Fit to Submit Checklist

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| Section: Structure and Commenting | Check |
| Code is structured into classes |  |
| Functions have appropriate visibility (public, protected (\_), private (\_\_)) |  |
| Functions have appropriate modifiers (static) |  |
| Docstrings are added to each function (“”” “””) |  |
| Functions have appropriate names that describe their purpose |  |
| Comments add value to sections |  |
| Some style guide is followed |  |
| PEP8 style guide is followed |  |

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| Section: RFC 821 Compliance | Check |
| Mail sequence is implemented (HELO->MAIL->RCPT\*->DATA) |  |
| Connection sequence is implemented (Connect + QUIT) |  |
| Core return codes are implemented (221, 250, 354, 500,501,502,503) |  |
| Domains are validated |  |
| Emails are validated |  |
| HELP is implemented |  |
| All return codes are implemented |  |
| RSET, Verify and Expand sequence is implemented (VRFY, EXPN) |  |
| Multi-line responses are handled appropriately |  |
| Validation is correct for all inputs |  |

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| Section: RFC 5321 Compliance | Check |
| Mail sequence is implemented (EHLO) |  |
| Multi-line responses are handled appropriately |  |
| Additional parameters on commands are parsed correctly |  |
| Timeouts added to mail receiver |  |
| Timeouts functional and disconnect the client on timeout |  |
| ESMTP extensions addressed |  |

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| Section: Server Storage | Check |
| Data is transferred correctly across network |  |
| Data is persistent |  |
| Data is stored in flat file |  |
| Data is stored hierarchically |  |
| Data can be deleted |  |
| Data is stored hierarchically and with structure |  |
| Data can be deleted by criteria |  |

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| Section: Shared Mailboxes | Check |
| Mailboxes require some kind of login |  |
| Users can access shared mailboxes |  |
| Shared mailboxes are protected from unauthorised access e.g. login to access |  |
| Mail has additional parameters added e.g. flags | ` |
| Moving, deleting, or multiple access to files implemented |  |

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| Section: Authentication | Check |
| Username and password login implemented |  |
| Login details are stored in a flat file |  |
| Passwords are salted and hashed on server |  |
| Login sequence is encrypted | ` |
| Keys are preshared |  |
| Keys are negotiated |  |
| Keys provide perfect forward security |  |

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| Section: Auditing | Check |
| Audit file exists |  |
| Connections are logged |  |
| Logins are logged |  |
| Actions are logged by user e.g. [C@derby.ac.uk |12:12:32:01/01/2020|MAIL](mailto:C@derby.ac.uk%20|12:12:32:01/01/2020|MAIL) SENT ID 5 | ` |
| Audit files are structured e.g. by user, by date, or using XML/JSON |  |
| Files are encrypted on disk. |  |