Design Meeting 1 (Week 1 – 3rd/05/2018)

Mircosoft Attendees:
Colin – Software development based in Cambridge (f# team)
Dino – Azure Notebooks (technical client + deployment)
Sharokh – Head of Jupyter & f# team (business client)
Lee – Main contact/ project organizer

Core Requirement: 12 weeks

- Proof of concepts of the below to **ensure it is a deployable product**
    - C# KERNAL IN AZURE
    - INTELLISENSE
    - SYNTAX HIGHLITHGTING
    - ATTRACTIVE NOTEBOOKS FOR USERS
- Open source
- Available & integrate to kernel
- Start with icsharp on top of Roselyn as base
- Roselyn and Jupyter alignment
- Extend it via syntax highlighting (Dino - IP needed to stage deployment) &Intellisense

2 week sprints/scrum: Next approx.. Thursday 17th 2018
GOAL:

1. Get the environment setup aligned with dividing into subgroups
2. Introduction to how Jupyter, Azure and other application dependencies and relationships
3. ***icsharp*** Kernal Evaluation based on a Tabular comparison of ***ipython, icsharp and Ifsharp*** on aspects such as:
    a. features
    b. Code quality
    c. Insights
    d. Container structure – DOCKER?
    e. How is it deployed?
    f. Ifsharp has superior experiences other than the experience Jupyter offers
        i. Code completions with nice UI
        ii. Inline error messages
        iii. Squiggly highlighting
        iv. Get more research on its rich experience extending Jupyters'
4. Our Recommendations of how to extend c# capabilities and feature
5. Our thoughts on concept of 'Northstar' notebook that shows off the c# kernel to users
    a. (Market Analysis to meet the business, tech and ***customer requirement***) Survey results of what and how users would like to learn c# from beginner level to advanced – contact Lee on this, remember to use Microsoft form*! In Progress*
    b. Use sample f# notebook
    c. Use the "C# yellow programming book"
        i. Use the teachings in the book for good notebook design

        ii. Take content from the book and elevate to interactive version (plots, graphs, matlibs) for the notebook
        iii. Eg. You should be able to download the book the use the sample in our notebook
        iv. Think about ipwidgets (see link below)
    d. IDEA: Show off the language, features and cool map or interaction

6. Define project scope and milestones
7. Define project roles and responsibilities

Think about:

- Demo-able
- Recommendation on ***icsharp*** current base to 2 week cadence of our improvement
- Use f# inspiration
- Scope & decision (business requirement)
- Business requirement vs Technical requirement
- Blockers while developing/coding bring it up on ***Slack***

Slack discussions:

- Ask questions on any and every matter
- Delegations of tasks

Technical Details:

- Code standard to uphold
- Git repo standards/access will be public
- Production standard & quality

Method of Communication: Slack

Testing: Contact Dino

- Test on Notebooks environment
- If need of a Beta tester?

Development challenges:

- Don’t develop on desktop CoR and try on Linux
- Stack-handling bug that’s difficult to solve on f# kernel
- Ensure to test on MONO (development environment)
- **WINDOWS:** Run MONO or DOCKA container , **MAC/LINUX:** Run MONO

Useful links:

C# Yellow Book:
http://www.robmiles.com/c-yellow-book/
F# for Jupyter Notebooks:
https://github.com/fsprojects/IfSharp/blob/master/FSharp_Jupyter_Notebooks.ipynb
Ipy widgets:
https://ipywidgets.readthedocs.io/en/latest/