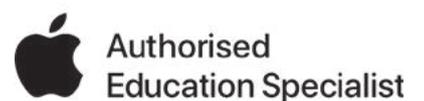




iOS App Development Challenge Student Guidebook



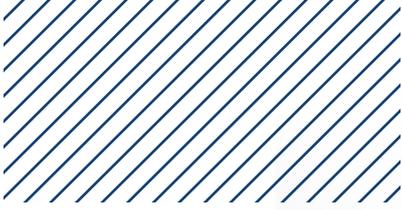
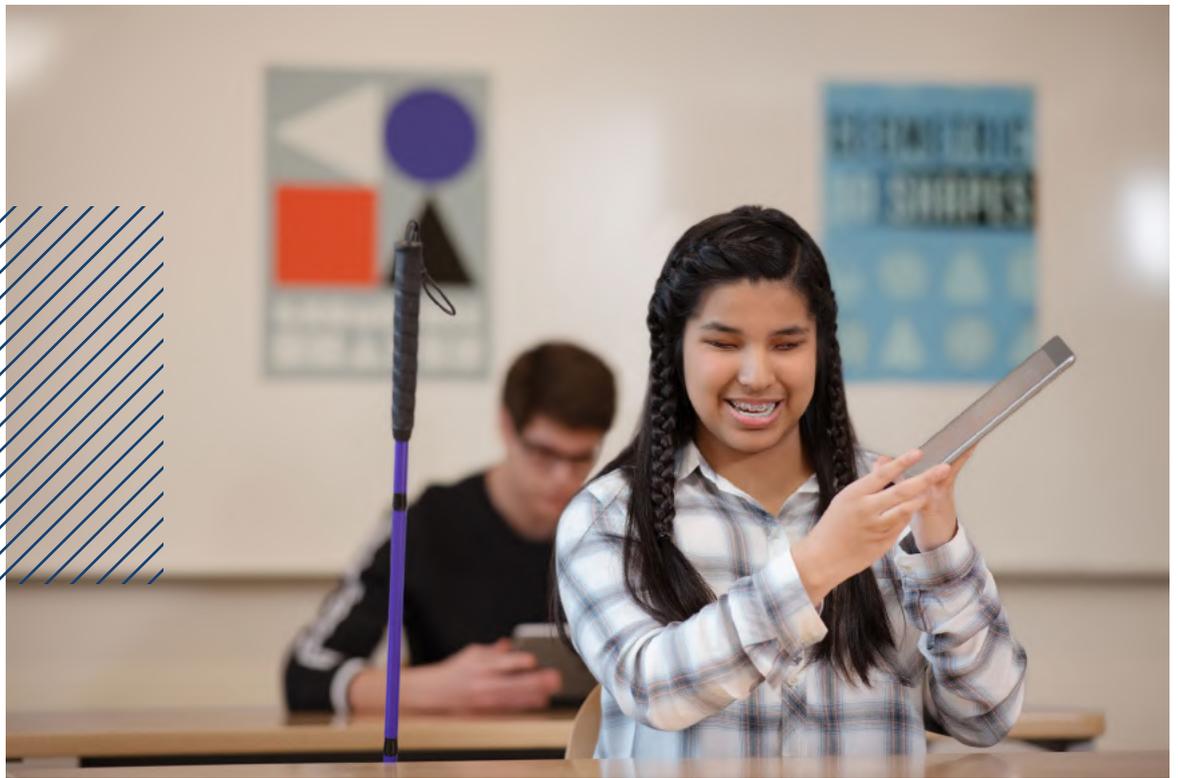


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What is the challenge?

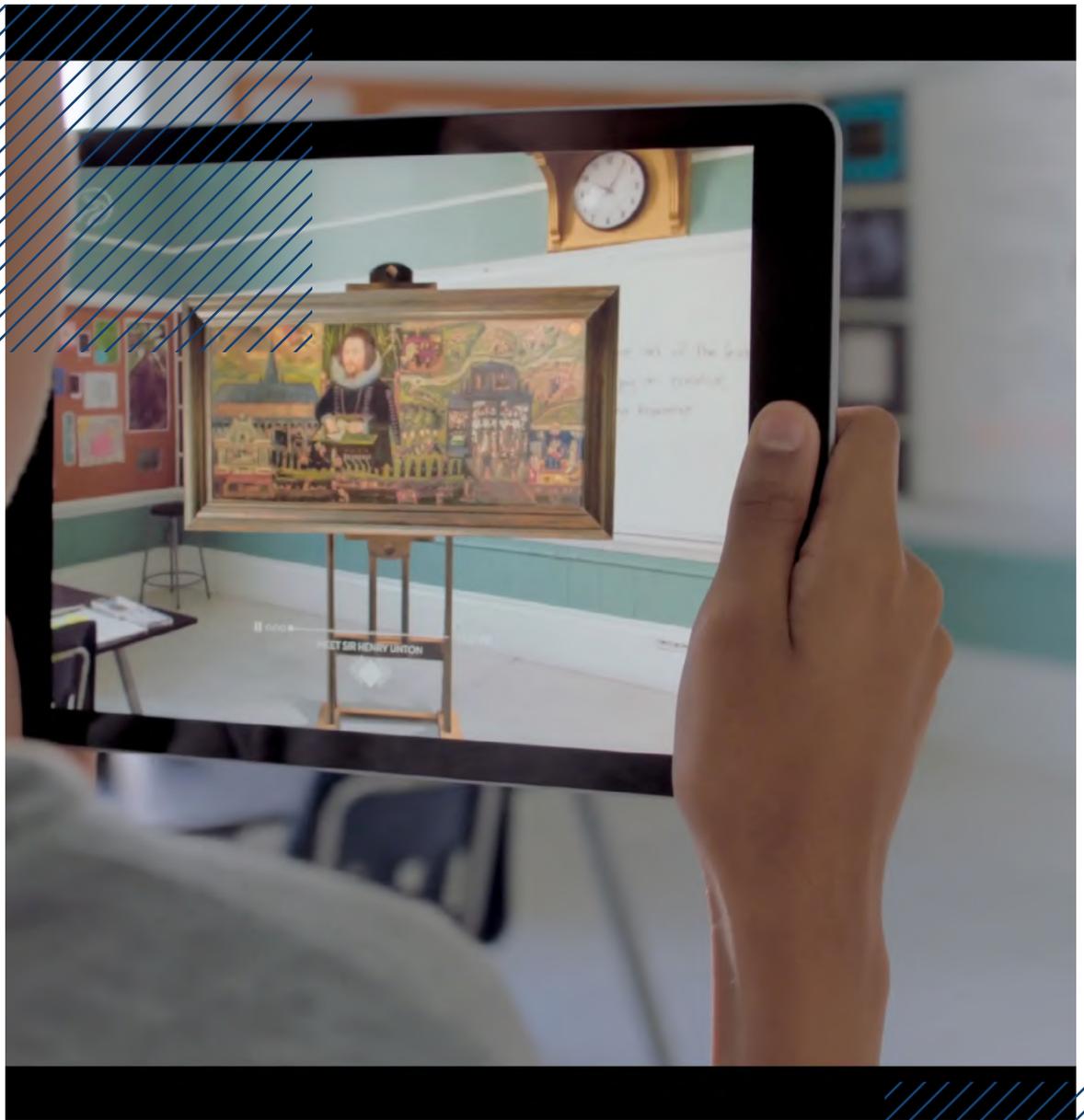
Coding is for everyone! Learning to code helps you think in new ways and creatively bring ideas to life. With this in mind, MDS CTS developed the free, six-month **iOS App Development Challenge** for the ADEK/Rize Enrichment Programs to promote coding, creativity, communication and accessibility.

For the challenge, participants will use Swift programming language to develop an app to solve an existing problem for individuals or societies in one of the following three areas: education, health or environment. This year's theme is: **Be Well Together**.

The solution must include:

- Identification of the problem and its impact on the end user
- App design
- App development
- App testing
- Submission

NOTE: The app must also include **at least one element of accessibility for users/people of determination.**



Who can participate?

The iOS App Development Challenge is open to UAE nationals and residents ages 14-18 from public and private schools in Abu Dhabi (Abu Dhabi, Al Ain and Al Dhafra regions).



How do I participate?

To participate in the iOS App Development Challenge, follow the submission timeline outlined on page 7. Each phase will include virtual sessions to support you through the challenge. You will be required to submit multiple files throughout the competition including documents, videos, Keynote presentations and a final UX/UI design or developed app.

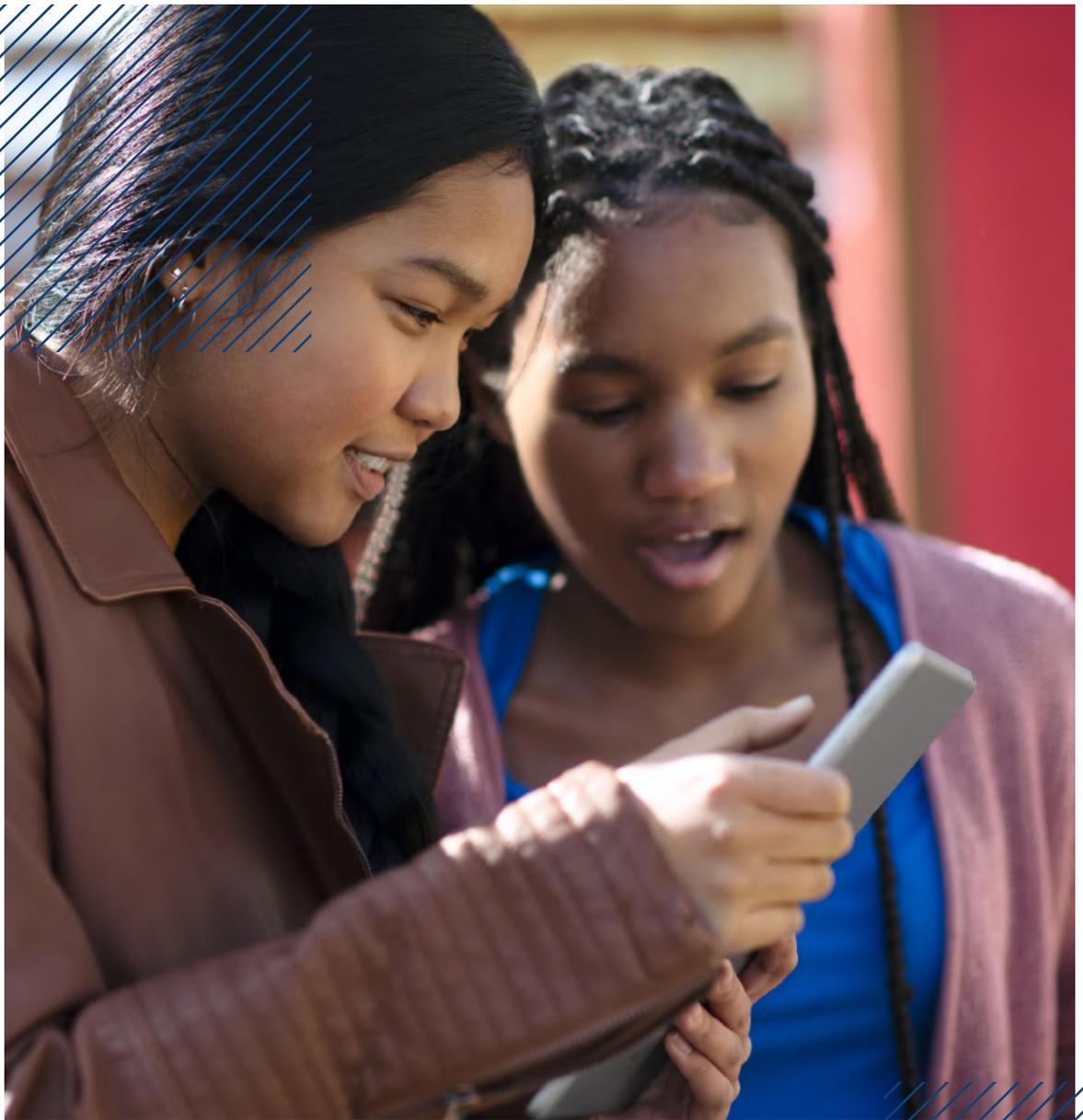
The challenge will follow five stages:

- **Stage 1:** Registration
- **Stage 2:** Kickoff workshop and app concept submission
- **Stage 3:** Bi-weekly virtual sessions and app development

- **Stage 4:** App submission
 - / **Category 1:** UX/UI design
 - / **Category 2:** Fully developed app
- **Stage 5:** Awards

Additional information:

- Participants select only one category for the challenge.
- A MacBook is required to participate in the challenge for Category 2 (fully developed app) only. This will require the use of Xcode, Apple's integrated development environment (IDE) for macOS.



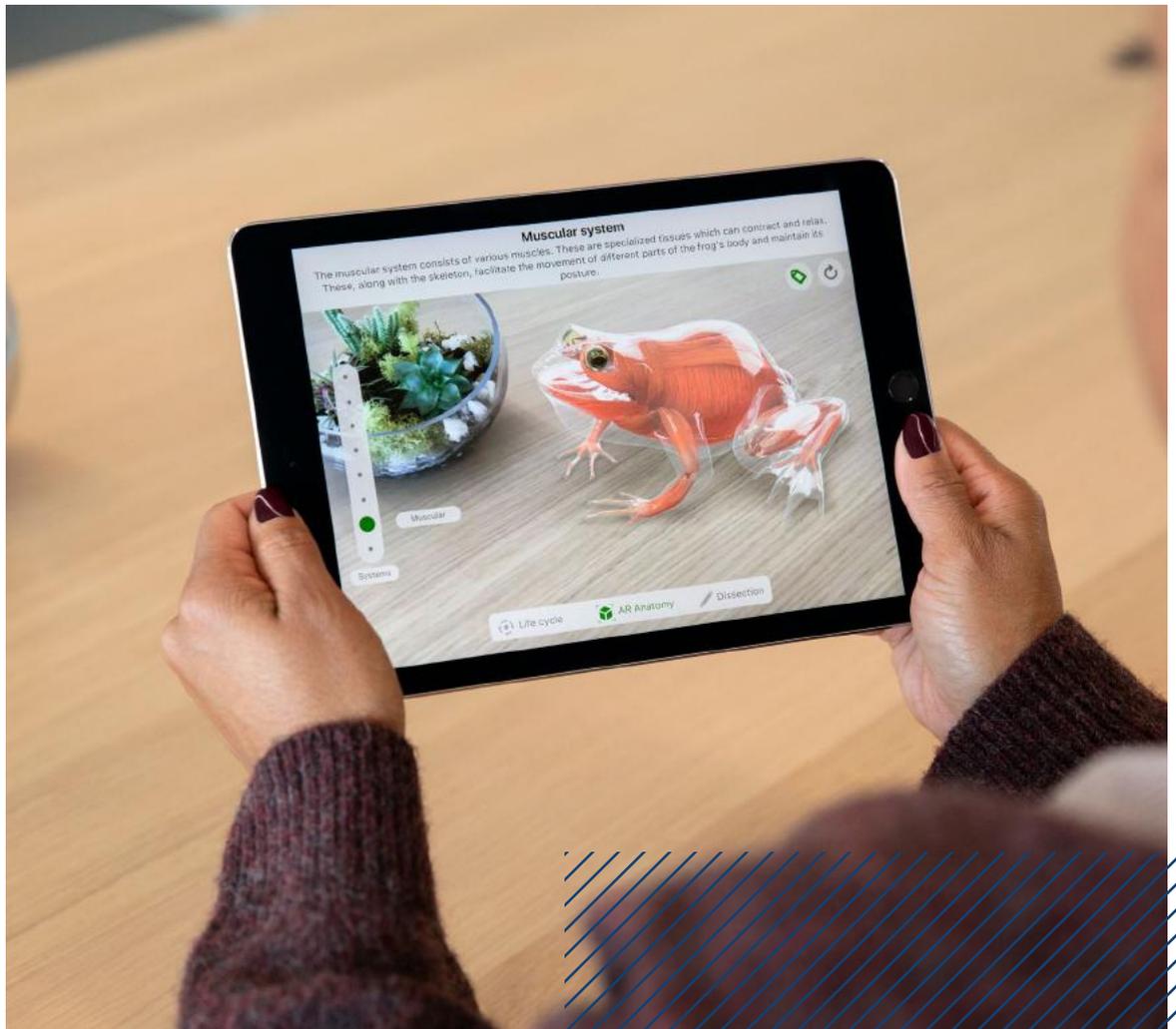
Program structure

- Participants can work individually or in groups of up to four people, either within or across schools.
- Participants are encouraged to take on specialized roles within their groups.
- Participants must attend at least 50% of the virtual sessions (see page 9).

Submission timeline

Milestone & App Workbook Pages	Submission Format	What to Include	Due Date
#1: Description and analysis of the problem <i>Reference App Workbook: Pages 7-45</i>	60-second video report created with Apple software (e.g., Clips or iMovie)	In the video, please introduce yourself and explain: <ul style="list-style-type: none"> • What problem will your app solve? • Who does the problem affect? • How is your app going to solve the problem? 	8 July 2021
#2: App prototype <i>Reference App Workbook: Pages 46-96</i>	<ul style="list-style-type: none"> • Keynote presentation about your prototype • Two-minute video explaining your presentation 	In the presentation and video, please explain: <ul style="list-style-type: none"> • What will the app interface look like? • How will the app work? 	29 July 2021
#3: Category 1 app submission - final UX/UI design <i>Reference App Workbook: Pages 97-125</i>	<ul style="list-style-type: none"> • Final Keynote presentation • Three-minute video pitching the app 	In the video, please give an app overview and explain: <ul style="list-style-type: none"> • What is the problem that your app solves? 	31 October 2021
#3: Category 2 app submission - fully developed app <i>Reference App Workbook: Pages 97-125</i>	<ul style="list-style-type: none"> • App files • Three-minute video pitching the app 	<ul style="list-style-type: none"> • How does your app solve this problem? • What impact do you want to make with your app? 	

NOTE: All milestone files will be submitted on the program website.



Submission guidelines

Final submissions for both Category 1 (UX/UI design) and Category 2 (fully developed app) are due by **31 October 2021 at 11:59pm.**

Participants must submit appropriate files (see details on page 7) via the link on the program website. Videos can be a maximum of three minutes in length.

Video submissions must include:

- Names of participant(s)
- Names of school(s)
- Topic category (education, health or environment)
- Explanation/demonstration of app

Additional submission details can be found on the program website: mdsiosappdev.com

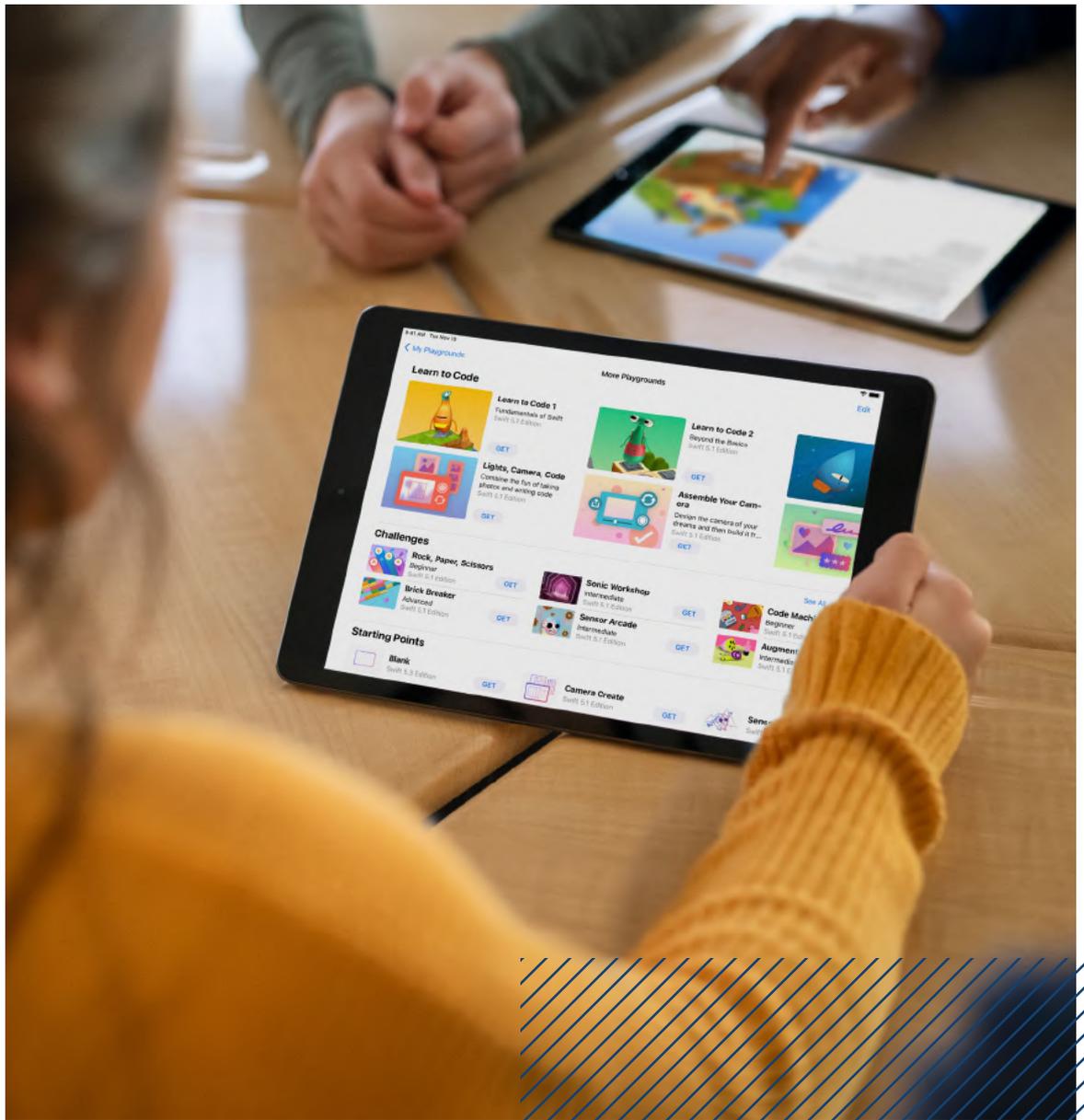
Virtual sessions

Session	Time Length	Topic	Date/Time
Future of work	60 minutes	Careers and skills of the future	7 June 2021 4-6pm
A world accessible to all	60 minutes	Accessibility on Apple	14 June 2021 4-6pm
Creativity	60 minutes	Everyone can create!	21 June 2021 4-6pm
Communication	60 minutes	Analyze a problem and communicate findings creatively	5 July 2021 4-6pm
App prototyping	90 minutes	Design an interactive app prototype in Keynote	12, 13 or 14 July 2021 4-6pm
App development with Swift	90 minutes	Introduction to Swift and app development	26, 27 or 28 July 2021 4-6pm
Development and documentation	90 minutes	Documenting the app development process	2, 3 or 4 August 2021 4-6pm
App showcase and closing ceremony	60 minutes	App showcase, awards and closing ceremony	TBC November/ December 2021

Scoring rubric

The following rubric will be used for scoring submissions:

Category	0	1	2	3
Problem selection and scope: Is the selected problem clear and defined?	Problem is unclear, undefined and/or not within the three required categories.	Problem is somewhat clear and defined and touches on one of the required categories.	Problem is mostly clear and defined and within one of the required categories.	Program is clearly defined with detail and highly relevant to one of the required categories.
App design and prototype: Are the app design and prototype well-developed and relevant to the problem?	No, the app is not designed thoughtfully, nor is it relevant to the problem.	Some aspects of the app design and/or prototype show thoughtfulness and relevancy to the problem.	Yes, most aspects of the app are relevant to the problem and show a thoughtful design and development process.	Yes, the app is highly relevant to the problem, and the design and prototype are well-designed and polished.
Creativity and originality: Is the app original and exciting?	No, the app is completely unoriginal.	Some aspects of the app are original and exciting.	Yes, the app is original and exciting.	Yes, the app is unlike anything I've seen before.
Usefulness and feasibility: Is the app useful, and would it be technically feasible to develop and implement?	No, the app is fundamentally unrealistic, and it does not help solve the problem.	No, not in its current form, but it is conceivable that a highly revised version could be.	Yes, with some minor revisions.	Yes, the app would definitely help address the problem and could be easily developed as is.
Scalability: Is it possible to scale the app design to reach a wide audience?	No, scaling this app is not feasible.	No, not in its current form, but it is conceivable that a highly revised version could be.	Yes, with some minor revisions.	Yes, the app design can be scaled easily to reach a wide audience.
Accessibility features: Does the app include at least one element of accessibility for users/people of determination?	No, the app does not include any elements of accessibility.	The design references accessibility but does not include a clear use plan for any elements of accessibility.	The app clearly includes one element of accessibility in its design.	The app clearly includes more than one element of accessibility in its design.
Xcode technical proficiency and code quality (for Category 2 submissions only): Is the use of Xcode polished, high quality and technically proficient?	No, Xcode quality is low, there are many technical errors and it lacks attention to detail.	There are some Xcode elements that show technical proficiency and/or quality coding, but many errors remain.	Yes, there is a clean, high-quality design, demonstrating a careful use of Xcode and only a few errors.	Yes, the Xcode quality is extremely high and the technical proficiency is at a professional level with no errors.



Prizes

All participants who reach stage 4 (app submission) will receive certificates.

Additionally, the following five awards will be given in **each** category (UX/UI design and fully developed app):

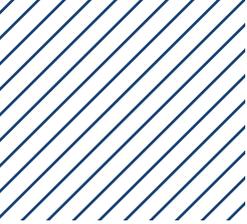
- Top Overall Solution
- Top Education Solution
- Top Health Solution
- Top Environmental Solution
- Best Accessibility



Program promotion

If you are a parent or school representative, please share the iOS App Development Challenge with students! Provide them with the challenge flyer and have them visit the following website for more information:

mdsiosappdev.com



Resources

- Swift Student Challenge:
<https://developer.apple.com/wwdc21/swift-student-challenge/>
- Teaching Code:
<https://www.apple.com/education/k12/teaching-code/>
- Swift Playgrounds:
<https://www.apple.com/swift/playgrounds/>
- Everyone Can Code Curriculum Guide:
<https://www.apple.com/education/docs/everyone-can-code-curriculum-guide.pdf>
- Quick Start to Code:
<https://education-static.apple.com/teaching-code/quick-start-to-code.pdf>
- Apple App Developer Community:
<https://developer.apple.com/>
- Human Interface Guidelines:
<https://developer.apple.com/design/human-interface-guidelines/ios/overview/themes/>
- Apple’s Vision for Learning with iPad (Design Principles):
<https://education-static.apple.com/leadership/vision-for-learning-ipad.pdf>
- App Development in Swift Guide Books:
<https://books.apple.com/us/book/app-development-with-swift/id1465002990>

