DEPLOYMENT MANUAL

Bedside Navigator with UCL FISECARE v2.0

Prerequisites:

- Visual Studio 2022 version 17.0 or later
- Python 3.9

Build and Deploy

Step 1: Clone repository or download code from GitHub (private).

Step 2: Open Command Prompt.

Step 3: Navigate to inside the folder '**MI_v3.2**' on your computer on Command Prompt.



Step 4: Then run the command 'pip install -r requirements.txt'.

Step 5: Once this finished, run the command '**python build.py motioninput_api.py**'.

This process can take a long time, sometimes up to an hour depending on your computer.

Step 6: Install Microsoft Visual Studio version 17.0 or later.

Step 7: Launch the Visual Studio Installer and click on the **Modify** button.



Step 8: In the Visual Studio Installer, select **.NET desktop development** and click on the **Modify** button.



Step 9: Launch Visual Studio and click on **Open a project or solution** button.

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Step 6: Open **FISECARE.sIn** in the downloaded folder, 'MI_v3.2'.

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Step 7: To deploy the application, right-click on **FISECARE** in the Solution Explorer and click on the **Publish** button.

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Step 8: A new tab will open. Click + New to create a new publish profile.



Click the 'Folder' option for your 'Target' as shown in the screenshot below:



Then click 'Next' in the bottom right corner.

Step 9: Select '**Folder'** again for your 'Specific Target'. Then click '**Next'**.



Step 10: For the Folder location enter the file path ...Release\motioninput_api.dist\'. Next, click 'Finish'.

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Step 11: A publish profile will be created. Close the window by clicking '**Close'**.

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Step 12: Finally, click '**Publish'**. Building will take a few seconds or minutes. You can find the **FISECARE.exe** in the '**Release/motioninput_api.dist'** folder selected for the publish profile.

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Step 13: Using File Explorer, find the MFC Settings App called 'Bedside Navigator.exe' in the downloaded folder 'MI_v3.2'.

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Step 14: **Copy** and **Paste** this .exe file into the folder **'Release/motioninput_api.dist/**'.

Step 15: Finally, **run** the Bedside Navigator by double-clicking on the '**Release/motioninput_api.dist/Bedside Navigator.exe'**. The User Manual can be found here:

https://students.cs.ucl.ac.uk/2022/group27/appendices.html

Running MotionInput's Bedside Navigator Without building

Step 1: Selecting a Mode

The available modes for the Bedside Navigator are:

- 1. "bedside_nav_right_touch": Navigate the screen using your right hand
- 2. "bedside_nav_left_touch": Navigate the screen using your left hand
- 3. **"bedside_nav_face_gestures**": Navigate the screen using your nose and interact with your computer using face gestures such as smiling.
- 4. "**bedside_nav_face_speech**": Navigate the screen using your nose and interact with your computer using speech commands such as 'Click'.
- 5. **"bedside_nav_face_joystick_cursor_gestures**": Navigate the screen using your nose as a 4-way joystick and interact with your computer using face gestures such as smiling.
- 6. "bedside_nav_face_joystick_cursor_speech": Navigate the screen using your nose as a 4-way joystick nose and interact with your computer using speech commands such as 'Click'.

The mode is changed in the file 'data/mode_controller.json'.

Change the "current_mode" in the first line of the mode_controller.json file to one of the modes listed above.

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Step 2: Changing settings to run calibration.

Before running MotionInput: Bedside Navigator, it is necessary to run calibration for the camera at its current placement before using it at an angle.

If the modes:

- 'bedside_nav_face_gestures'
- 'bedside_nav_face_speech'

are selected then follow these steps:

- 1. Go to the file, 'data/config.json'.
- 2. Find the key 'modules'.
- 3. Then, find the key 'head'.
- 4. Then, find the key 'run_angle_calibration'.
- 5. Set this value to 'true'.

If the modes:

- 'bedside_nav_face_joystick_cursor_gestures'
- 'bedside_nav_face_joystick_cursor_speech'

are selected then follow these steps:

- 1. Go to the file, 'data/config.json'.
- 2. Find the key 'modules'.
- 3. Then, find the key 'head'.
- 4. Then, find the key 'run_pose_calibration'.
- 5. Set this value to 'true'.

If the modes:

- 'bedside_nav_left_touch'
- 'bedside_nav_right_touch'

are selected then follow these steps:

- 1. Go to the file, 'data/config.json'.
- 2. Find the key 'modules'.
- 3. Find the key 'hand'.
- 4. Then, find the key 'run_angle_calibration'.
- 5. Set this value to 'true'.

To turn off calibration, set the value back to 'false'.

Step 3: Run MotionInput

Finally, run the Python file **'motioninput_api.py'** to run MotionInput.

Step 4: Calibrating

If calibration was selected, then a calibration window will appear with instructions for calibration.

Information for calibration:

- Please wait for calibration to start. A black screen with instructions will show.
- Dots will show to guide your face or hand.
- Hold your hand or face at the position whilst a dot flashes.
- Don't move too far you should feel comfortable and still be able to see the instructions on the screen.
- Use the 'ESC' key on your keyboard to exit calibration whilst it is running.

To Run UCL FISECARE in DEBUG mode

Step 5: Install Microsoft Visual Studio version 17.0 or later.

Step 6: Launch the Visual Studio Installer and click on the **Modify** button.



Step 7: In the Visual Studio Installer, select **.NET desktop development** and click on the **Modify** button.



Step 9: Launch Visual Studio and click on Open a project or solution button.



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Step 6: Open **FISECARE.sIn** in the downloaded folder, 'MI_v3.2'.

Step 7: Click FISECARE - on the top to run UCL FISECARE.