

CSCI 3901 FINAL PROJECT – Blackbox Tests and Plan of Feature Development

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Blackbox Tests:

- Add a person when there are no persons in the database
- Add a person when there are multiple persons in the database
- An Empty name is given to a person while adding
- Null is given to a person
- Add a person when there's a person with the same name exists in the database
- Name with special characters and numbers in between (Alphanumeric names) is passed

- Record attributes to a non-existing person in the database
- Record the date of birth for an existing person
- Record the date of birth with year of birth
- Record the date of birth without year of birth
- Record the date of birth with month of birth
- Record the date of birth without month of birth
- Record the date of birth with day of birth
- Record the date of birth without day of birth
- Record the date of birth that is in future
- Record duplicate date of birth for a person with already existing date of birth in the database
- Record location of birth for an existing person
- Record the date of birth with alphabets in between when the date of birth is stored as a string
- Record duplicate location of birth for a person with already existing location of birth in the database
- Record the date of death that is after date of birth for a person with date of birth in the database
- Record the date of death that is before date of birth for a person with date of birth in the database
- Record the date of death with year of birth
- Record the date of death without year of birth
- Record the date of death with month of birth
- Record the date of death without month of birth
- Record the date of death with day of birth
- Record the date of death without day of birth

- Record the date of death that is in future
- Record the date of death with alphabets in between when the date of death is stored as a string
- Record duplicate date of birth for a person with already existing date of birth in the database
- Record the location of death for an existing person
- Record duplicate location of death for a person with already existing location of death in the database
- Record gender of an existing person in the database
- Record duplicate gender for a person with already existing gender in the database
- Record occupation of an existing person in the database
- Record duplicate occupation for a person with already existing occupation in the database

- Record reference material for a non-existing person in the database
- Record the first reference material for an existing person in the database
- Record the second reference material for an existing person in the database
- Record a reference material for an existing person with multiple references already existing to that person in the database
- Record a duplicate reference material that already exists for the person
- Record a note for a non-existing person in the database
- Record the first note for an existing person in the database
- Record the second note for an existing person in the database
- Record a note for an existing person with multiple notes already existing to that person in the database
- Record a duplicate note that already exists for the person
- Record a child relationship for a non-existing person in the database
- Record a child relationship for an existing person in the database
- Record multiple child relations for an existing person in the database
- Record a parent relationship for a non-existing person in the database
- Record a parent relation for an existing person in the database
- Record a second parent relation for an existing person in the database
- Record multiple parent relations for an existing person in the database
- Record a duplicate parent-child relationship when there is already existing one
- Create a parent-child relationship between two existing persons in the database where parent's date of birth (if exists in the database) is before the child's date of birth (if exists in the database)
- Create a parent-child relationship between two existing persons in the database where parent's date of birth (if exists in the database) is after the child's date of birth (if exists in the database)
- Create a parent-child relationship between two existing persons in the database where parent's date of death (if exists in the database) is after the child's date of birth (if exists in the database)

- Create a parent-child relationship between two existing persons in the database where parent's date of death (if exists in the database) is before the child's date of birth (if exists in the database)
 - Record partnering relation between two persons non-existing in the database
 - Record partnering relation between one person existing in the database and the other person not existing in the database
 - Record partnering relation between two persons existing in the database
 - Record partnering relation between two partners where there is already a partnering relation exists between them
 - Record partnering relation between two partners where one partner already has a partnering relation with some other partner
 - Record partnering relation between two partners where both partners having partnering relations with some other partners
 - Record partnering relation between two partners where one partner's date of birth (if exists in the database) is after the date of birth (if exists in the database) of the second partner
 - Record partnering relation between two partners where one partner's date of death (if exists in the database) is after the date of birth (if exists in the database) of the second partner
 - Record partnering relation between two partners where one partner's date of death (if exists in the database) is before the date of birth (if exists in the database) of the second partner
 - Record a dissolution of partnering relation between two persons non-existing in the database
 - Record a dissolution of partnering relation between one person existing in the database and the other person not existing in the database
 - Record a dissolution of partnering relation between two persons existing in the database
 - Record a duplicate dissolution for two partners when the same dissolution already recorded in the database
 - Record a dissolution of a partnering relation between two partners with partnering relation between them
 - Record a dissolution of a partnering relation between two persons without a partnering relation between them
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- Add a media file to the media archive with correct file location/path
 - Add a media file to the media archive with incorrect file location/path
 - Add a media file to the media archive with format specified (Photo/Audio/Video/etc.)
 - Add a media file to the media archive with format unspecified
 - Add a media file to the media archive when there are no media files existing in the media archive
 - Add a media file to the media archive when there are multiple media files existing in the media archive

- Add a duplicate media file to the media archive that already exists in the media archive
- Add a media file when file location is null
- Add a media file when file location is empty

- Record media attributes for a file not existing in the media archive
- Record year that is in the past for a file existing in the media archive
- Record year that is in future for a file existing in the media archive
- Record date that is in future for a file existing in the media archive
- Record date that is in past for a file existing in the media archive
- Record a city name for a file, existing in the database, where the file was taken
- Record any other attributes corresponding to the media file existing in the database

- Record a list of people, existing in the family database, appear in the given media file with valid file identifier
- Record a list of people, non-existing in the family database, appear in the given media file with valid file identifier
- Record a list of people, existing in the family database, appear in the given media file with invalid file identifier
- Record a duplicate list of people as appearing in the given media file when there's already the exact list of people stored for the media file
- Record a list of people as appearing in the given media file when there's another different list of people stored for the media file
- Record a list of people as appearing in the given media file where a person's date of birth (if exists in the database) is after the file's date (if exists in the media archive)
- Record a list of people as appearing in the given media file where many persons' date of birth (if exists in the database) is after the file's date (if exists in the media archive)
- Record a list of people as appearing in the given media file where all persons' date of birth (if exists in the database) is after the file's date (if exists in the media archive)
- Record a list of people as appearing in the given media file where a person's date of death (if exists in the database) is before the file's date (if exists in the media archive)
- Record a list of people as appearing in the given media file where many persons' date of death (if exists in the database) is before the file's date (if exists in the media archive)
- Record a list of people as appearing in the given media file where all persons' date of death (if exists in the database) is before the file's date (if exists in the media archive)

- Record a tag for a media file with a file identifier non-existing in the media archive
- Record the first tag for a media file with a valid file identifier
- Record a tag for a media file when there is one or more tags already there for the file
- Record a duplicate tag for a media file with a valid file identifier

- Record an empty tag for a media file existing in the media archive
- Record a null tag for a media file existing in the media archive

- An empty string is passed as name to find a person
- null is passed as name to find a person
- Find a person when there is no person recorded in the family tree
- Locate an individual in the family tree when there is only one person in the family tree
- Locate an individual in the family tree when there is more than one person in the family tree
- A name that is not in the database is passed to find a person

- An empty string is passed as name to find a media file
- null is passed as name to find a media file
- Find a media file when there is no media file recorded in the media archive
- Locate a media file in the family tree when there is only one media file in the media archive
- Locate a media archive in the family tree when there is more than one media file present in the media file
- A name that is not in the media archive is passed to find a media file

- Find the name of an individual using ID and there's no person recorded in the database
- Find the name of an individual using ID and there's only one person recorded in the database
- Find the name of an individual using ID and there is more than one person recorded in the database
- An ID that is not present in the database is used to find the name

- Find the name of the media file using field and there's no person recorded in the database
- Find the name of the media file using field and there's only one person recorded in the database
- Find the name of the media file using field and there is more than one person recorded in the database
- A field that is not present in the database is used to find the media file

- Find relation between two persons X and Y when there is only one person ever recorded in the database
- Find relation between two persons X and Y when there is more than one person recorded in the database
- Find relation between two persons X and Y when both exist in the database

- Find relation between two persons X and Y when only one of them exist in the database
- Find relation between two persons X and Y when none of them exist in the database
- Find descendents of a person X for Z 'generations' number away when the person is not existent in the database
- Find descendents of a person X for Z 'generations' number away when the person is existent in the database
- Find descendents of a person X for Z 'generations' number away when there are no descendents available at that number of 'generations'
- Find descendents of a person X when there is only one person recorded in the database
- Find the descendents of a person X when there is more than one person recorded in the database
- Find the descendents of a person X when there is no person ever recorded in the database
- Find ancestors of a person X for Z 'generations' number away when the person is not existent in the database
- Find ancestors of a person X for Z 'generations' number away when the person is existent in the database
- Find ancestors of a person X for Z 'generations' number away when there are no ancestors available at that number of 'generations'
- Find ancestors of a person X when there is only one person recorded in the database
- Find the ancestors of a person X when there is more than one person recorded in the database
- Find the ancestors of a person X when there is no person ever recorded in the database
- Find notes and references when the given person is not existent in the database
- Find notes and references when the given person is existent in the database
- Find notes and references of an existing person in the database when there is no notes and reference linked to the person
- Find notes and references of an existing person in the database when there is one note and reference linked to the person
- Find notes and references of an existing person in the database when there are many notes and references linked to the person
- Find notes and references of a given person when there's only one person ever recorded in the database
- Find notes and references of a given person when there's more than one person ever recorded in the database
- Find notes and references of a given person when there's no person ever recorded in the database
- Find the set of media files linked to a given tag and date range when the tag exists in the media archive

- Find the set of media files linked to a given tag and date range when the tag doesn't exist in the media archive
 - Find the set of media files linked to a given tag and date range when there are no media files exist in the given date range
 - Find the set of media files linked to a given tag and date range when there are media files exist in the given date range
 - Find the set of media files linked to a given tag and date range when the given start date is before the given end date
 - Find the set of media files linked to a given tag and date range when the given start date is after the given end date
 - Find the set of media files linked to a given tag and date range when the given start date is null
 - Find the set of media files linked to a given tag and date range when the given end date is null
 - Find the set of media files linked to a given tag and date range when the given start date and the given end date are null
 - Find the set of media files linked to a given tag and date range when there's only one media file exists in the media archive
 - Find the set of media files linked to a given tag and date range when there's more than one media file exists in the media archive
 - Find the set of media files linked to a given tag and date range when there's no media file exists in the media archive
 - Find the set of media files linked to a given tag and date range when the given date ranges are in future
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- Find the set of media files linked to a given location and date range when the tag exists in the media archive
 - Find the set of media files linked to a given location and date range when the tag doesn't exist in the media archive
 - Find the set of media files linked to a given location and date range when there are no media files exist in the given date range
 - Find the set of media files linked to a given location and date range when there are media files exist in the given date range
 - Find the set of media files linked to a given location and date range when the given start date is before the given end date
 - Find the set of media files linked to a given location and date range when the given start date is after the given end date
 - Find the set of media files linked to a given location and date range when the given start date is null
 - Find the set of media files linked to a given location and date range when the given end date is null
 - Find the set of media files linked to a given location and date range when the given start date and the given end date are null

- Find the set of media files linked to a given location and date range when there's only one media file exists in the media archive
- Find the set of media files linked to a given location and date range when there's more than one media file exists in the media archive
- Find the set of media files linked to a given location and date range when there's no media file exists in the media archive
- Find the set of media files linked to a given location and date range when there's no media file exists in the media archive
- Find the set of media files linked to a given location and date range when the given date ranges are in future

- Find the list of media files of a given list of persons within a date range when all the persons exist in the database
- Find the list of media files of a given list of persons within a date range when only one of the persons exist in the database
- Find the list of media files of a given list of persons within a date range when none of the persons exist in the database
- Find the list of media files of a given list of persons within a date range when there are no media files exist in the given date range
- Find the list of media files of a given list of persons within a date range when there is only one media file exist in the given date range
- Find the list of media files of a given list of persons within a date range when there are many media files exist in the given date range
- Find the set of media files of a given list of persons within date range when the given start date is before the given end date
- Find the set of media files of a given list of persons within date range when the given start date is after the given end date
- Find the set of media files of a given list of persons within date range when the given start date is null
- Find the set of media files of a given list of persons within date range when the given end date is null
- Find the set of media files of a given list of persons within date range when the given start date and the given end date are null
- Find the set of media files of a given list of persons within date range when the given start date and the given end date are in the future

- Find the pictures that has all the immediate family members of a person X when there are no persons ever recorded in the database
- Find the pictures that has all the immediate family members of a person X when there is only one person ever recorded in the database
- Find the pictures that has all the immediate family members of a person X when there are many persons recorded in the database
- Find the pictures that has all the immediate family members of a person X when there are no photos ever recorded in the media archive

- Find the pictures that has all the immediate family members of a person X when there is one photo ever recorded in the media archive
- Find the pictures that has all the immediate family members of a person X when there are many photos ever recorded in the media archive
- Find the pictures that has all the immediate family members of a person X when there are no photos existing of the immediate children
- Find the pictures that has all the immediate family members of a person X when there is only photo existing for the immediate children
- Find the pictures that has all the immediate family members of a person X when there are many photos existing for the immediate children
- Find the pictures that has all the immediate family members of a person X when there are no immediate children
- Find the pictures that has all the immediate family members of a person X when there is only one immediate child
- Find the pictures that has all the immediate family members of a person X when there are many immediate children

Plan of Feature Development:

1) Phase 1: Breakdown Analysis of the problem -

In this phase, high-level analysis of the problem must be done. It was completed and submitted on November 5th, 2021.

2) Phase 2: Blackbox Tests -

In this phase, functionality of the program must be tested without having any knowledge of implementation details, internal code structure and internal paths. The Blackbox tests were written above and will be submitted by November 12th, 2021.

3) Phase 3: Design, External Documentation and White box Tests –

In this phase, code design will be completed, and external documentation will be submitted by November 17th, 2021. The external documentation will include code design, data structures and key algorithms to be implemented as part of the program. The documentation will also contain white box tests which will be test after the implementation.

4) Phase 4: Coding and Implementation –

- November 22nd, 2021 – Implementation of PersonIdentity and FileIdentifier class

- November 24th, 2021 – Creating the family tree database and implementation of all the methods related to managing the family tree.
- November 26th, 2021 – Creating the media archive and implementation of all the methods related to managing the media archive
- November 30th, 2021 – Implementation report and git submission to show the progress.
- December 2nd, 2021 – Implementation of BiologicalRelation class with all the methods.
- December 4th, 2021 – Implementation of all methods related to reporting

5) Phase 5: Testing and Debugging

- December 6th, 2021 – Implementing the test plan and the code modifications if required
- December 14th, 2021 – Project due

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