

Swedish-Slovak Dictionary, Software Development

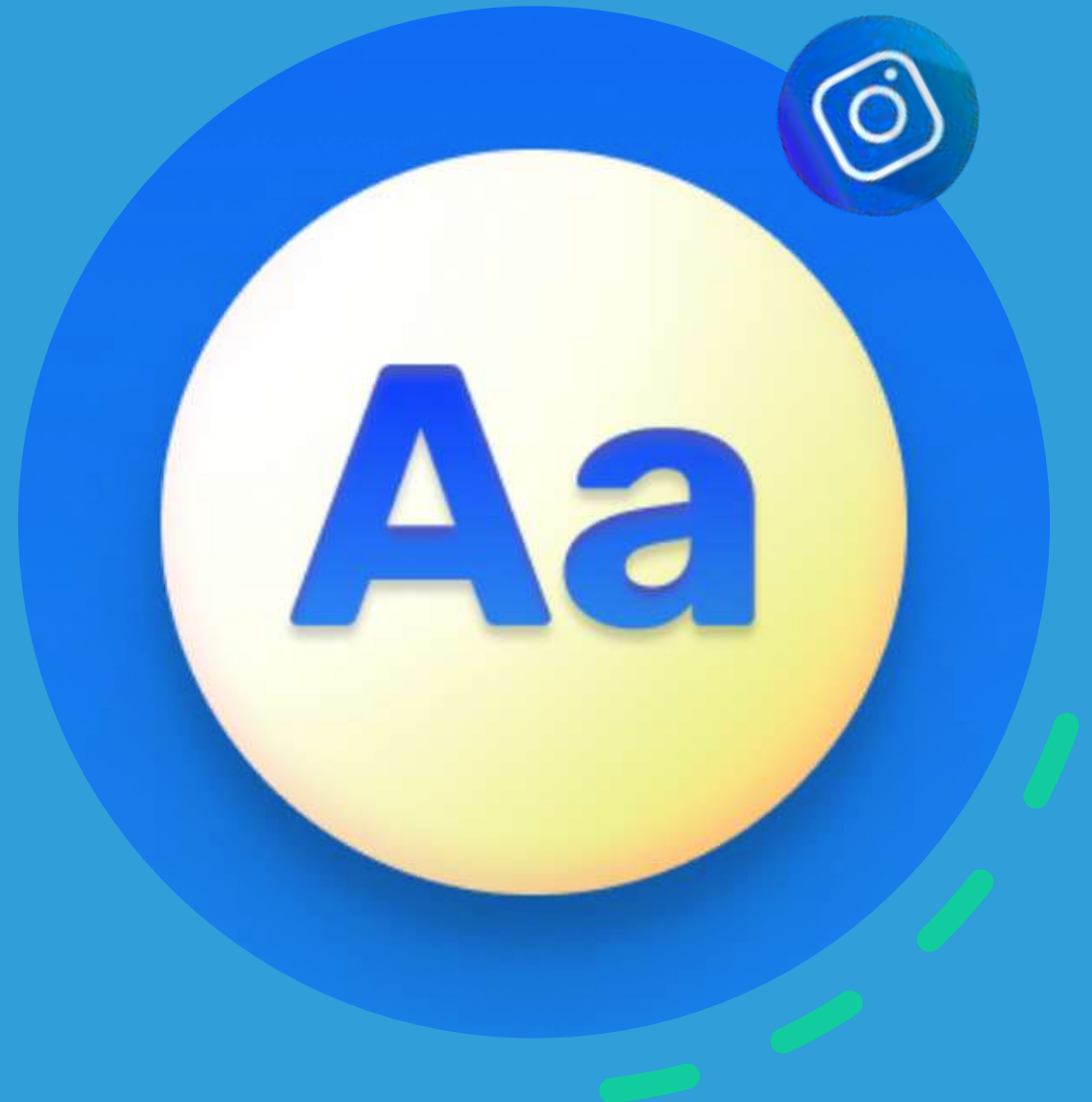
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<https://github.com/michalspano/Swedish-Slovak-Dictionary>



Goal (in short)^[1]

- Convenient application to learn **Swedish words**
- Application that fits **all needs**
- **Minimalistic** graphics and **seamless** animations
- “All in one” – no **extra** configuration required
- Even for the less **technically** proficient



Product overview

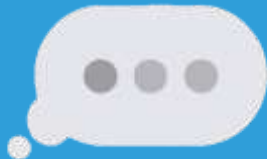


- **Cross-platform** software (iOS, iPadOS)
- Fundamental words and phrases in the **Swedish** language
- Brilliant user experience with up-to-date graphics and subtle sound design
- **Quizzes** and other **widgets**

Why **Swift**?

Def: “**Swift** is a general-purpose, multi-paradigm, compiled **programming language** developed by Apple Inc.”^[2]

- Easy to maintain and read (no semicolons) 😊
- **Concise** code structure (adopted from C)
- Efficient **memory** management
- Variety of **dynamic** libraries
- **Safety**
- **Lightning-fast**





A) Why did you choose this type of **software**?

B) Why for **iOS** users and not for windows platform?

A)

- Apple developers **community**^[3]
- **Cross-platform** integration
- **Xcode** (IDE)
- Sustainability and maintenance

B)

- Mobile application software development
- Kotlin **Interoperability** (Android Studio)^[4]



Swift & Kotlin code comparison



Swift is like Kotlin

Swift

```
var movieCount = 0
var songCount = 0

for item in library {
    if item is Movie {
        movieCount += 1
    } else if item is Song {
        songCount += 1
    }
}
```

Kotlin

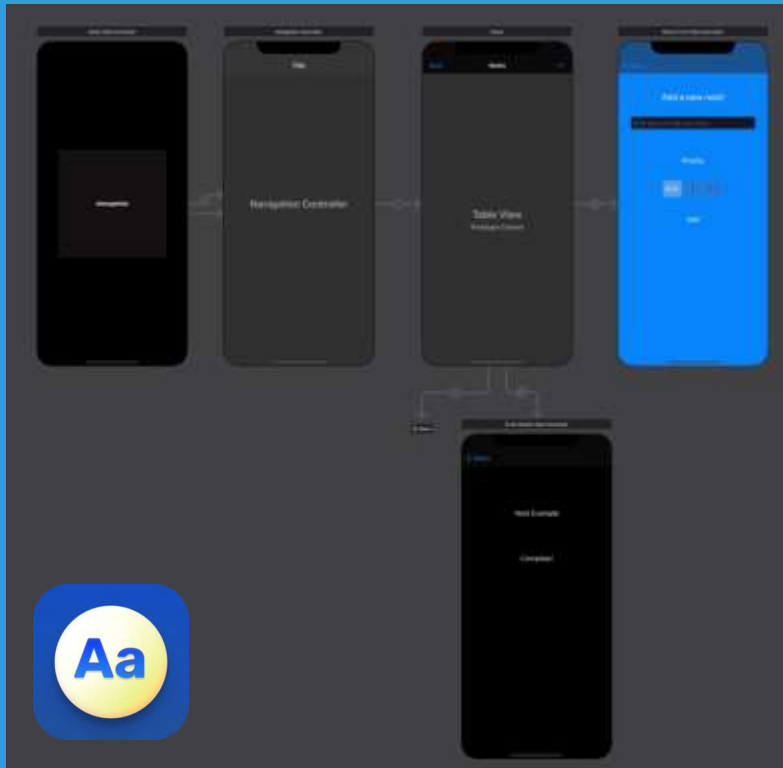
```
var movieCount = 0
var songCount = 0

for (item in library) {
    if (item is Movie) {
        ++movieCount
    } else if (item is Song) {
        ++songCount
    }
}
```

*What is **UI** platform used for?*

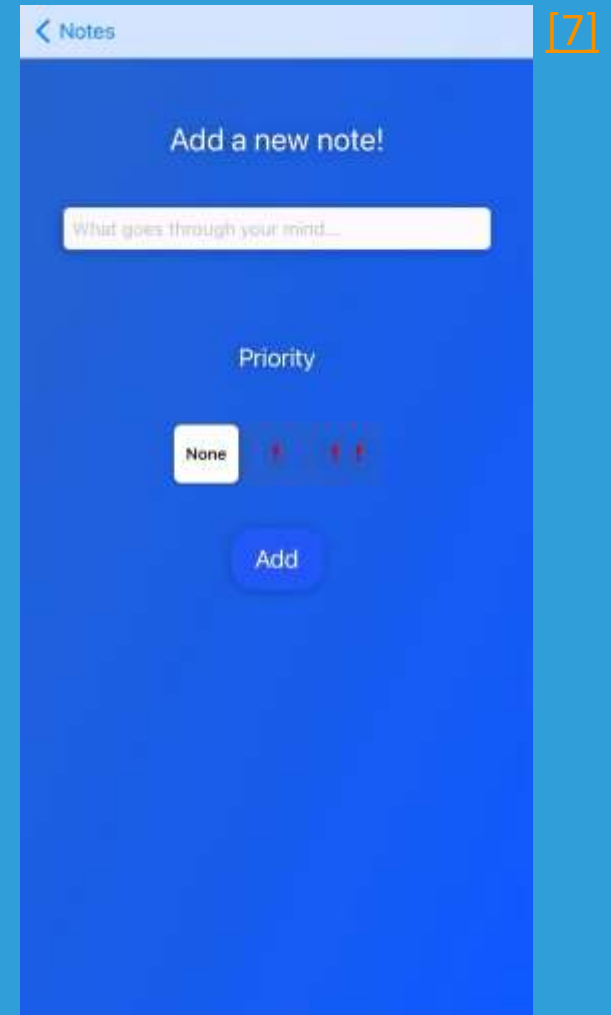
- **UI – User Interface**
- UI platform: composed of UI components
- Interaction between **humans** and **machines**
- **Graphical** user interface (GUI)
- **Gesture-based** user interface
- Easy and intuitive UI design: **maximum** desired outcome^[6]
- Simply: UI design + code = **reactive software**

Demonstration



```
//exports User based data to Core Data Model via AppDelegate
@IBAction func didTapAdd(_ sender: Any) {
    //checks for correct Core Data Model
    if let context = (UIApplication.shared.delegate as? AppDelegate)?.persistentContainer.viewContext {
        let newToDo = ToDoCD(context: context)
        newToDo.priority = Int32(prioritySegment.selectedSegmentIndex) //exports priority based value
        if let name = nameTextField.text {
            newToDo.name = name //exports name String based value
        }
        (UIApplication.shared.delegate as? AppDelegate)?.saveContext() //data is being saved to AppDelegate via CD
    }
    //performs Back to previous ViewController
    navigationController?.popViewController(animated: true)
}
```

```
@IBAction func didSwipeRetreat(_ sender: Any) {
    performSegue(withIdentifier: "retreatFromLessonInitialToLesson", sender: (Any).self)
}
override func prepare(for segue: UIStoryboardSegue, sender: Any?) {
    if (segue.identifier == "retreatFromLessonInitialToLesson") {
        let retreatVC = segue.destination as! Lesson4ViewController
        retreatVC.lessonIdentifier = lessonIdentifier2
    }
    else {
        let endVC = segue.destination as! Lesson4EndViewController
        endVC.lessonIdentifier3 = lessonIdentifier2
    }
}
```



UI platform

+

Code

=

Reaction

*What was your **motivation** to work on the selected topic?*

- Obtain new **coding experience**
- Practise **object-oriented** programming
- Study **git** interconnection^[8]
- Create a **purposeful** application
- Convenient **educational** tool
- Inspire others to learn basic **Swedish** vocabulary
- Apple **developers** community^[9]

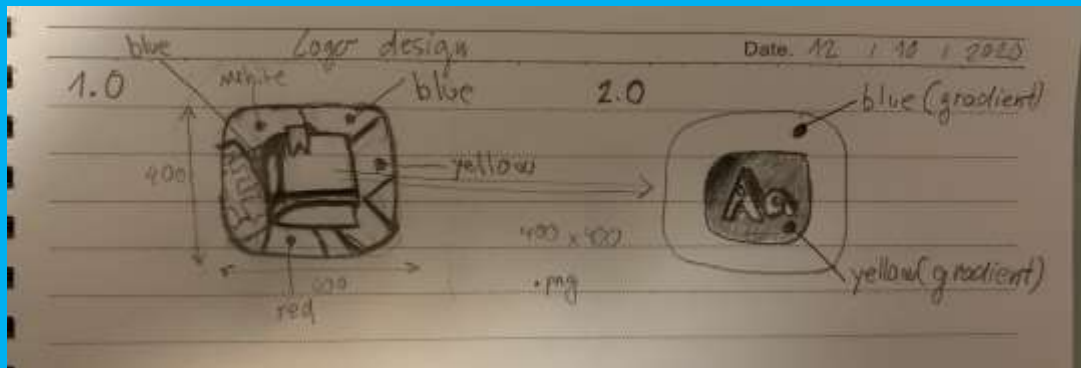
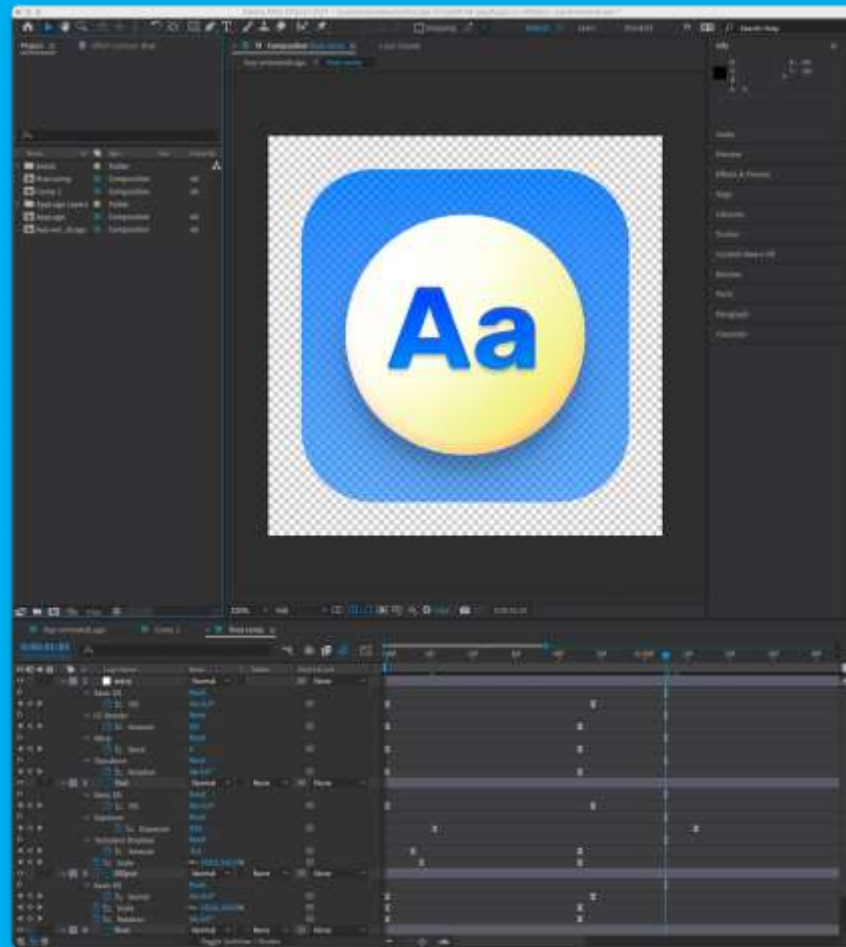
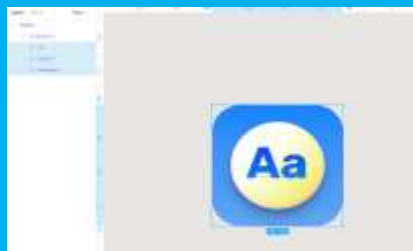


Apple
Developer

How **long** did it take you to prepare the **documents** to create the application?

- **Graphic design**
- **Motion design**, walkthrough video
- **Documentation** and management
- Application **content**, instructions
- **Data structures** (JSON^[10], Core Data^[11])
- **Sound design**
- **Summary: 4 weeks**

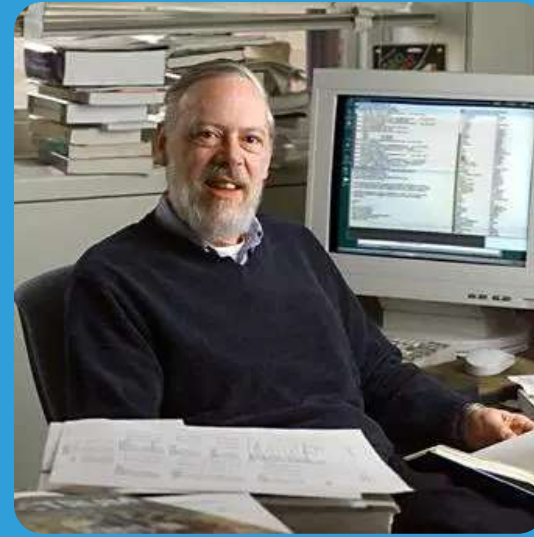




Stages of application **development**

Personal **inspiration**?

- Dennis Ritchie^[12]
- Jonathan Ive^[13]
- Andy Sloane^[14]
- Michal Hucko^[15]
- Material Design^[16]



Thank **you** for
your attention!

```
if ( !calm ){  
    keep calm;  
} else {  
    code on;  
}
```