

App Permission Matrix

<i>User Stories</i>	<i>Read</i>	<i>Write</i>	<i>Delete</i>
RE1	X	X	
RE2		X	
LLI1		X	
LLI2			X
LLI3		X	
LLU1	X	X	
LLU2	X	X	
LC1	X		
LC2	X	X	
LC3	X		
LB1	X		
LB2	X	X	
LB3	X	X	
LR1	X	X	
MM1	X	X	
MM2	X		
MM3			X
P1	X		
IGM1	X	X	
IGM2			X
IGM3	X		
IGM4	X	X	

IGM5		X	
CET1	X	X	
CET2		X	
MQ1	X		

Universal Requirements

Error Handling

A mechanism to prevent system failures from making the Lifelog system go offline to any user

Effort Points (Hour) - 100 points

Complexity Level - Medium

App Permissions

- Permission: Write
- Scope: The Entire Lifelog System

Target Audience - All types of users

Pre-conditions

1. Users must be on the Lifelog web application

Success Outcome(s)

- System failure occurs only due to the Cloud Provider hosting or network outages
- All the application errors are “caught” and stored in the persistent data store
- Every error that occurs on the system must result in a generated error message that is indicative of the reason but at the same time, does not reveal much information that can be a privacy or security risk.
- The following is included in the log:
 - Timestamp (yyyy-mm-dd hh:mm:ss)
 - Every time an error occurs
 - Log type (Success)

- A message that an error has occurred
- The log is archived off to the persistent data store after 2 months from the time of log creation.

Failure Outcome(s)

- System failure occurs not due to the Cloud Provider hosting or network outages
- The errors are not caught and stored in the persistent data store
- Every error that occurs on the system does not result in a generated error message that is indicative of the reason but at the same time, does not reveal much information that can be a privacy or security risk.
- The failure log does not include the following:
 - Timestamp (yyyy-mm-dd hh:mm:ss)
 - Every time an error occurs
 - Log type (Failure)
 - A message that an error has occurred
- The log is not archived off to the persistent data store after 2 months since the time of log creation.

UI/UX

To provide an intuitive interface for users to interact with the system

Effort Points (Hour) - 100 points

Complexity level - Medium

App Permissions

- Permission: Write
- Scope: All features of Lifelog that require user interaction

Target Audience - All types of users

Pre-conditions

1. Users must be on the Lifelog web application

Success Outcome(s)

- All text displayed to the user is in American English
- All units of measurement are displayed in the Imperial Unit format
- All units of time are displayed in the 12 hour time format
- All views are intuitive enough for the user to interact with and require no prior knowledge of how to navigate the interface
- All system messages displayed to the user adhere to the formatting mentioned above.
- All system messages appeared on the interface within 3 seconds of the conclusion of an operation
- Failures due to navigating, loading or rendering of lifelog did not crash the system.

Failure Outcome(s)

- All text displayed to the user is not in American English
- All units of measurement are not displayed in the Imperial Unit format
- All units of time are not displayed in the 12 hour time format
- All views are not intuitive enough for the user to interact with and require prior knowledge of how to navigate the interface
- All system messages displayed to the user do not adhere to the formatting mentioned above.
- All system messages do not appeared on the interface within 3 seconds of the conclusion of an operation
- Failures due to navigating, loading or rendering of lifelog crashed the system.

Documentation

To provide artifacts that describe the Lifelog system in detail

Effort Points (Hour) - 100 points

Complexity level - Medium

App Permissions

- Permission: N/A
- Scope: Entire system

Target Audience - Developers

Requirements

- Create Low-level design documents for all features and functionalities
- The documents should adhere to the following:
 - All text displayed to the user is in American English
 - All units of measurement are displayed in the Imperial Unit format
 - All units of time are displayed in the 12 hour time format
- Decision Analysis Recommendation (DAR) Report for any technologies outside of tech stack
- The DAR should adhere to the formatting:
 - All text displayed to the user is in American English
 - All units of measurement are displayed in the Imperial Unit format
 - All units of time are displayed in the 12 hour time format

Interactive Geospatial Map

IGM1 User Story^[17]: Create Pins

As an authenticated user, I can create up to 20 pins at a time for a LLI^[3] on the interactive map, to visualize my LLIs^[3] or remember my completed LLIs^[3].

Effort Points (Hour) - 150 points

Complexity Scale: High

User Input

Required Input

- Location(s) to associate the LLI^[3] with

Optional Input

- Date and Time

Data Source

Origin

- External

Type

- API

Details

- We will be using Google's Places API to let users search locations
- We will be using Google's Maps Javascript API, and Map Static API to generate the interactive map along with the customizable markers/pins
- Data of specific LLI^[3] tied to the user from the relational database
- geolocation location information of pins stored on the relational database
- API details: <https://developers.google.com/maps>

AuthN

- peaceuser1@gmail.com

App Permissions

- Permission: Write, Read
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the Interactive Geospatial Map View

Success Outcomes

- The location(s) given by the user is saved to the relational database.
- The created pin is present on the map
- The pin is accurately positioned on the map with a precision of up to 200m (precision can vary depending on availability of data) of a given location
- The pin is created within 3 seconds
- A message “Pin created successfully” is displayed, if the pin is successfully created
- The pin creation is logged in the persistent data store
- The following is included in the log:
 - Timestamp
 - When the pin is created
 - When the pin is stored in persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Success)
 - Log type (?)
 - A message “pin creation operation successful”

Failure Outcomes

- The location(s) given by the user is not saved to the relational database. In this case, the message “Pin failed to save. Please try again” is displayed to the user.
- The created pin is not present on the map
- The pin is not accurately positioned on the map with a precision of up to 200m of given location
- The pin is not created within 3 seconds
- If user given location is not found, a message “location was not found” will be displayed to the user
- The pin creation is not logged in the persistent data store
- The failure log includes the following:
 - Timestamp
 - When the pin is created
 - When the pin fails to be stored in persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Error)
 - Log type (?)
 - A message “pin creation operation failed”

IGM2 User Story^[17]: Delete Pins

As an authenticated user, I can delete one or up to all my pins when I no longer want them on the map.

Effort Points (Hour) - 100 points

Complexity Scale: Medium

App Permissions

- Permission: Delete
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the Interactive Geospatial Map View

Success Outcomes

- The pin details corresponding to the LLI are removed from the persistent data store
- The pin is deleted from the map
- The pin is deleted within 3 seconds
- A message “Pin successfully deleted” is displayed to the user, if the operation was successful
- The pin deletion is logged in the persistent data store
- The following is included in the log:
 - Timestamp
 - When the pin fetched from persistent data store

- When the pin is deleted in persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
- Log level (Success)
- Log type (?)
- A message “Pin deletion operation successful”

Failure Outcomes

- The pin details corresponding to the LLI are not removed from the persistent data store
- The pin is not deleted from the map
- The pin is not deleted within 3 seconds
- A message “Pin removal failed” is displayed to the user, if the operation was not successful
- The pin deletion is not logged in the persistent data store
- The failure log includes the following:
 - Timestamp
 - When the pin fetched from persistent data store
 - When the pin fails to be deleted in persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Error)
 - Log type (?)
 - A message “Pin deletion operation failed”

IGM3 User Story^[17]: View Pin Details

As an authenticated user, I can click on one pin at a time to view the details of a LLI^[3], allowing me to get more in-depth with my LLIs^[3].

Effort Points (Hour) - 150 points

Complexity Scale: Medium

App Permissions

- Permission: Read
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the Interactive Geospatial Map View

Success Outcomes

- The view containing the following is displayed:
 - Title of the corresponding LLI^[3]
 - Category of the corresponding LLI^[3]
 - Description of the corresponding LLI^[3]
 - Status of the corresponding LLI^[3]
 - Visibility of the corresponding LLI^[3]
 - Deadline of the corresponding LLI^[3]
 - Cost of the corresponding LLI^[3]
 - The mementos media
 - The date/time if available
 - Name of the location

- A message showing the pin failed to load is displayed if the pin failed to load
- The details of the pins are pulled up within 3 seconds.
- The operation to view pin details has been logged in the persistent data store
- The following is included in the log:
 - Timestamp
 - When the pin data is fetched from persistent data store
 - When the pin is viewable to the user
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Success)
 - Log type (?)
 - A message “Pin details retrieval operation success”

Failure Outcomes

- The view containing the following is not displayed:
 - Title of the corresponding LLI^[3]
 - Category of the corresponding LLI^[3]
 - Description of the corresponding LLI^[3]
 - Status of the corresponding LLI^[3]
 - Visibility of the corresponding LLI^[3]
 - Deadline of the corresponding LLI^[3]
 - Cost of the corresponding LLI^[3]
 - The mementos media
 - The date/time if available
 - Name of the location
- A message “Failed to load pin details” is displayed if the pin failed to load
- The operation to view pin details has not been logged in the persistent data store
- The log does not include any of the following/any of the following are

formatted incorrectly:

- Timestamp
 - When the pin data is fetched from persistent data store
 - When the pin fails to be viewable to the user
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
- Log level (Error)
- Log type (?)
- A message “Pin details retrieval operation failed”

IGM4 User Story^[17]: Update Pin Location

As an authenticated user, I can update the location of one of my pins at a time on the

interactive map in case I ever change my mind

Effort Points (Hour) - 50 points

Complexity Scale: Medium

User Input

Required Input

- New location(s) to associate the LLI^[3] with
 - The location must be a valid location within the google map platform

Data Source

Origin

- Google Maps Platform API

Type

- API

Details

- We will be using Google's Places API to let users search locations
- We will be using Google's Maps Javascript API, and Map Static API to generate the interactive map along with the customizable markers/pins
- Data of specific LLI^[3] tied to the user from the relational database
- geolocation location information of pins stored on the relational database

AuthN

- peaceuser1@gmail.com

App Permissions

- Permission: Read and Write
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the Interactive Geospatial Map View
4. User is viewing pin details

Success Outcomes

- The required user input is a valid location
- The location data of the pin which is stored in the persistent data store is updated
- The pins location change is reflected on the interactive map
- The pin location is updated in the persistent data store within 3 seconds
- A message “location of the pin successfully updated” is displayed to the user, if the pin has been updated
- The user updating the location of a pin is logged in the persistent data store
- The following is included in the log:
 - Timestamp
 - When the pin location update is requested
 - When the pin data is updated to the persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Success)
 - Log type (?)
 - A message “Updated the pin location to {latitude coordinates and Longitude coordinates}”

Failure Outcomes

- The required user input is not a valid location
- The location data of the pin which is stored in the persistent data store is not updated, In this case “Pin location failed to update” is displayed to the user.
- The pins location change is not reflected on the interactive map

- The pin location is not updated in the persistent data store within 3 seconds
- The user updating the location of a pin is not logged in the persistent data store
- The log does not include any of the following/any of the following are formatted incorrectly:
 - Timestamp
 - When the pin location update is requested
 - When the pin data fails to be updated to the persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Error)
 - Log type (?)
 - A message “Failed to update pin location to {latitude coordinates and Longitude coordinates}”

IGM5 User Story^[17]: Edit LLI^[3] Using Pin

As an authenticated user, I can access one pin at a time to edit the details of my LLI^[3],

allowing me to conveniently customize my LLI^[3]

Effort Points (Hour) - 150

Complexity Scale: Medium

User Input

Optional Input

- LLI^[3] title
 - Must only contain alphanumeric values
 - Must be between 1-50 characters long
 - The value is not nullable
 - Default value is current title
- Category/Categories of LLI^[3]
 - The valid options are “Mental Health^[5]”, “Physical Health^[6]”, “Outdoor^[7]”, “Sport^[8]”, “Art^[9]”, “Hobby^[10]”, “Thrill^[11]”, “Travel^[12]”, “Volunteering^[13]”, and “Food^[14]”
 - The option is not nullable
 - Default value is the current category/categories
- Description of LLI^[3]
 - Must consist only of alphanumeric values between 0-200 characters long
 - The value is nullable
 - Default value is the current description
- Status of LLI^[3]
 - The valid options are “Active”, “Completed”, “Postponed”
 - The option is not nullable
 - Default value is the current status
- Visibility of LLI^[3]
 - The valid options are “Public, Private”
 - The option is not nullable

- Default value is the current visibility
- Deadline of LLI^[3]
 - Must be a valid date in the format MM/DD/YYYY
 - The date must be between 01/01/1900 and 12/31/2100
 - The option is nullable
 - Default value is the current deadline
- Cost of LLI^[3]
 - Must be a numerical value greater or equal to \$0 USD
 - The unit of the cost is USD
 - Cost cannot be non-integers
 - Cost cannot exceed \$1 million USD
 - Default cost is the current cost

App Permissions

- Permission: Write
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the Interactive Geospatial Map View
4. User needs to be viewing pin details

Success Outcomes

- All inputs for editing an LLI meets validation requirements in User Input section
- Changes to the LLI^[3] attributes are reflected in the persistent data store accurately
- The LLI^[3] view containing the LLI^[3] information reflects the changes within 3

seconds of the user initializing the edit action, if the edits to the LLI attributes are successful

- “LLI successfully updated” is displayed to the user, if the LLI details are updated
- The operation of an user updating their LLI^[3] through a pin is logged to the persistent data store
- The log includes the following:
 - Timestamp
 - Edited LLIs corresponding pin identifier
 - When the LLI^[3] attached to the pin is updated to the persistent data store
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Success)
 - Log type (Edit)
 - A message “LLI edit operation performed through pin”

Failure Outcomes

- All inputs do not meet validation requirements in the User Input section. In this case, “LLI inputs are invalid, please try again” is displayed to the user
- Changes to the LLI^[3] attributes are not reflected in the persistent data store accurately. In this case, “LLI updates failed” is displayed to the user. The LLI instance in the data store should not be changed.
- The LLI^[3] view containing the LLI^[3] information reflects the changes within 3 seconds of the user initializing the edit action, if the edits to the LLI attributes are successful
- The operation of a user updating their LLI^[3] through a pin is not logged to the persistent data store
- The log does not include any of the following/any of the following are formatted incorrectly:
 - Timestamp
 - Edited LLI’s corresponding pin identifier

- When the LLI edit operation begins
- Timestamp will be in YYYY-MM-DD-hh-mm-ss format
- Timestamp is recorded relative to PST
- Log level (Error)
- Log type (Edit)
- A message “LLI edit operation using pin failed”

Cost Estimation Tool

CET1 User story^[17]: Get LLI^[3] Cost Estimate

As an authenticated user, I can get an estimated cost of an LLI^[3] based on its category/categories, if data is available to do so.

Effort Points (Hour) - 100 points

Complexity Scale: Medium

User Input

Required Input

- A LLI^[3] from the user Lifelog

App Permissions

- Permission: Read, Write
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the LLI^[3] Management view

Success Outcomes

- The generated value is saved to the selected LLI^[3] “Cost” field
- The generated value is a numerical greater than or equal to 0
- The “Cost” field has the following attributes after the value is saved:
 - Is in the \$(cost) format
 - Is separated with a thousand-separator when over \$999
- The cost estimate is generated within 3 seconds.
- The LLI^[3] cost update is logged to the persistent data store
- The following is included in the log:
 - Timestamp
 - When the LLIs^[3] cost update operation is started

- When the LLIs^[3] cost update operation is completed
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
- Log level (Success)
- Log Type (?)
- A message “Update operation for the cost of an LLI completed successfully”

Failure Outcomes

- The generated value is not saved to the selected LLI^[3] “Cost” field
- A message “Cost estimation tool failed to generate estimate” is displayed to the user, if the cost estimation tool fails at generating a cost estimate
- The generated value is not a numerical greater than or equal to 0
- The “Cost” field does not has the following attributes after the value is saved:
 - Is in the \$(cost) format
 - Is separated with a thousand-separator when over \$999
- The cost estimate is not generated within 3 seconds.
- A message saying that the cost estimation tool failed not is displayed to the user, if the cost estimation tool failed
- The LLI^[3] cost update is not logged to the persistent data store
- The failure log includes:
 - Timestamp
 - When the LLIs^[3] cost update operation is started
 - When the cost estimate tool failed to generate an estimate
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Error)
 - Log Type (?)
 - A message “Operation to update LLIs cost estimate field failed”

CET2 User Story^[17]: Add Own Cost Estimate

As an authenticated user, I can add my own cost estimation to an LLIs^[3] cost field, helping me to put my plans in motion towards completing my LLI^[3].

Effort Points (Hour) - 100 points

Complexity Scale - Medium

User Input

Required Input

- Cost estimation for the LLI^[3]
 - The user-given estimate must be a numerical value greater than or equal to 0

App Permissions

- Permission: Write
- Scope: Lifelog User Account

Target Audience - All authenticated Normal User

Pre-conditions

1. The user is registered
2. The user is authenticated
3. The authenticated user is in the LLI^[3] Management view

Success Outcomes

- The user given estimate is stored in the relational database.
- The user input meet the validation requirement in the User Input section
- The “Cost” field has the following attributes after the estimate is saved:
 - Is in the \$(cost) format
 - Is separated with a thousand-separator when over \$999
- The cost estimate is populated into the LLI^[3] within 3 seconds.
- The LLI^[3] cost update is logged to the persistent data store
- The following is included in the log:
 - Timestamp
 - When the LLIs^[3] cost update operation is started
 - When the LLIs^[3] cost update operation is completed
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST

- Log level (Success)
- Log type (?)
- A message that the user updated the cost of an LLI^[3]

Failure Outcomes

- The user given estimate is not stored in the relational database. In this case a message “cost estimation tool failed” is displayed to the user, if the cost estimation tool failed
- The user input does not meet the validation requirement in the User Input section
- The “Cost” field does not has the following attributes after the estimate is saved:
 - Is in the \$(cost) format
 - Is separated with a thousand-separator when over \$999
- The cost estimate is not populated into the LLI^[3] within 3 seconds.
- The LLI^[3] cost update is not logged to the persistent data store
- The failure log includes:
 - Timestamp
 - When the LLIs^[3] cost update operation is started
 - When the LLIs^[3] cost update operation is completed
 - Timestamp will be in YYYY-MM-DD-hh-mm-ss format
 - Timestamp is recorded relative to PST
 - Log level (Error)
 - Log type (?)
 - A message “update operation failed when user manually updated the LLIs^[3] cost estimate field”