Verification and Validation Report: Room8

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1 Revision History

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

2 Symbols, Abbreviations and Acronyms

Acronym	description
SRS	Software Requirements Specification
VnV	Verification and Validation
CI/CD	Continuous Integration and Continuous deployment
API	Application Programming Interface
Exp.	Expected
Act.	Actual

[symbols, abbreviations or acronyms – you can reference the SRS tables if needed —SS]

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3 Functional Requirements Evaluation

3.1 FR211

The system shall allow users to create an account using their Google account.

FST-UAHM-1	**Profile Creation**
Description	Tests if the system is able to handle creating user profiles in the system from frontend inputs
Input	Valid Google account sign in
Exp. Output	Room8 account created and Frontend redirects user to the dashboard
Act. Output	Room8 account created and Frontend redirects user to the dashboard
Result	Pass

3.2 FR212

The system shall allows users to log in to their account.

FST-UAHM-2	System Login
Description	Tests if the system is able to recognize a user profile and to authenticate them to the system
Input	Valid Google account matching the profile in the system
Exp. Output	User profile is authenticated with a new session entry. Frontend redirects user to the dashboard
Act. Output	User profile is authenticated with a new session entry. Frontend redirects user to the dashboard
Result	Pass

3.3 FR213

The system shall allows users to log out of their account.

FST-UAHM-3	System Logout
Description	Tests if the system logs the user out, invalidating their session and returning them to the homepage
Input	User clicks logout button
Exp. Output	The system invalidates the session and redirects the user to the homepage
Act. Output	The system invalidates the session and redirects the user to the homepage
Result	Pass

3.4 FR214

The system shall allow users to create a home group using the home name, address, and number of roommates.

FST-UAHM-4	Create Home Instance
Description	Tests if the system allows users to create a new home group with specified details
Input	Home name, address, and number of roommates to their respective fields
Exp. Output	A new home group instance is created with the specified details, and the user is added as a member
Act. Output	A new home group instance is created with the specified details, and the user is added as a member
Result	Pass

3.5 FR215

The system shall allow users to invite other users to join their home group.

3.6 FR216

The system shall allow users to view the list of users in their home group.

3.7 FR217

The system shall allow users to remove users from their home group.

3.8 FR218

The system shall allow users to leave their home group.

3.9 FR221

The system shall allow users to configure the ChatBot settings to include or exclude messages corresponding to chore schedule, cleanliness manager, and bill splitter.

3.10 FR222

The ChatBot shall send reminders to the group chat about upcoming chores and events in the schedule 2 days in advance.

3.11 FR223

The ChatBot shall send notifications to the group chat about new shared living space cleanliness scores immediately after an event is added to the cleanliness manager page.

3.12 FR224

The ChatBot shall send notifications to the group chat about new shared expenses added to the bill splitter page immediately after its addition.

3.13 FR231

The system shall evaluate the cleanliness of the shared living space before and after a user enters and exits the space.

3.14 FR232

The system shall display the current cleanliness score of the shared living space.

3.15 FR233

The system shall display the detected messes in the shared living space.

3.16 FR234

The system shall allow users to view the cleanliness score of other users.

3.17 FR235

The system shall allow users to view the history of cleanliness scores and detected messes.

3.18 FR241

The system shall allow users to add a new chore to the schedule.

3.19 FR242

The system shall allow users to add a new event to the schedule.

3.20 FR243

The system shall allow users to input chore and event details (name, description, time, frequency, assigned users, etc.).

3.21 FR244

The system shall allow users to edit and delete chores and events.

3.22 FR245

The system shall allow users to view the schedule and mark chores as complete.

3.23 FR251

The system shall allow users to add a new expense to the bill splitter and notify the involved users.

3.24 FR252

The system shall allow users to view what they owe other housemates.

3.25 FR253

The system shall allow users to view what they owe others.

3.26 FR254

The system shall allow users to mark expenses as paid.

3.27 FR255

The system shall calculate debts in order to minimize the amount of transactions required between housemates.

4 Nonfunctional Requirements Evaluation

4.1 Usability

4.1.1 NFR237

The system shall declare an instances of someone altering a room finished one there has been no activity in the room for a designated period of time.

4.1.2 NFR242

The calendar system shall display all calendar events to users in their time zone.

4.2 Performance

4.2.1 NFR214

The system should be able to authenticate a user with a median response time of under 1 second.

4.2.2 NFR234

Photos captured with the system will be in a quality high enough to differentiate objects within frame.

4.2.3 NFR235

The system shall process image data in under 30 minutes.

4.3 Privacy and Security

4.3.1 NFR211

All data related to authentication must be encrypted in both transit and in storage.

4.3.2 NFR212

Error messages related to authentication should not disclose sensitive details such as "Incorrect Password".

4.3.3 NFR213

All data related to houses such as addresses and residents should be encrypted in transit and in rest.

4.3.4 NFR221

The chatbot shall not disclose any sensitive information in its messages such as addresses or full names.

4.3.5 NFR231

The system shall not record users.

4.3.6 NFR232

The system shall not capture images of users.

4.3.7 NFR233

The system shall encrypt and securely store all images of homes.

4.3.8 NFR244

The calendar system shall encrypt all events stored.

4.3.9 NFR251

The Bill Splitter system shall encrypt all events stored.

4.4 etc.(MAYBE RENAME TO "OTHER")

4.4.1 NFR222

The chatbot shall not send users too frequently to prevent annoying users.

4.4.2 NFR236

The system shall not report false events which accuse someone of reducing the cleanliness score of an environment.

4.4.3 NFR241

The calendar system shall store all calendar events in UTC.

4.4.4 NFR243

The calendar system shall have a granularity of 5 minutes.

4.4.5 NFR252

The Bill Splitter shall allow users to record numerical values of prices with a granularity of two decimal places.

5 Comparison to Existing Implementation

This section will not be appropriate for every project.

6 Unit Testing

7 Changes Due to Testing

[This section should highlight how feedback from the users and from the supervisor (when one exists) shaped the final product. In particular the feedback from the Rev 0 demo to the supervisor (or to potential users) should be highlighted. —SS]

FR211 - Change description to use Google account instead of using name, email and password.

FST-UAHM-1 - See above description.
FST-UAHM-2 - Change input field of testcase to using Google account instead of email and password.

8 Automated Testing

9 Trace to Requirements

10 Trace to Modules

11 Code Coverage Metrics

Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Reflection.

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. What went well while writing this deliverable?

2. What pain points did you experience during this deliverable, and how did you resolve them?

3. Which parts of this document stemmed from speaking to your client(s) or a proxy (e.g. your peers)? Which ones were not, and why?

4. In what ways was the Verification and Validation (VnV) Plan different from the activities that were actually conducted for VnV? If there were differences, what changes required the modification in the plan? Why did these changes occur? Would you be able to anticipate these changes in future projects? If there weren't any differences, how was your team able to clearly predict a feasible amount of effort and the right tasks needed to build the evidence that demonstrates the required quality? (It is expected that most teams will have had to deviate from their original VnV Plan.)