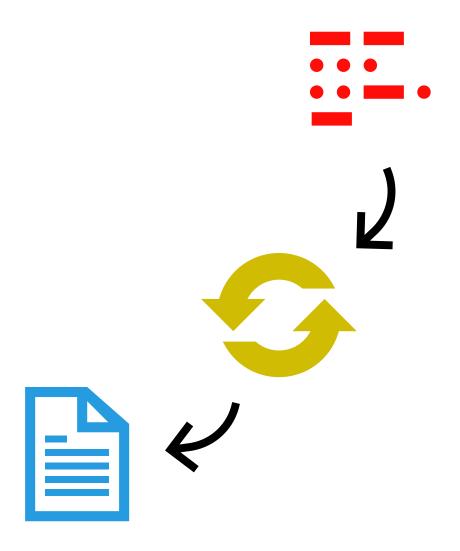


ÜBERSICHT

- Was war das Ziel?
- Erweiterung
- Tatsächlicher Ablauf
- Herausforderungen und wie die Helden es lösten
- Die Magie hinter der Hardware Software
- Demo

WAS WAR DAS ZIEL?

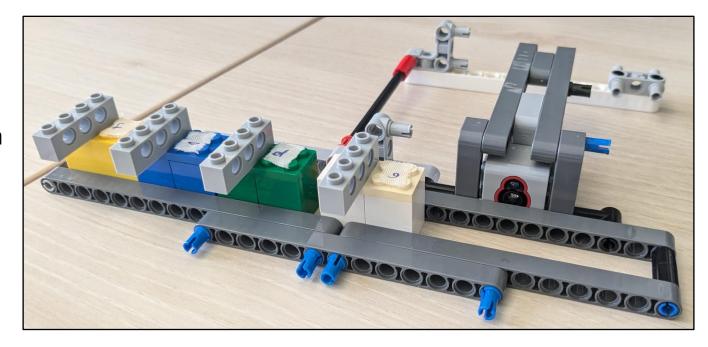
- Mit Touch-Sensor Morsecode erkennen
- Eingabe in natürliche Sprache umwandeln
- Anschließend drucken



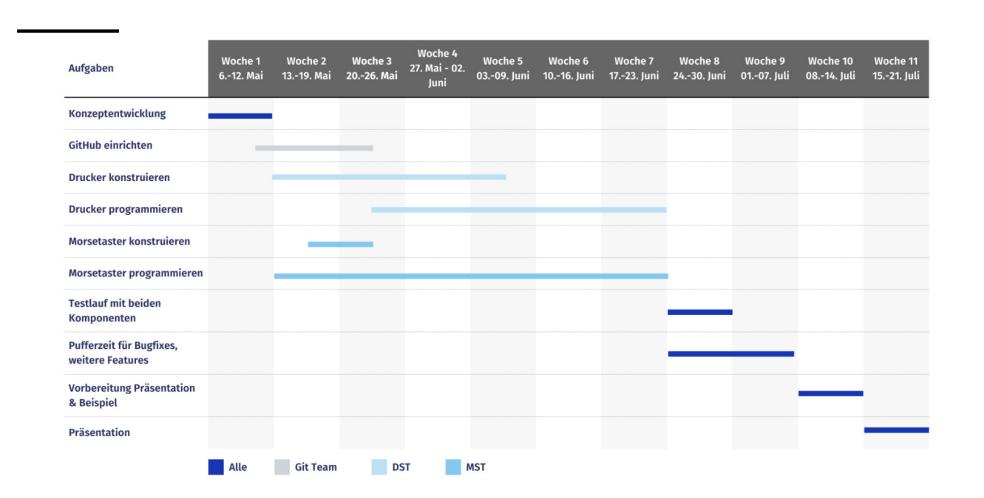
ERWEITERUNG

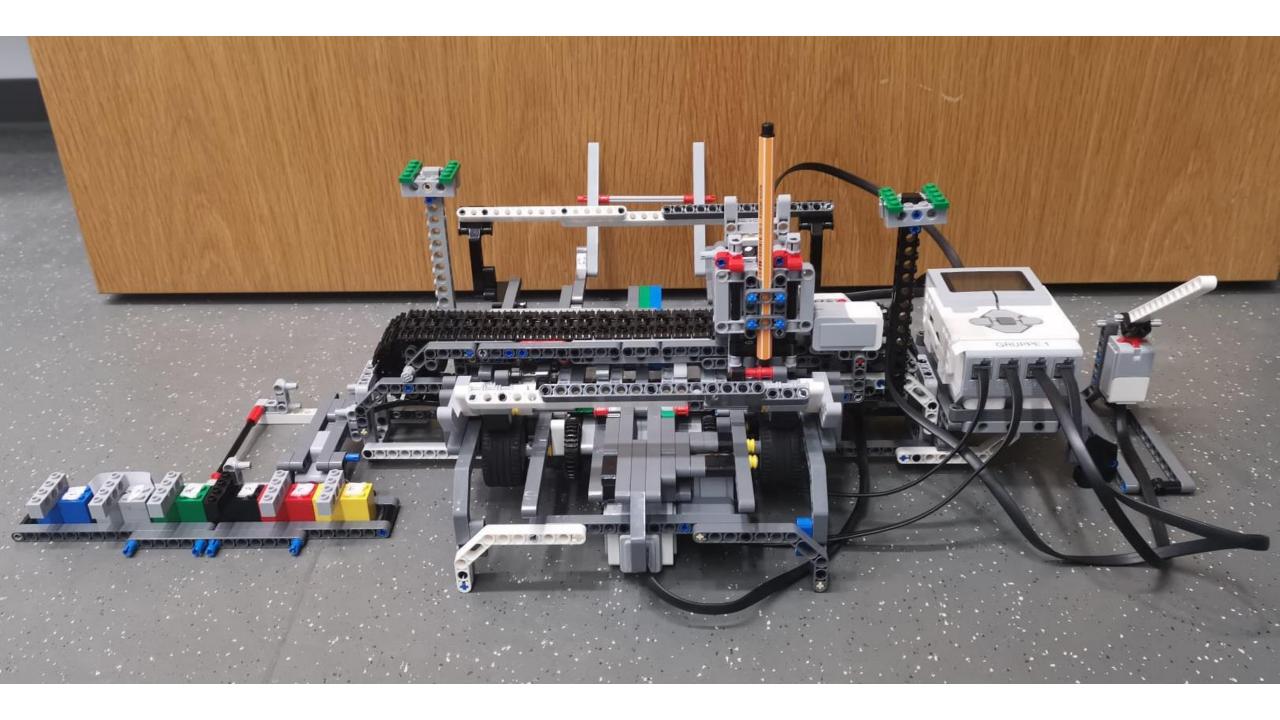
Musikmodus

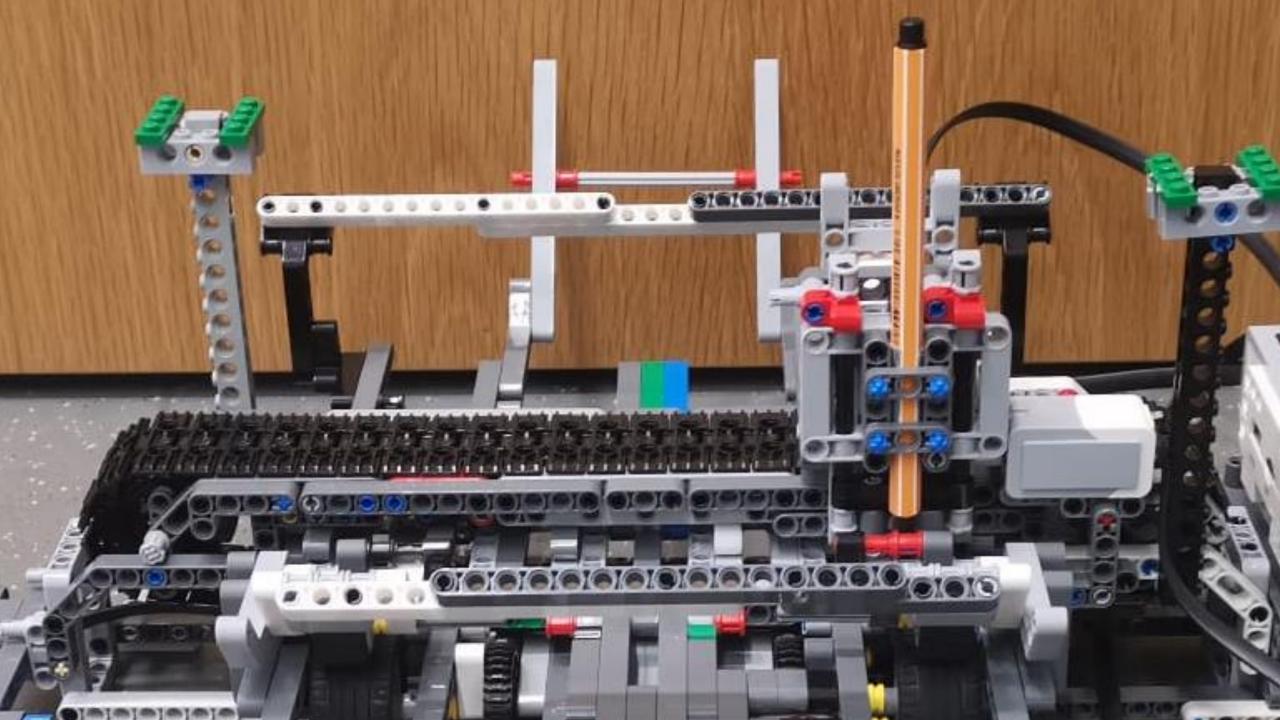
- Mithilfe des Farbsensors Noten
 (C, D, E, F, G, A, H) einlesen
- Noten als Halbnoten auf Notenlinien drucken

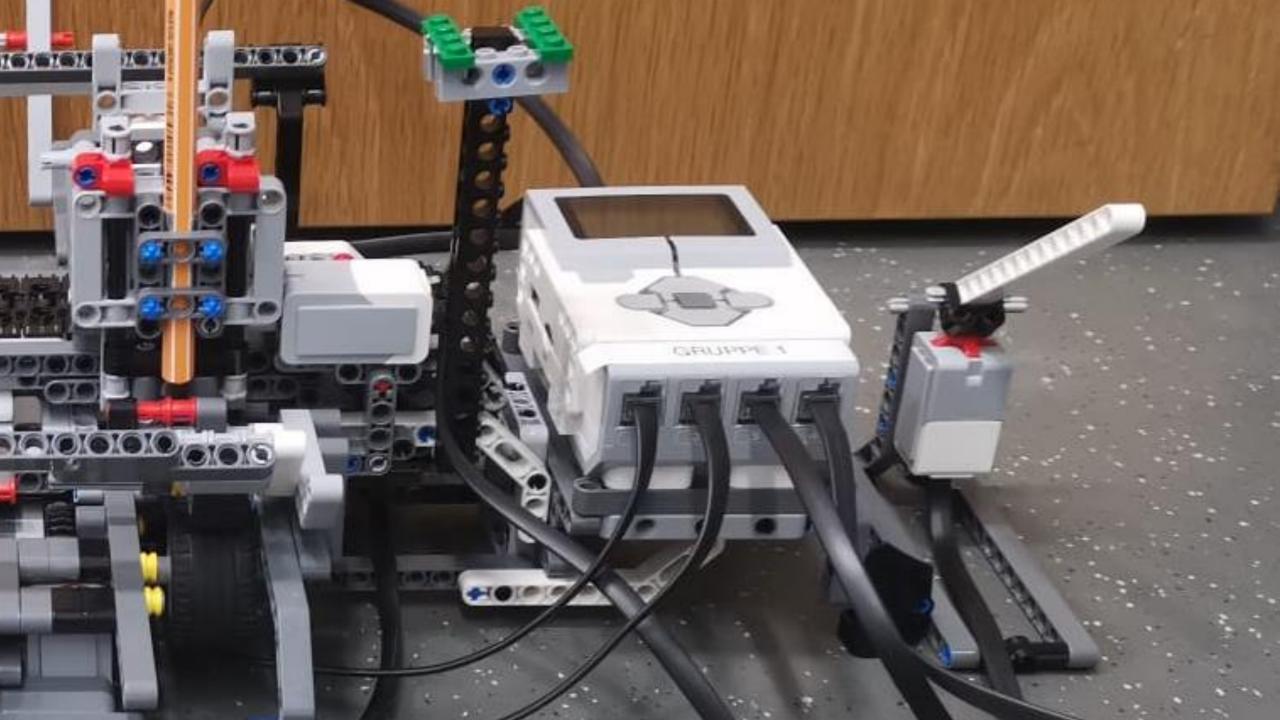


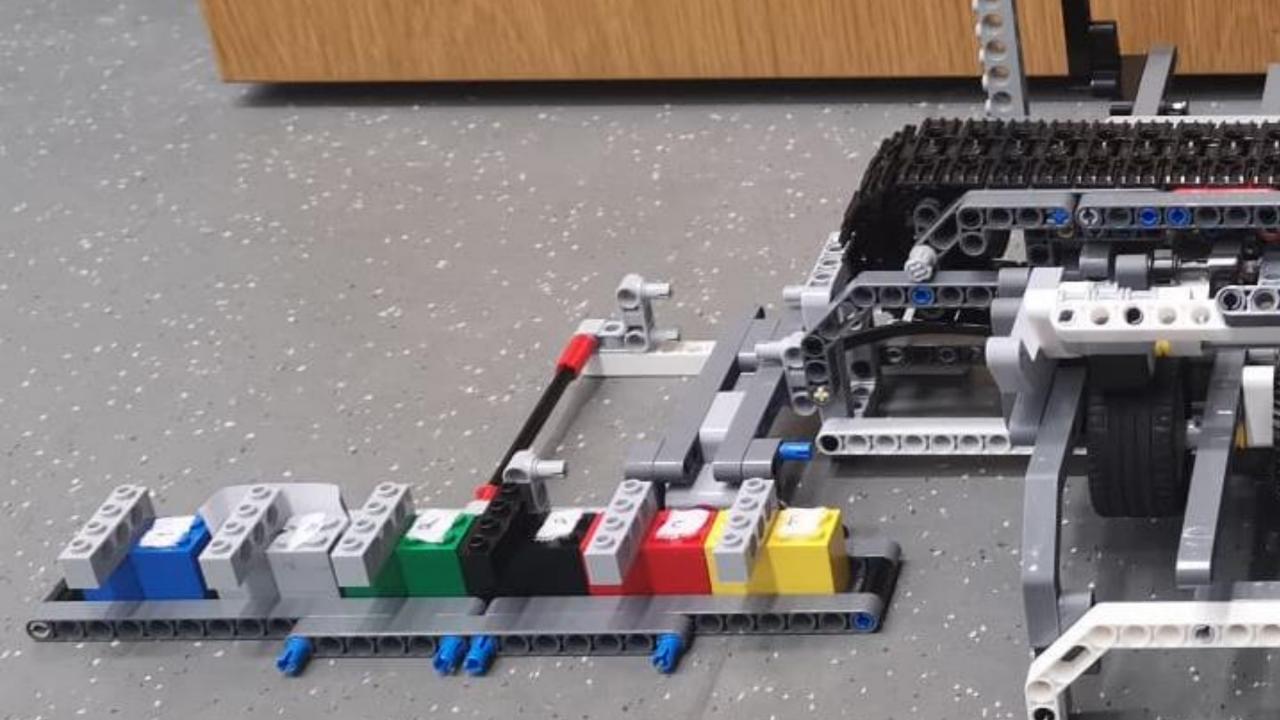
TATSÄCHLICHER ABLAUF





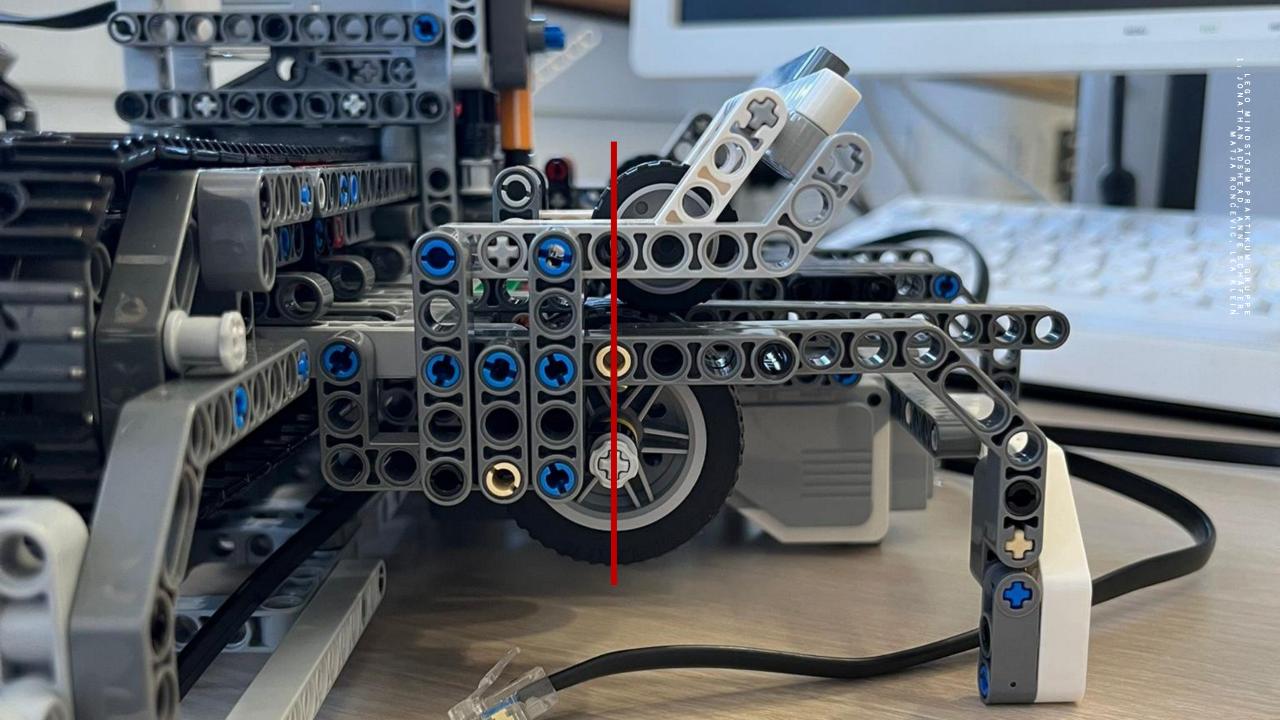






Bau der Hardware

Fehlende Teile → Workaround



Bau der Hardware

- Fehlende Teile → Workaround
- Blatt verhaken → justieren beim Einziehen
- Stiftwahl → Stabilo

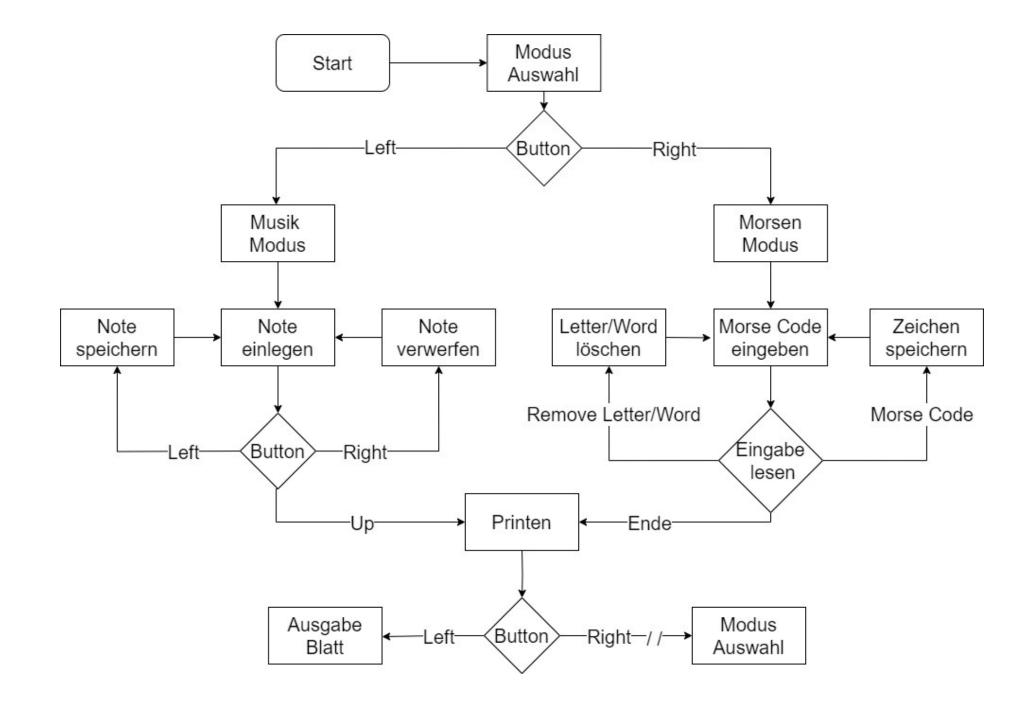


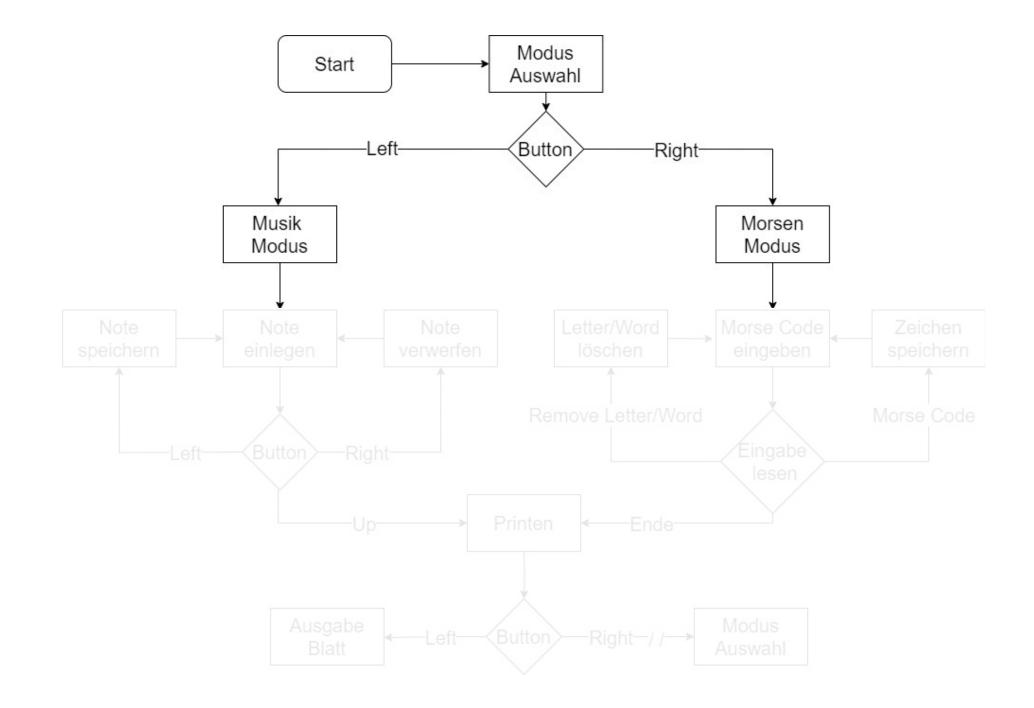
Programmierung des Druckers

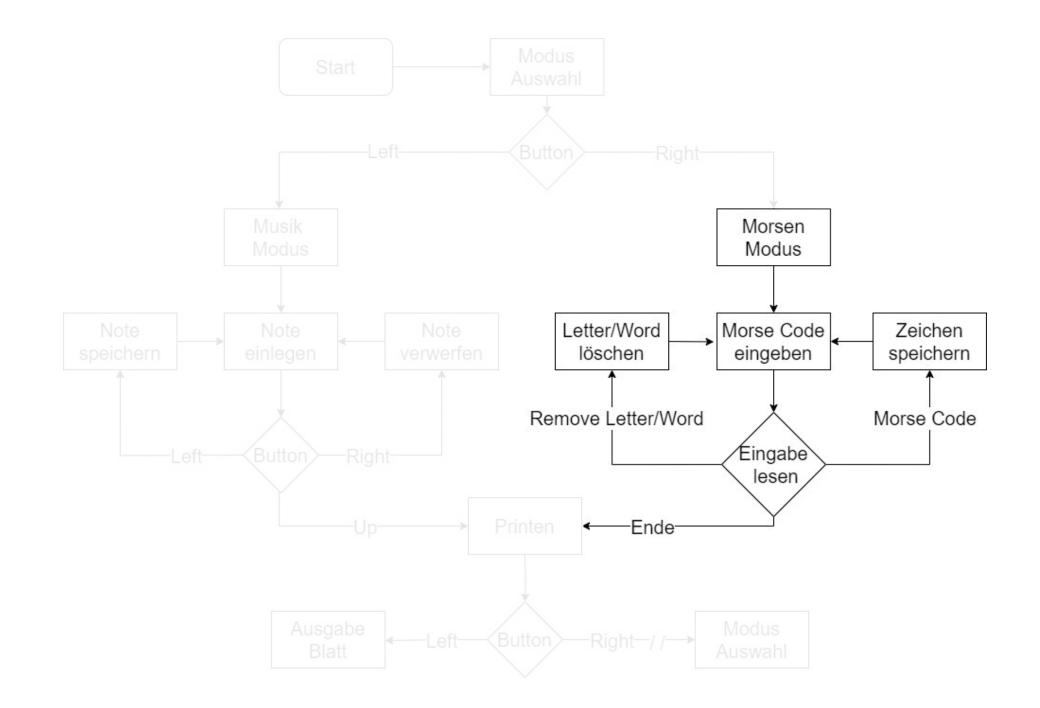
- Zeilenumbruch:
 - o Wort endet → Zeilenumbruch
 - o Mitten im Wort → Einfügen von Bindestrich
- Unübersichtlichkeit des Codes → Refactoring
- Unterschiedliche Breite der Buchstaben → Hardcoding

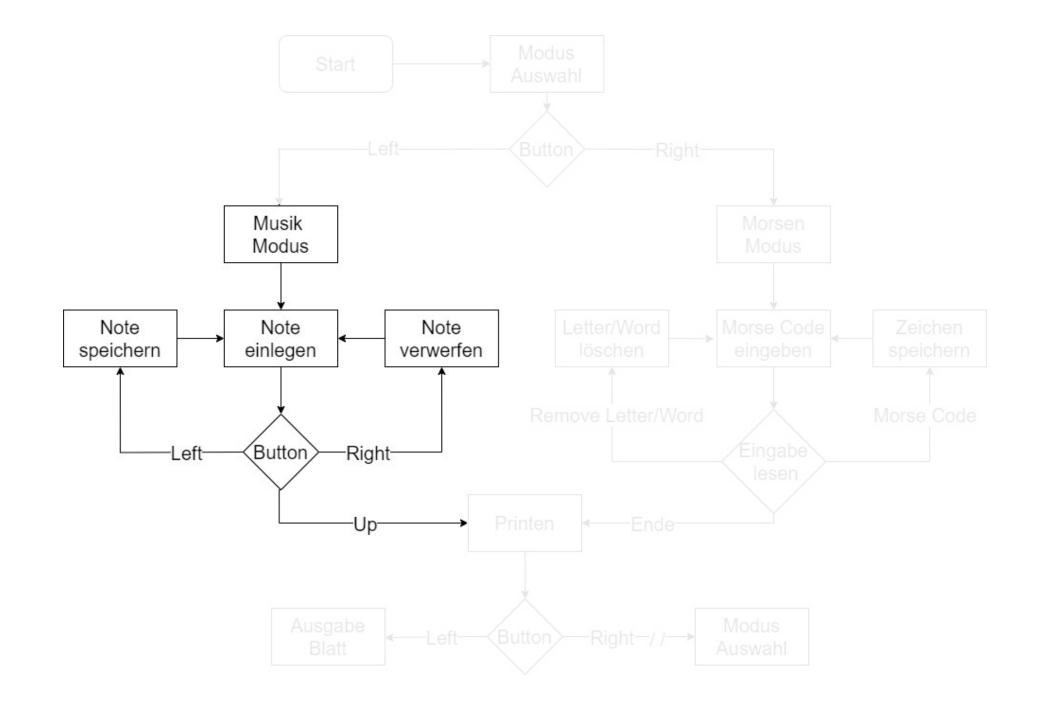
Programmierung des Morsers

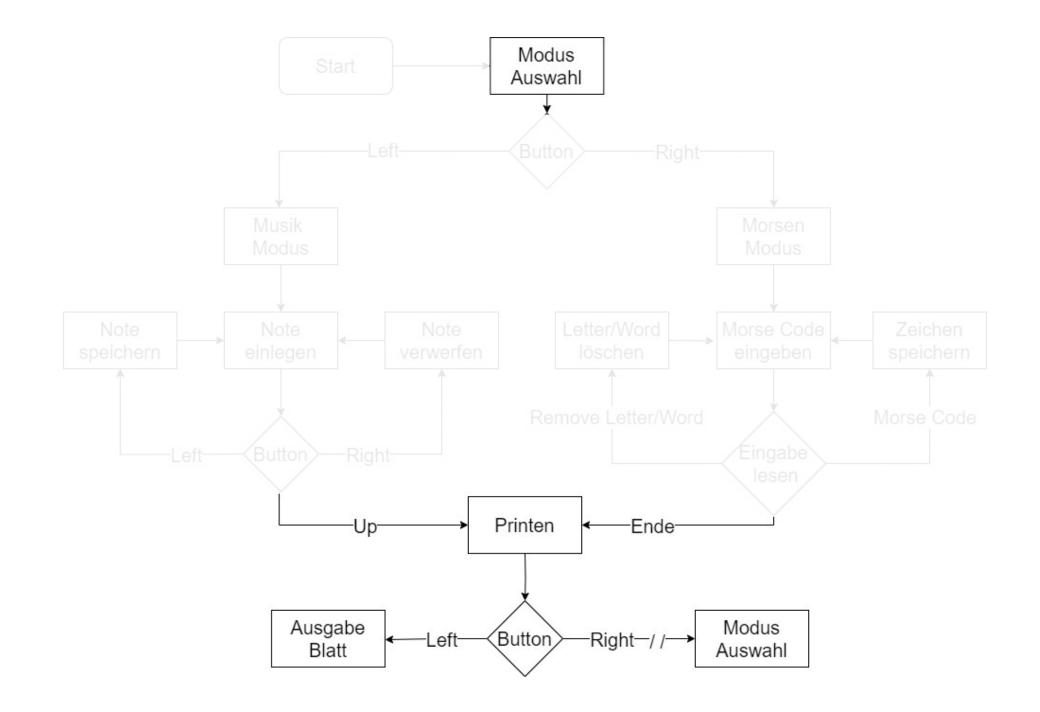
- Zeitgefühl beim Morsen → Zeittoleranzen im Code
- Sonderfälle:
 - o Ungültige Zeicheneingabe → ignorieren
 - ∘ "removeLetter" → vorherige Zeichen löschen











Printing +xCounter: int -linelenght: final int -unit: final it -notesInLine: int -MaxNotesInLine: final int +spaceBetween(): void +startPrintingNotes(notes: List<String>): void -printNotes(note: char): void +newLineNotes(number: int): void #x0(): void +initialize():void +startPrinting(words: List<String>): void -printLetter(a: char): void +newLine(number: int) -calcXPos(degree: int, character: boolean): void #printSpace(): void #printSpaceBetweenWords(): void #setPen(): void #liftPen(): void #diagonal(lowerCorner: String, upperCorner: String, direction: String, degree: int): void #straight(direction: String, degree: int): void

SignPrint

+unit: final int

+musicGrid(): void

+printNote(): void

+addCLine(): void

+noteC(): void

+noteH(): void

+printA(): void

+printDash(): void

+main(args: String[]):void -modusSelection(): boolean -endPrinting(): boolean -starWarsMelody(): void +clearOurDisplay(num: int): void MorseInput +morseLetter: String +normalWord: String +normalWordArray: List<String> -ourprint(): void +getInput(): void -handlePause(time: long): int -handlePress(time: long): int -saveWordToArray(): void -translate(letter: String): String -endInput(): void

+adapter: TouchAdapter +notes: int[] -translateAndAddToNormalWord(letter: String): int -handleInput(type: String, time: long): int -deleteEmptyStrings(arr: List<String>): List<String>

Manager

+colorSensor: EV3ColorSensor

+musicInputAdapter: ColorAdapter

+motorX: EV3LargeRegulatedMotor

+motorY: EV3LargeRegulatedMotor

+motorZ: EV3MediumRegulatedMotor

+paperTouchSensor: EV3TouchSensor

+penAdapter: TouchAdapter

+paperSensor: EV3ColorSensor

+paperVisibleAdapter: ColorAdapter

+morseTouchSensor: EV3TouchSensor

MusicInput +musicLetterArray: List<String> -noteList: String[] +readMusicInput(): void -askForConsent(color: String): int



