SOFT8026 – Assignment 1 Form

Your name:

Please fill in the following form to ensure you get credit for the work you do and to help me correct   
them faster. Where you see “Yes / No / Partial (if partial explain)”, delete as appropriate and if it is   
partial explain how far you got, e.g. the code is there, but it crashes, so I had to comment it out.

|  |  |
| --- | --- |
| **Checklist** |  |
| Were you able to get docker running in your app? | Partial – client is unable to talk with servers, but the images are created. (used docker-compose) |
| How many microservices do you have? | 4 implemented, 10 in the analysis. |
| Do you have gRPC working in your app? | Yes |
| Do you have RabbitMQ / Message Queue working in your app? | Yes |
| Can users register? | Yes |
| Do you have a diagram showing your final system architecture? | Yes |
| Do you have at least 3 reputable references in your analysis? | Yes |
| Are you within the word limit of 1,400 to 1,600 words? | Yes |

|  |  |  |  |
| --- | --- | --- | --- |
| **Microservices**  **Name** | | **Filename** | **Description** |
| 1 | Registration Authentication Service | services/registration/server.py | Verifies the users email and password for registration. |
| 2 | Game Download Service | services/game\_download/server.py | Checks if the users game download key is valid by checking if it matches with one in the db. |
| 3 | Achievement Service | services/achievements/server.py | Keeps track of achievement status by considering how many users completed it compared to how many users own the game. |
| 4 | Payment Authentication Service | services/purchase\_auth/server.py | Verifies the users payment for purchasing a game, sends a message to the achievements service and communicates via gRPC with the game\_download service. (For the purpose of this test implementation, in reality it would gRPC with the Profile Service which would then gRPC with the game\_download service but I realised that was the approach after implementing the code and they both work the same anyway.) |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
|  |  |  |  |

***Anything you would like to highlight in your implementation, e.g. whether you used Docker Compose, anything else you think went beyond the basic specification?***

***Screenshots***

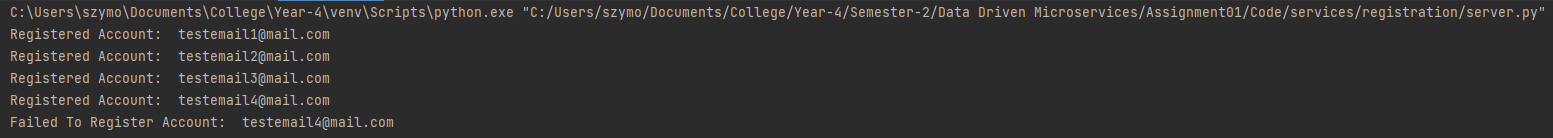
The client communicates with the registration service as it attempts to register 5 account of which 2 are using the same email address.

It then tries to authenticate 2 purchases as seen below.

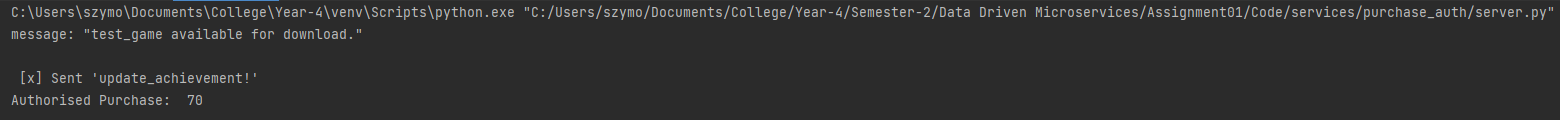
A picture containing text

Description automatically generated

The registration service is unable to register the second attempt of a [testemail4@gmail.com](mailto:testemail4@gmail.com) account as the account already exists.



The purchase\_auth service receives the requests and as seen in the client output only one of the attempts is successful, the successful attempt connects to the game\_download service to see if the game is available for download and sends a message to the achievements service to update the completion rate of achievements for the purchased game.



The game\_downlaod service checking if the game is available for download.



The achievements service waiting for messages and receiving one when the game has successfully been purchased.

