Appendices

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Appendix I- Moscow User Stories

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Story | Description | Forecast/ Simulation | UI/Backend/API/ Data Storage | MoSCoW |
| 1 | I want to see a breakdown of energy production statistics | Displayed with either icons or with graphs | Forecast/ Simulation | UI/Backend/ API | M |
| 2 | I want to be able to see statistics for a specific region/county | Interactive map, either clickable map or a dropdown menu to select viewed regions | Forecast/ Simulation | UI/Backend/ API | M |
| 3 | I want to be able to adjust timescale | Can edit from hourly to weekly forecast | Forecast | UI/Backend/ API | M |
| 4 | I want to specify energy types used for statistics | Can select from wind, solar etc. to be displayed | Forecast/ Simulation | UI, Backend | M |
| 5 | I want to specify weather input values | Change rain, sunlight hours etc. for simulations | Simulation | UI, Backend | M |
| 6 | I want to be able to adjust timescale | Can edit from daily to monthly projections | Simulation | UI/Backend | M |
| 7 | I want to be able to see previously run forecasts/ simulations | See all previously run forecasts/ simulations | Forecast/ Simulation | UI/Backend/ Database | S |
| 8 | I want to be able to update and remove previously run analysis | Fully change all aspects of previously run analysis | Forecast/ Simulation | UI/Backend/ Database | S |
| 9 | I want to be able to save forecasts/ simulations | To be able to save a record of the simulation that has been run | Simulation | UI/Backend/ Database | S |
| 10 | I want to see long term projected trends | To be able to see a list of pre-set likely scenarios | Simulation | UI/Backend/ Database | C |
| 11 | I want to see a list of all plants used for calculations | To be able to see all plants in system | NA | UI/Backend/ Database | C |
| 12 | I want to be able to add and remove power plants to see effects from its contribution | Can add a new power source to a region to see how this would affect future energy production | Forecast/ Simulation | UI/Backend/ Database | C |
| 13 | I want to see the map change with my settings | UI map is updated using user settings | Forecast/ Simulation | UI/Backend | W |
| 14 | I want to be able to make an independent weather API call | Make a weather API call with values independent of forecast to show users how it works | Neither | UI/Backend | W |
| 15 | I want to be able to register and login to the system | User can create an account to manage privately stored data | Neither | UI/Backend/ Database | W |

Diagram, table

Description automatically generatedAppendix II- Full ER Diagram

Appendix III- Links To External Resources

* Backend GitHub Repo: <https://github.com/NoahS-Upton/EnergyAppBackend>
* Frontend GitHub Repo: <https://github.com/NoahS-Upton/EnergyAppFrontend>
* Postman demonstration video:
* Website demonstration video:

Appendix IV- Website Screenshots

Table

Description automatically generated with medium confidenceTable

Description automatically generatedForecast Management Page Plant Management Page

Information page with Weather Forecast

Graphical user interface, text, application

Description automatically generated

Graphical user interface

Description automatically generatedGraphical user interface

Description automatically generatedForecasting Home Screen Simulation Home, with simulation rerun

Appendix V- User Testing Responses