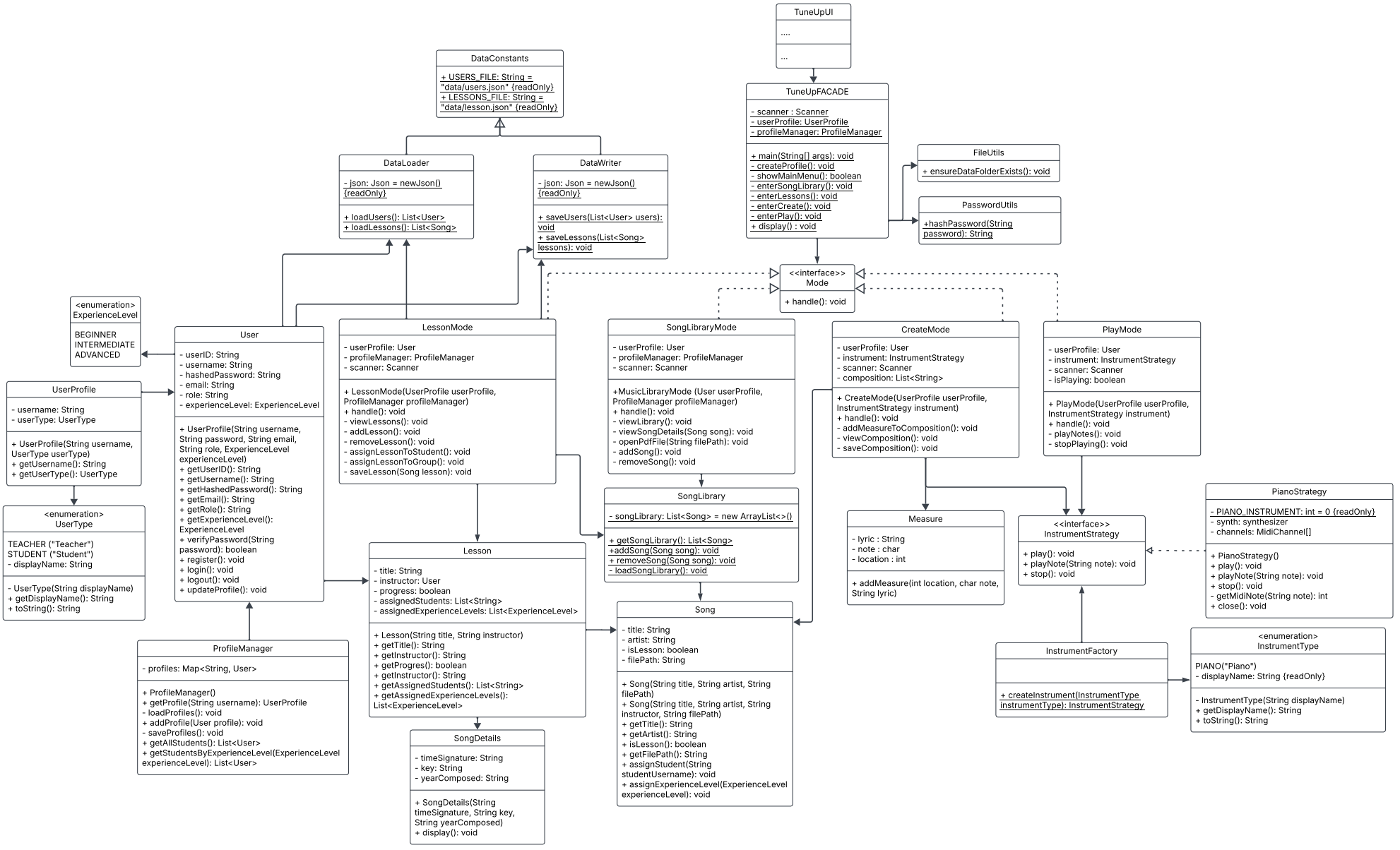
TuneUpUI
....
...
TuneUpFACADE
- scanner : Scanner
- userProfile: UserProfile
- profileManager: ProfileManager
+ main(String[] args): void
- createProfile(): void
- showMainMenu(): boolean
- enterSongLibrary(): void
- enterLessons(): void
- enterCreate(): void
- enterPlay(): void
+ display() : void
FileUtils
+ ensureDataFolderExists(): void
PasswordUtils
+hashPassword(String password): String
DataConstants
+ USERS_FILE: String = "data/users.json" {readOnly}
+ LESSONS_FILE: String = "data/lesson.json" {readOnly}
DataLoader
- json: Json = newJson() {readOnly}
+ loadUsers(): List<User>
+ loadLessons(): List<Song>
DataWriter
- json: Json = newJson() {readOnly}
+ saveUsers(List<User> users): void
+ saveLessons(List<Song> lessons): void
<<interface>> Mode
+ handle(): void
<enumeration> ExperienceLevel
BEGINNER
INTERMEDIATE
ADVANCED
User
- userID: String
- username: String
- hashedPassword: String
- email: String
- role: String
- experienceLevel: ExperienceLevel
+ UserProfile(String username, String password, String email, String role, ExperienceLevel experienceLevel)
+ getUserID(): String
+ getUsername(): String
+ getHashedPassword(): String
+ getEmail(): String
+ getRole(): String
+ getExperienceLevel(): ExperienceLevel
+ verifyPassword(String password): boolean
+ register(): void
+ login(): void
+ logout(): void
+ updateProfile(): void
UserProfile
- username: String
- userType: UserType
+ UserProfile(String username, UserType userType)
+ getUsername(): String
+ getUserType(): UserType
<enumeration> UserType
TEACHER ("Teacher")
STUDENT ("Student")
- displayName: String
- UserType(String displayName)
+ getDisplayName(): String
+ toString(): String
LessonMode
- userProfile: User
- profileManager: ProfileManager
- scanner: Scanner
+ LessonMode(UserProfile userProfile, ProfileManager profileManager)
+ handle(): void
- viewLessons(): void
- addLesson(): void
- removeLesson(): void
- assignLessonToStudent(): void
- assignLessonToGroup(): void
- saveLesson(Song lesson): void
SongLibraryMode
- userProfile: User
- profileManager: ProfileManager
- scanner: Scanner
+MusicLibraryMode (User userProfile, ProfileManager profileManager)
+ handle(): void
- viewLibrary(): void
- viewSongDetails(Song song): void
- openPdfFile(String filePath): void
- addSong(): void
- removeSong(): void
CreateMode
- userProfile: User
- instrument: InstrumentStrategy
- scanner: Scanner
- composition: List<String>
+ CreateMode(UserProfile userProfile, InstrumentStrategy instrument)
+ handle(): void
- addMeasureToComposition(): void
- viewComposition(): void
- saveComposition(): void
PlayMode
- userProfile: User
- instrument: InstrumentStrategy
- scanner: Scanner
- isPlaying: boolean
+ PlayMode(UserProfile userProfile, InstrumentStrategy instrument)
+ handle(): void
- playNotes(): void
- stopPlaying(): void
SongLibrary
- songLibrary: List<Song> = new ArrayList<>()
+ getSongLibrary(): List<Song>
+addSong(Song song): void
+ removeSong(Song song): void
- loadSongLibrary(): void
Measure
- lyric : String
- note : char
- location : int
+ addMeasure(int location, char note, String lyric)
<<interface>> InstrumentStrategy
+ play(): void
+ playNote(String note): void
+ stop(): void
PianoStrategy
- PIANO_INSTRUMENT: int = 0 {readOnly}
- synth: synthesizer
- channels: MidiChannel[]
+ PianoStrategy()
+ play(): void
+ playNote(String note): void
+ stop(): void
- getMidiNote(String note): int
+ close(): void
Lesson
- title: String
- instructor: User
- progress: boolean
- assignedStudents: List<String>
- assignedExperienceLevels: List<ExperienceLevel>
+ Lesson(String title, String instructor)
+ getTitle(): String
+ getInstructor(): String
+ getProgres(): boolean
+ getInstructor(): String
+ getAssignedStudents(): List<String>
+ getAssignedExperienceLevels(): List<ExperienceLevel>
Song
- title: String
- artist: String
- isLesson: boolean
- filePath: String
+ Song(String title, String artist, String filePath)
+ Song(String title, String artist, String instructor, String filePath)
+ getTitle(): String
+ getArtist(): String
+ isLesson(): boolean
+ getFilePath(): String
+ assignStudent(String studentUsername): void
+ assignExperienceLevel(ExperienceLevel experienceLevel): void
ProfileManager
- profiles: Map<String, User>
+ ProfileManager()
+ getProfile(String username): UserProfile
- loadProfiles(): void
+ addProfile(User profile): void
- saveProfiles(): void
+ getAllStudents(): List<User>
+ getStudentsByExperienceLevel(ExperienceLevel experienceLevel): List<User>
SongDetails
- timeSignature: String
- key: String
- yearComposed: String
+ SongDetails(String timeSignature, String key, String yearComposed)
+ display(): void
InstrumentFactory
+ createInstrument(InstrumentType instrumentType): InstrumentStrategy
<enumeration> InstrumentType
PIANO("Piano")
- displayName: String {readOnly}
- InstrumentType(String displayName)
+ getDisplayName(): String
+ toString(): String