Chirp! Project Report

ITU BDSA 2023 Group 5

Jakob Arnfred arni@itu.dk   Johan Brandi johbr@itu.dk
Niklas Zeeberg Hessner Christensen nizc@itu.dk
Olivier-Baptiste Hansen oliha@itu.dk
Philip Guozhi Han Pedersen phgp@itu.dk

1 Design and Architecture of *Chirp!*

1.1 Domain model

Here comes a description of our domain model.

Illustration of the *Chirp!* data model as UML class diagram.

Figure 1: Illustration of the *Chirp!* data model as UML class diagram.

1.2 Architecture — In the small

1.3 Architecture of deployed application

1.4 User activities

1.5 Sequence of functionality/calls trough *Chirp!*

2 Process

2.1 Build, test, release, and deployment

The following UML activity diagrams illustrate the GitHub actions workflows that are run when different criteria are met. This will be briefly described under the respective diagrams.

This workflow is run upon every push to main and pull request to main. It builds and tests to application in order to keep main void of faulty code (as **safety net**).

This workflow is run upon every push to main. Note the redundant "build" step. We do not need this since the "publish" step already builds the application.

Build And Test Workflow

Set timezone

Setup .NET

Setup Docker

Pull and run SQL server container

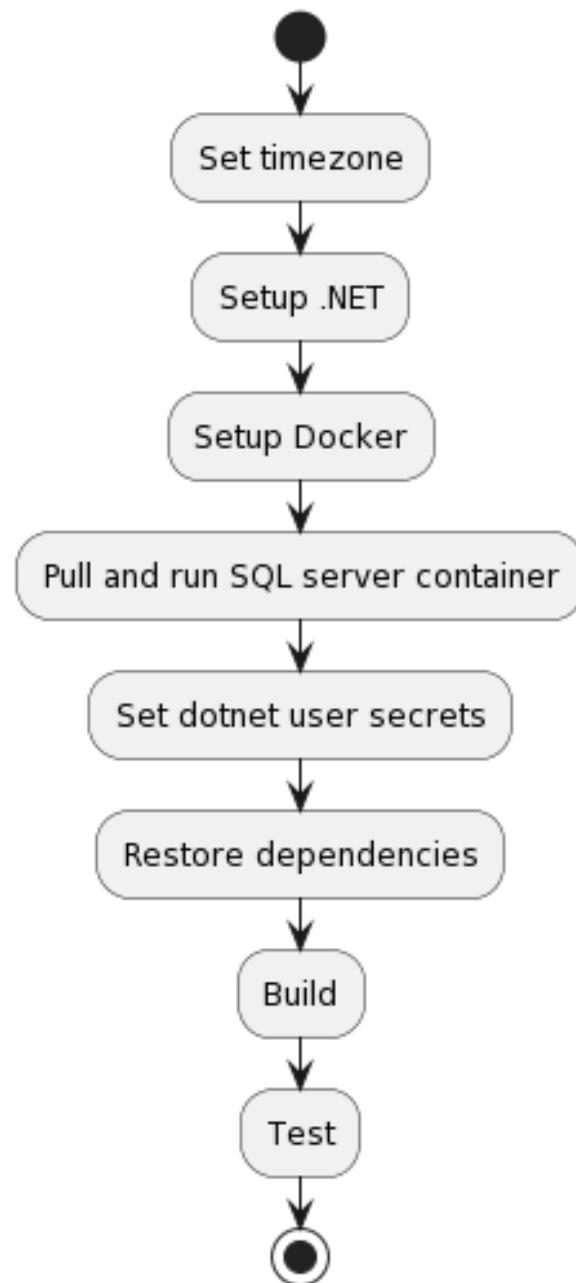Set dotnet user secrets

Restore dependencies

Build

Test

Figure 2: UML activity diagram of the build and test workflow.
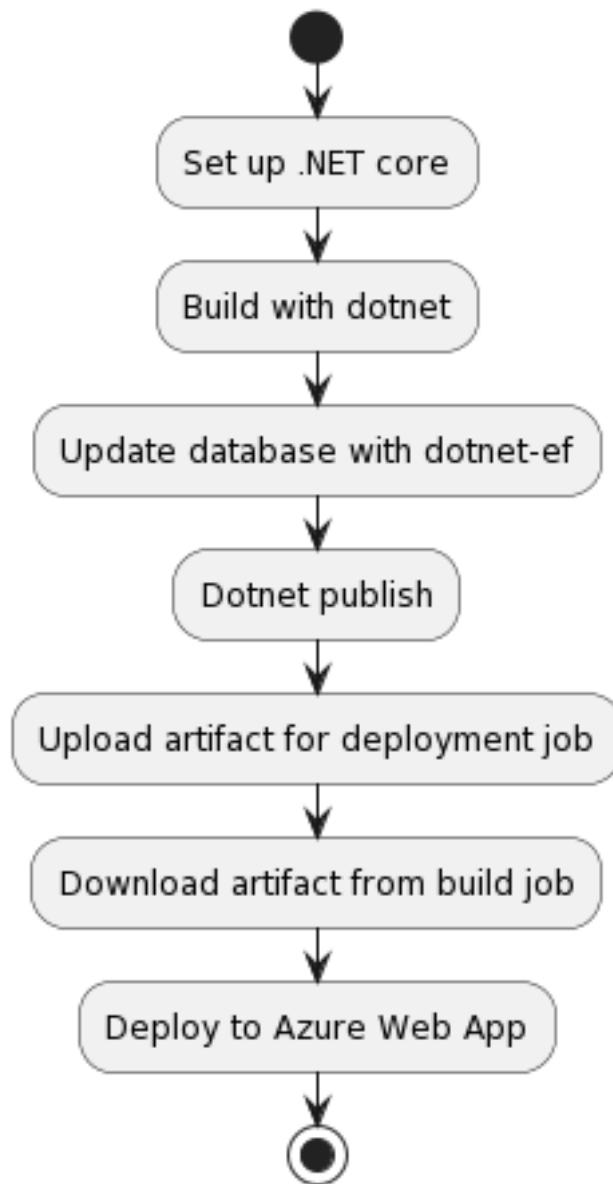
Deployment Workflow

Figure 3: UML activity diagram of the deployment workflow.

This redundancy was not noticed during development and has not been removed due to time constraints. The illustration describes the two jobs: "build" and "deploy". Jobs are normally run in parallel, however, these are run sequentially as we do not want to deploy before the application is successfully built.
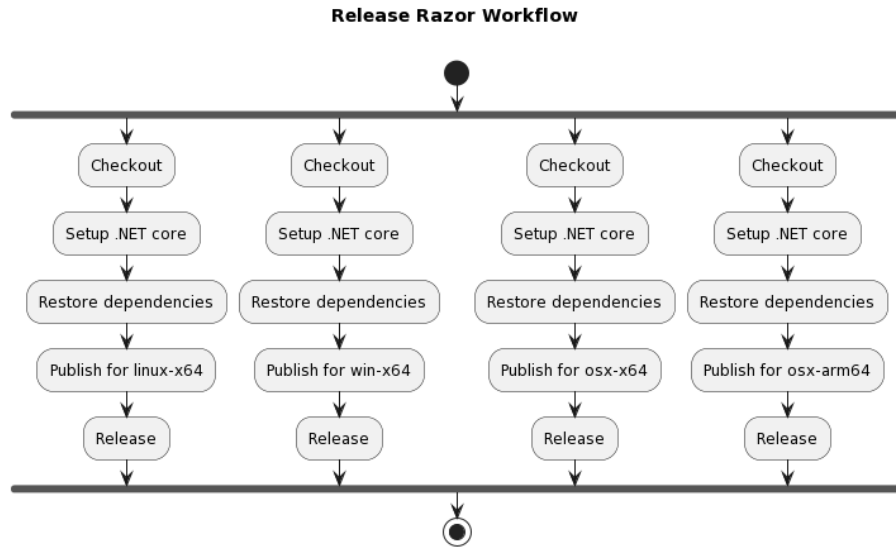
Release Razor Workflow

Figure 4: UML activity diagram of the release razor workflow.

The Release Razor workflow is only run if a push to main contains a version tag. We've made use of a matrix strategy in order to automatically create multiple job runs that builds, publishes, zips and releases the application for their respective platform.

2.2 Team work

2.3 How to make *Chirp!* work locally

2.4 How to run test suite locally

3 Ethics

3.1 License

3.2 LLMs, ChatGPT, CoPilot, and others