.shoppingPassword,
118             json.testedEmail,
119             json.testedBanking,
120             json.testedShopping
121         );

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122     progress._id = json._id;
123     return progress;
124 }
125 }
126
127 /**
128  * Service class (provides the main functionality)
129  */
130 export class StitchService {
131     private static client: StitchAppClient;
132     private static db: RemoteMongoDatabase;
133     private static readonly PROGRESS_COL = "progress";
134     private static readonly LOGS_COL = "logs";
135
136     // connect to MongoDB Stitch and Atlas
137     constructor() {
138         if (!StitchService.client) {
139             const client = StitchService.client =
140                 Stitch.initializeDefaultAppClient("comp-3008-project-jjpdf");
141             const mongodb = client.getServiceClient(
142                 RemoteMongoClient.factory,
143                 "mongodb-atlas"
144             );
145             StitchService.db = mongodb.db("database");
146         }
147     }
148
149     isLoggedIn() {
150         return StitchService.client.auth.isLoggedIn;
151     }
152
153     /**
154     * authenticate the user anonymously
155     */
156     login(): Promise<StitchUser> {
157         if (!StitchService.client.auth.isLoggedIn) {
158             return Stitch.defaultAppClient.auth
159                 .loginWithCredential(new AnonymousCredential());
160         } else return Promise.resolve(this.getStitchUser());
161     }
162
163     logout() {
164         StitchService.client.auth.logout();
165     }
166
167     getStitchUser(): StitchUser {
168         const user = StitchService.client.auth.user;
169         if (user === undefined) throw new Error("user is not logged in");
170         return user;
171     }
172
173     /**
174     * initiates a new progress document for a participant
175     * @param stitchUser the participant
176     */
177     startProgress(stitchUser: StitchUser): Promise<ProgressItem> {
178         return new Promise((resolve, reject) => {
179             const participantNum = prompt("Please enter your participant number");
180             if (participantNum === "") return reject("you must enter a participant
181 number");
182             const progress = new ProgressItem(

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182         new ObjectId(stitchUser.id),
183         `Participant ${participantNum}`,
184         "", "", "", false, false, false
185     );
186     console.log(progress.toJSON());
187     StitchService.db.collection(StitchService.PROGRESS_COL)
188         .insertOne(progress.toJSON())
189         .then(result => {
190             progress._id = result.insertedId;
191             resolve(progress);
192         })
193         .catch(reject);
194     })
195 }
196
197 /**
198  * Retrieves the progress document for a participant
199  * @param progressId
200  */
201 getProgress(progressId: string): Promise<ProgressItem | null> {
202     return new Promise((resolve, reject) => {
203         console.log(progressId);
204         StitchService.db.collection(StitchService.PROGRESS_COL)
205             .findOne({ _id: new ObjectId(progressId) })
206             .then(res => resolve(res ? ProgressItem.fromJSON(res) : null))
207             .catch(reject);
208     });
209 }
210
211 /**
212  * Updates a participant's progress
213  * @param progress
214  */
215 updateProgress(progress: ProgressItem): Promise<void> {
216     return new Promise((resolve, reject) => {
217         StitchService.db.collection(StitchService.PROGRESS_COL)
218             .updateOne({ _id: new ObjectId(progress._id) }, progress.toJSON())
219             .then(() => resolve())
220             .catch(reject);
221     });
222 }
223
224 /**
225  * Posts a log to the database
226  * @param log
227  */
228 postLog(log: LogItem): Promise<LogItem> {
229     return new Promise((resolve, reject) => {
230         StitchService.db.collection(StitchService.LOGS_COL)
231             .insertOne(log.toJSON())
232             .then(result => {
233                 log._id = result.insertedId;
234                 resolve(log);
235             })
236             .catch(reject);
237     });
238 }
239 }
240

```