# UCLH
# Software Development Community

## ./sdc

Initial Meeting: 2019-02-15

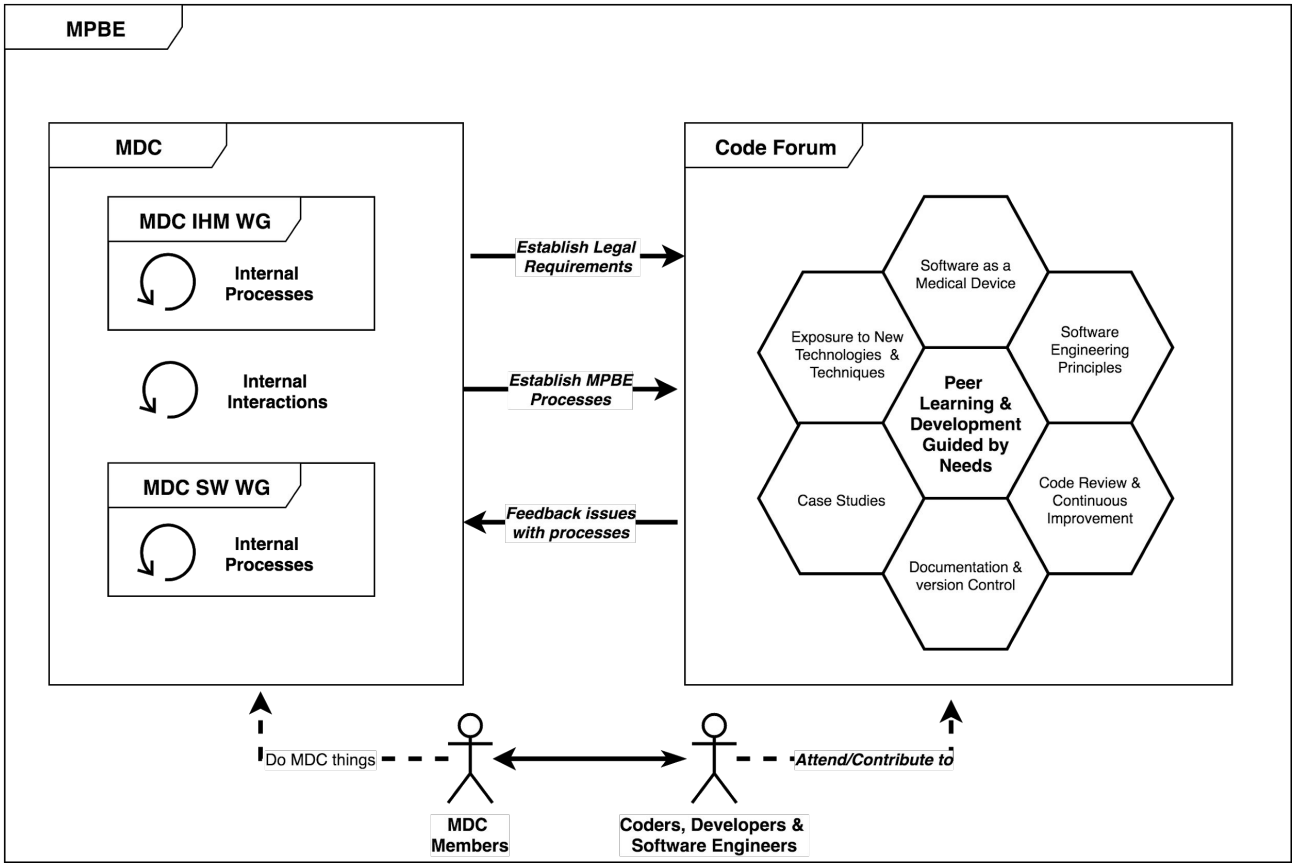
# Purpose

- Share best practice for software development
- Peer to peer learning
- Code review
- Rubber ducking
- Develop pragmatic/repeatable approach to Medical Device Software development

# How will sdc work?

- Regular informal meetings (fortnightly)
- Aim to establish core group with pool of knowledge to cover aspects of:
  - Software engineering
  - Medical device legislation
  - System/device life-cycle management and support
  - But invite expert guest speakers as appropriate

# ./sdc and MDC


MPBE
MDC
MDC IHM WG
Internal Processes
Internal Interactions
MDC SW WG
Internal Processes
Establish Legal Requirements
Establish MPBE Processes
Feedback issues with processes
Code Forum
Software as a Medical Device
Exposure to New Technologies & Techniques
Software Engineering Principles
Peer Learning & Development Guided by Needs
Case Studies
Code Review & Continuous Improvement
Documentation & version Control
Do MDC things
Attend/Contribute to
MDC Members
Coders, Developers & Software Engineers

# How will we do this?

- Initial goal of group:
  - Let’s build a Medical Software Device
- Work through development stages of hypothetical device drawing from examples of real ‘in-house’ medical device applications

- Covering
  - Requirements gathering
  - Tool selection
  - Version control
  - Documentation
  - **Legislative considerations**
  - Use of SOUP
  - **Code design**
  - Deployment
  - Management

+ whatever road blocks, questions or points requiring further investigation are encountered along the way

# Who Are We All?

What's Your Name?

Where are you Based?

What's Your Role?

How Is Software Development Involved?

What Do You Want/Expect From sdc?

# Software Development for Image Processing Pipeline

Drawing from:
Software Development for Neonatal MR Spectroscopy Processing Pipeline

# Overview of our project:

- Image processing pipeline


- Not specific to MR – frequently encountered Image analysis problem

# Today’s Meeting

- Step 1 – setting requirements for software
  - User requirements/stories
  - Inputs Outputs
  - Capturing  initial requirements

# Questions for today

What do we need to establish before proceeding?

How do we work out our requirements?

# What information are we missing?

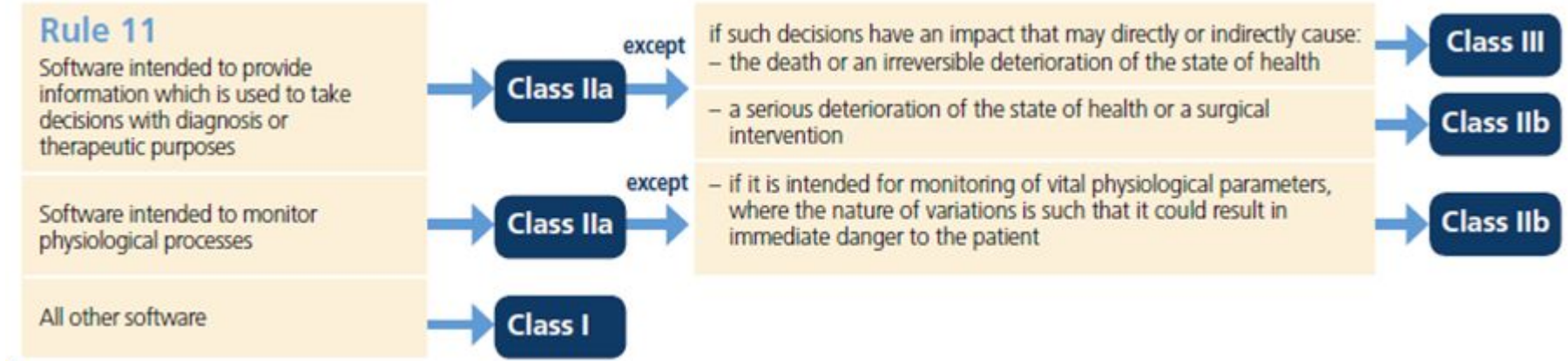
# Future Steps

- Early March - Step 2 – setting requirements for development – choosing tools.
  - Choosing a language
  - Using an IDE
  - Version control
  - Shared development
- ~ mid to late March – invited talk on ISO 13485 and Development of Medical Devices
- Early April - Step 3 – Assessing and managing risk.
  - Classifying our pipeline
  - Architectural design choices
  - Target running environment
  - Component choices – 3rd party libraries and SOUP

# Future Steps

- **Mid April onwards**
  - Step 4 – What does “good” code look like?
  - Step 5 – Develop – Commit – Test – Publish
  - Step 6 – Infosec
  - Step 7 – Software release
  - Step 8 – Life-cycle management

# Medical Device Classification



# Next Steps

What Now?

- Feedback
  - What did you think?
  - What else can we do?
- Knowledge Storage & Comms
  - Redmine?
  - GitHub Repo
- Next Meeting
  - Friday 1st March?
  - Where?