Test Plan and Strategy

- This project has undergone automated testing using java file.
- This automated testing covers major input validation. When compared to manual testing, the automated testing technique is more convenient.
- Every method in the Genealogy Class has been tested using their parameter
- Test cases were created with input parameters in mind, such as the fact that no arguments should be null or empty.
- Following test cases have been tested and documented
  - Input Validation test cases
  - Boundary test cases
  - Control flow test cases

Test Cases

Input validation tests. *(Generally, tests on bad input data for which you shouldn't crash)*

Family Tree Management

Method 1: PersonIdentity addPerson(String name)

- Name is null
- Name is empty

Method 2: Boolean recordAttributes(PersonIdentity person, Map<String, String> attributes)

- PersonIdentity object is null
- Attribute value personDOB is null
- Attribute value personDOB is empty
- Attribute value personGender is null
- Attribute value personGender is empty
- Attribute value personOccupation is null
- Attribute value personOccupation is empty

Method 3: Boolean recordReference(PersonIdentity person, String reference)

- PersonIdentity object is null
- Reference is null
- Reference is empty

Method 4: Boolean recordNote(PersonIdentity person, String note)

- PersonIdentity object is null
- Note is null
- Note is empty

Method 5: Boolean recordChild(PersonIdentity parent, PersonIdentity child)

- PersonIdentity parent object is null
- PersonIdentity child object is null

Method 6: Boolean recordPartnering(PersonIdentity partner1, PersonIdentity partner2)

- PersonIdentity partner1 object is null
- PersonIdentity partner2 object is null

Method 7: Boolean recordDissolution(PersonIdentity partner1, PersonIdentity partner2)

- PersonIdentity partner1 object is null
- PersonIdentity partner2 object is null

Media Archive Management

Method 1: FileIdentifier addMediaFile(String fileLocation)

- Filelocation is null
- Filelocation is empty

Method 2: Boolean recordMediaAttributes(FileIdentifier fileIdentifier, Map<String, String> attributes)

- FileIdentifier object is null
- Attribute value mediaYear is null
- Attribute value mediaYear is empty
- Attribute value mediaDate is null
- Attribute value mediaDate is empty
- Attribute value mediaCity is null
- Attribute value mediaCity is empty

Method 3: Boolean peopleInMedia(FileIdentifier fileIdentifier, List<PersonIdentity> people)

- FileIdentifier object is null
- List people is empty
- Object in the people list is empty
- Object in the people list is null

Method 4: Boolean tagMedia(FileIdentifier fileIdentifier, String tag)

- FileIdentifier object is null
- Tag is null
- Tag is empty

Reporting

Method 1: PersonIdentity findPerson(String name)

- Name is null
- Name is empty

Method 2: FileIdentifier findMediaFile(String name)

- Name is null
- Name is empty

Method 3: String findName(PersonIdentity id)

- PersonIdentity is null

Method 4: String findMediaFile(FileIdentifier fileId)

- FileIdentifier is null

Method 5: BiologicalRelation findRelation(PersonIdentity person1, PesonIdentity person2)

- PersonIdentity person1 is null
- PersonIdentity person2 is null

Method 6: Set<PersonIdentity> descendents(PersonIdentity person, Integer generations)

- PersonIdentity person is null
- generation is empty
- generation is 0
- generation is negative

Method 7: Set<PersonIdentity> ancestores (PersonIdentity person, Integer generations)

- PersonIdentity person is null
- generation is empty
- generation is 0
- generation is negative

Method 8: List<String> notesAndReferences(PersonIdentity person)

- PersonIdentity person is null

Method 9: Set<FileIdentifier> findMediaByTag(String tag , String startDate, String endDate)

- Tag is empty
- Tag is null
- startDate is null
- startDate is empty
- endDate is null
- endDate is empty

Method 10: Set<FileIdentifier> findMediaByLocation (String tag , String startDate, String endDate)

- Tag is empty
- Tag is null
- startDate is null
- startDate is empty
- endDate is null
- endDate is empty

Method 11: List<FileIdentifier> findIndividualsMedia(Set<PersonIdentity> people, String startDate, String endDate)

- Objects in people is empty
- Set people is empty
- startDate is null
- startDate is empty
- endDate is null
- endDate is empty

Method 12: List<FileIdentifier> findBiologicalFamilyMedia(PersonIdentity person)

- PersonIdentity object is null

Boundary Cases. *(Tests at the edge of inputs or problem structures)*

Family Tree Management

Method 1: PersonIdentity addPerson(String name)

- 1 character name

Method 2: Boolean recordAttributes(PersonIdentity person, Map<String, String> attributes)

- 1 character Attribute value personDOB
- 1 character Attribute value personGender
- 1 character Attribute value personOccupation

Method 3: Boolean recordReference(PersonIdentity person, String reference)

- 1 character Reference

Method 4: Boolean recordNote(PersonIdentity person, String note)

- 1 character Note is null

Media Archive Management

Method 1: FileIdentifier addMediaFile(String fileLocation)

- 1-character Filelocation

Method 2: Boolean recordMediaAttributes(FileIdentifier fileIdentifier, Map<String, String> attributes)

- 1 character Attribute value mediaYear
- 1 character Attribute value mediaDate
- 1 character Attribute value mediaCity

Method 3: Boolean peopleInMedia(FileIdentifier fileIdentifier, List<PersonIdentity> people)

- FileIdentifier object is null
- 1 Object in the people list

Method 4: Boolean tagMedia(FileIdentifier fileIdentifier, String tag)

- 1 character Tag

Reporting

Method 1: PersonIdentity findPerson(String name)

- 1 character name is null

Method 2: FileIdentifier findMediaFile(String name)

- 1 character Name is null

Method 6: Set<PersonIdentity> descendents(PersonIdentity person, Integer generations)

- generation is 1

Method 7: Set<PersonIdentity> ancestores (PersonIdentity person, Integer generations)

- generation is 1

Method 9: Set<FileIdentifier> findMediaByTag(String tag , String startDate, String endDate)

- 1 character Tag

Method 10: Set<FileIdentifier> findMediaByLocation (String tag , String startDate, String endDate)

- 1 character Tag

Control Flow Test Cases (Tests of the core operations)

Family Tree Management

Method 1: PersonIdentity addPerson(String name)

- addPerson is added when no person exists
- addPerson is added when 1 person exists
- addPerson is added when multiple persons exist

Method 2: Boolean recordAttributes(PersonIdentity person, Map<String, String> attributes)

- recordAttributes for person when no attribute recorded

Method 3: Boolean recordReference(PersonIdentity person, String reference)

- Record Reference when no reference is recorded
- Record Reference when 1 reference is recorded
- Record Reference when multiple references are recorded
- Record Reference when same reference exists (Duplicate Reference)

Method 4: Boolean recordNote(PersonIdentity person, String note)

- Record N ote when no reference is recorded
- Record Note when 1 reference is recorded
- Record Note when multiple references are recorded
- Record Note when same reference exists (Duplicate Reference)

Method 5: Boolean recordChild(PersonIdentity parent, PersonIdentity child)

- Record Child when parent has not no child
- Record Child when parent has 1 child
- Record Child when parent has multiple children
- Record Child when child has not parent
- Record Child when child has 1 parent
- Record Child when child has multiple parent

Method 6: Boolean recordPartnering(PersonIdentity partner1, PersonIdentity partner2)

- Record Partnering when no partnering exists between partner1 and partner2
- Record Partnering when partner1 and partner2 are already partner
- Record Partnering when partner1 is already partnered with someone
- Record Partnering when partner2 is already partnered with someone

Method 7: Boolean recordDissolution(PersonIdentity partner1, PersonIdentity partner2)

- Record Dissolution when no partnering exists between partner1 and partner2
- Record Dissolution when partner1 and partner2 are already dissolved

Media Archive Management

Method 1: FileIdentifier addMediaFile(String fileLocation)

- Add Media when no media file exists
- Add Media when 1 media file exists
- Add Media when multiple media file exists

Method 2: Boolean recordMediaAttributes(FileIdentifier fileIdentifier, Map<String, String> attributes)

- Record Attributes for media file when no attribute recorded

Method 3: Boolean peopleInMedia(FileIdentifier fileIdentifier, List<PersonIdentity> people)

- 0 people in media file
- 1 people in media file
- Multiple people in media file

Method 4: Boolean tagMedia(FileIdentifier fileIdentifier, String tag)

- Add tag to media when no tag exists
- Add tag to media when 1 tag exists
- Add tag to media when multiple tags exist

Reporting

Method 1: PersonIdentity findPerson(String name)

- Find person when no PersonIdentity object exists
- Find person when one PersonIdentity object exists
- Find person when multiple PersonIdentity object exists
- Find person when duplicate name exists

Method 2: FileIdentifier findMediaFile(String name)

- Find media when no FileIdentifier object exists
- Find media when one FileIdentifier object exists
- Find media when multiple FileIdentifier object exists
- Find media when duplicate name exists

Method 5: BiologicalRelation findRelation(PersonIdentity person1, PesonIdentity person2)

- Find relation when no relation exists between person1 and person 2
- Find relation when relation exists between person 1 and person 2

Method 6: Set<PersonIdentity> descendents(PersonIdentity person, Integer generations)

- Find descendent when generation is greater than family tree
- Find descendent when person has zero descendent
- Find descendent when person has one descendent
- Find descendent when person has multiple descendent

Method 7: Set<PersonIdentity> ancestores (PersonIdentity person, Integer generations)

- Find ancestors when generation is greater than family tree
- Find ancestors when person has zero descendent
- Find ancestors when person has one descendent
- Find ancestors when person has multiple descendent

Method 8: List<String> notesAndReferences(PersonIdentity person)

- Find notes and references when person has zero note and zero references
- Find notes and references when person has one note, and one references
- Find notes and references when person has multiple note and multiple references

Method 9: Set<FileIdentifier> findMediaByTag(String tag , String startDate, String endDate)

- Find mediabytag when media is linked to zero tag
- Find mediabytag when media is linked to one tag
- Find mediabytag when media is linked to media tag
- Find mediabytag when startDate and endDate is not null
- Find mediabytag when startDate is null and endDate is not null
- Find mediabytag when startDate is nor null and endDate is null
- Find mediabytag when startDate is null and endDate is null
- Find mediabytag when no media file exists between startDate and endDate
- Find mediabytag when one media file exists between startDate and endDate
- Find mediabytag when multiple media file exists between startDate and endDate

Method 10: Set<FileIdentifier> findMediaByLocation (String location , String startDate, String endDate)

- Find MediaByLocation when media is linked to zero location
- Find MediaByLocation when media is linked to one location
- Find MediaByLocation when media is linked to media location
- Find MediaByLocation when startDate and endDate is not null
- Find MediaByLocation when startDate is null and endDate is not null

- Find MediaByLocation when startDate is nor null and endDate is null
- Find MediaByLocation when startDate is null and endDate is null
- Find MediaByLocation when no media file exists between startDate and endDate
- Find MediaByLocation when one media file exists between startDate and endDate
- Find MediaByLocation when multiple media file exists between startDate and endDate

Method 11: List<FileIdentifier> findIndividualsMedia(Set<PersonIdentity> people, String startDate, String endDate)

- Find individuals in media when startDate and endDate is not null
- Find individuals in media when startDate is null and endDate is not null
- Find individuals in media when startDate is nor null and endDate is null
- Find individuals in media when startDate is null and endDate is null
- Find individuals in media when no media file exists between startDate and endDate
- Find individuals in media when one media file exists between startDate and endDate
- Find individuals in media when multiple media file exists between startDate and endDate

Method 12: List<FileIdentifier> findBiologicalFamilyMedia(PersonIdentity person)

- Find Biological family media when person has zero child
- Find Biological family media when person has one child
- Find Biological family media when person has multiple child