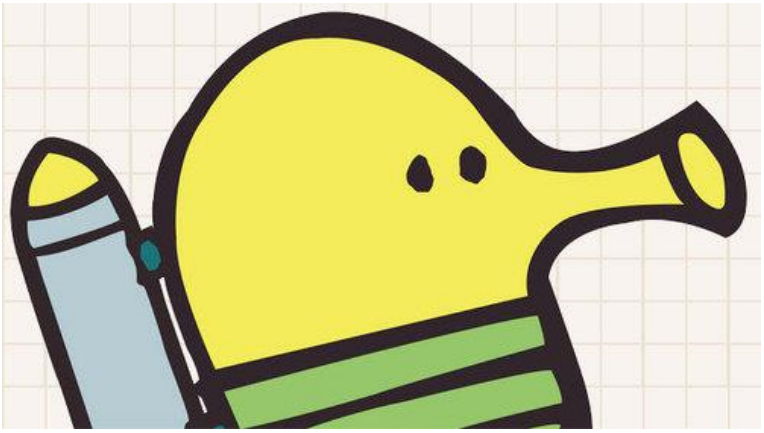
Game Engines

Developer, Meet Coffee.



Task 1 – Phase 1

Big Bang Model – Doodle Jump

"When we came back to pick up where we had left off the *Hop, Bunny, Hop!* project, we realised we preferred the pencil-drawn sketches to the art we had, and then it hit us - we should just make this game using the hand-drawn style, similar to the style we used for our *Classic Tic Tac Toe* game.

We started going in that direction and liked what we were coming up with, and since the art style had changed, we decided to create a whole new storyline for the game." (Jordan, 2009)

Basically, Doodle Jump was going to be another game, but they changed the art style to a pencil sketch one. They then decided that, since they had changed the style, they might as well change the storyline and that is how they invented Doodle Jump. The previous game they were going to create was of a rabbit catching carrots falling from the sky. Doodle Jump is quite the other way around; you play as the doodler and have to jump onto the platforms without missing one otherwise you lose. This initial development took around 2 months and the code was all written from scratch in Xcode.

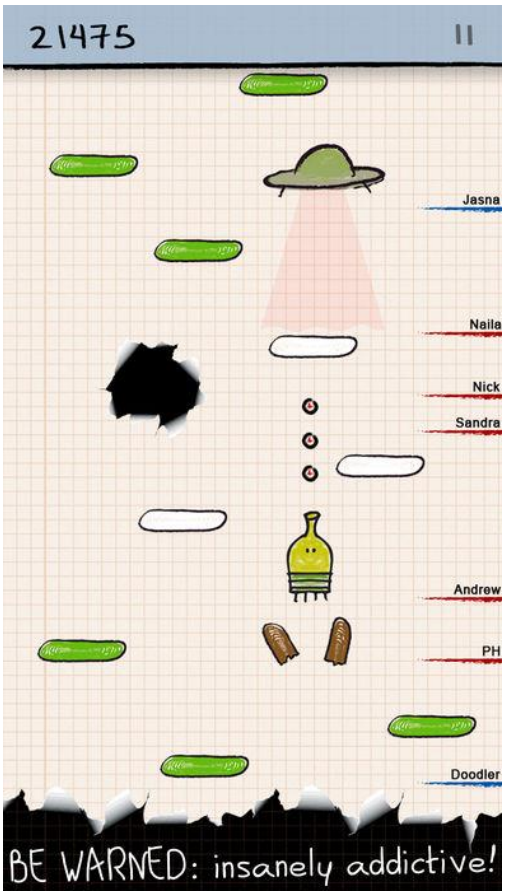
There was not much planning for this game, they basically just went with their initial idea, and when people complained, they did their best to better the game to peoples' liking; for example when they created the shooter on the doodler. At first, you could only shoot above, but people were requesting shooting in all directions:

"…we had repeated requests from players to make it so that you can shoot in different directions." (Jordan, 2009)

When the update came out, not many people liked it and some even complained. So they therefore made a toggle switch for this feature. Each updates take about one to two weeks.

"To our surprise, when the update came out, some players started complaining that it made the game more difficult. So now, there is a setting to turn the directional shooting mode on/off." (Jordan, 2009)

They also wanted the game to be super addictive, so near the title they added, “WARNING: DO NOT BUY IF YOU VALUE YOUR LIFE”, as a very hyperbolic warning of how addictive the game was.



Eventually score markers were added too which could be viewed globally so people would try and beat your highscores.

“*Doodle Jump* was the first game ever to implement in-game score markers, displayed in real time to all the players around the world.

Early on, we knew we wanted to add an element to the game that would somehow connect the players around the globe, and give *Doodle Jump* an additional unique aspect that we were hoping would help catch Apple's and various iPhone apps review sites' attention.” (Jordan, 2009)

Whenever the creators themselves have an idea for Doodle Jump, or they get idea feedback from users, they normally always try and implement it into the game. However they must try to keep the game neutral by not making it too easy but not too difficult either.

“New update features are a combination of our ideas and user suggestions. We try to strike a balance between adding new power-ups and obstacles, and aim for the one new obstacle per one new power-up formula to maintain the game's difficulty and level of challenge consistent.” (Jordan, 2009)

References:

Jordan, J., 2009. *Bouncing ever upwards: The making of Doodle Jump.* [Online]. Available at: http://www.pocketgamer.biz/feature/15412/bouncing-ever-upwards-the-making-of-doodle-jump/ [Accessed: 05 Apr. 18)

Kidman, A., 2012. *The Story Of Doodle Jump: Brotherly Love And Digital Snacks.* [Online]. Available at: https://www.kotaku.com.au/2012/05/the-story-of-doodle-jump-brotherly-love-and-digital-snacks/ [Accessed: 05 Apr. 18]

Task 1 – Phase 2

Materials required:

- 2 character sprites
  - Doodler
  - Enemy doodles
- 4 types of platforms
  - Normal platform
  - Springy platform
  - Breakable platform
  - Blue moving platform
- Jetpack pickup
- Square background







Code to create mechanics:

1. **Doodler bounces on platforms**
   Rigidbody colliding with box collider, then creating an upward force to cause bounce. When landing on breakable platform, nothing happens. Animation causes platform to break on collision. Springy platform causes bigger force therefore bigger bounce.
2. **Doodler moves left and right**
   Input.*GetAxis*("Horizontal") to enable left and right movement.
3. **Blue moving platform & enemy moving**
   Automatically start moving on start. Probably by using Vector3.Lerp. Blue platform also has the same mechanics as normal platform. When doodler collides with enemy, game is over.
4. **Doodler shooting**
   Input.GetKeyDown(“Spacebar”) for example. This would trigger Doodle to shoot a bullet. Bullet would then collide with an enemy and destroy him.
5. **Falling/Not landing on a platform or colliding with an enemy**
   OnBecameInvisible() is what is used when the renderer is no longer visible by the camera. Triggers game to be over. Game is also over when Doodler collides with enemy.
6. **Collecting a jetpack**
   When collected this send Doodler flying upwards for a period of time. It is similar to the bounce of the platforms, but without the actual bounce. So probably the mechanics of the jetpack are the same as of the platform but without the bounce.

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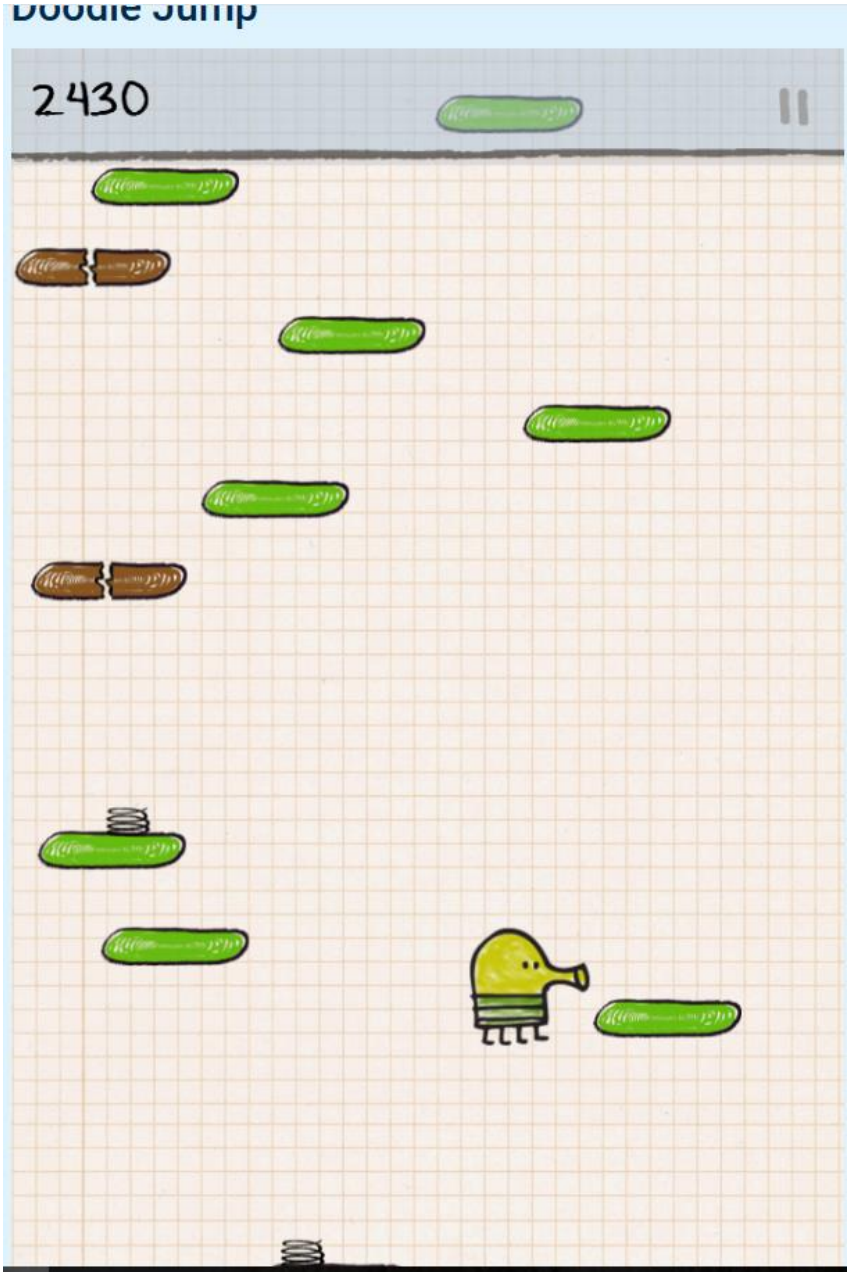
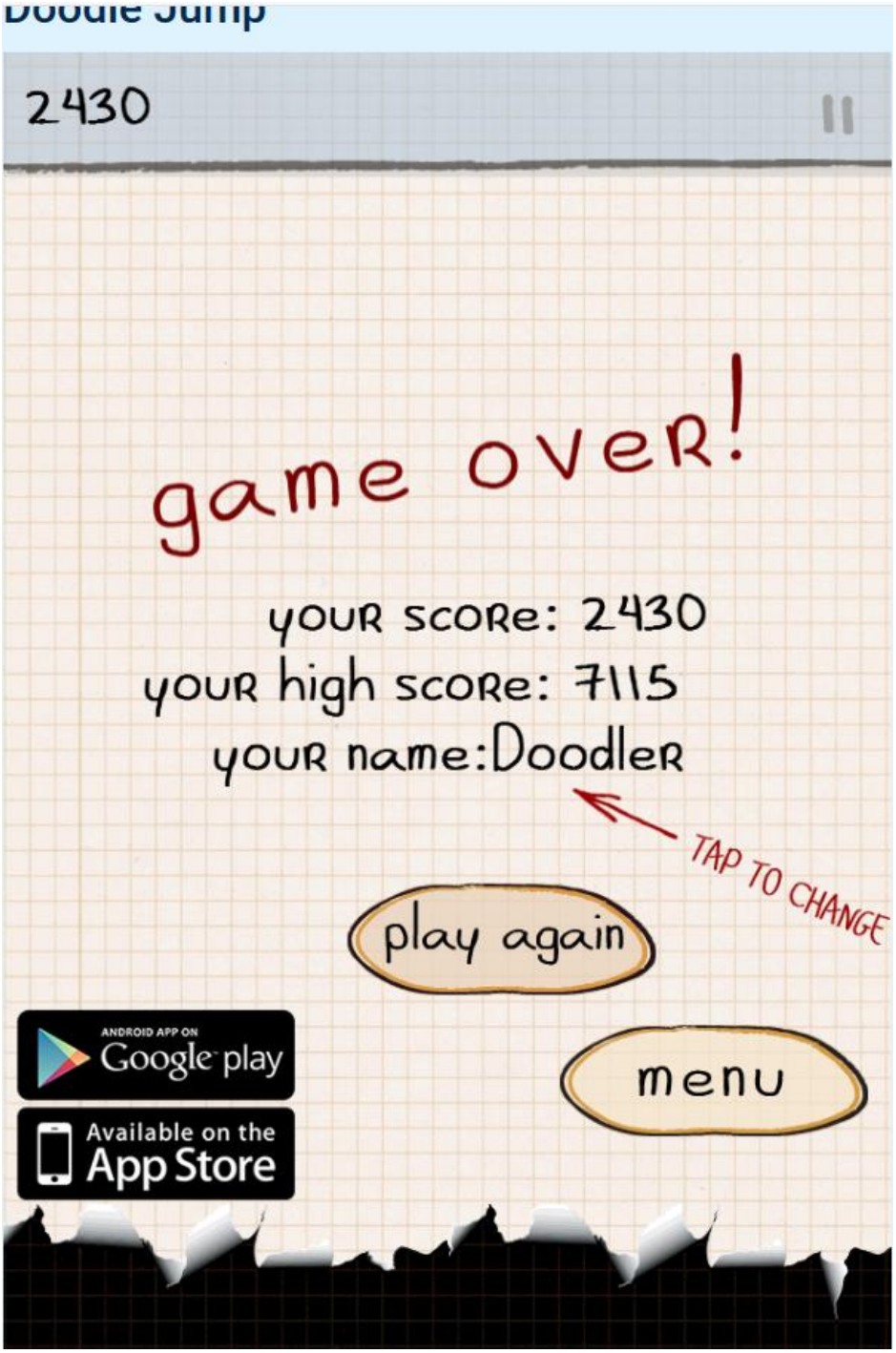
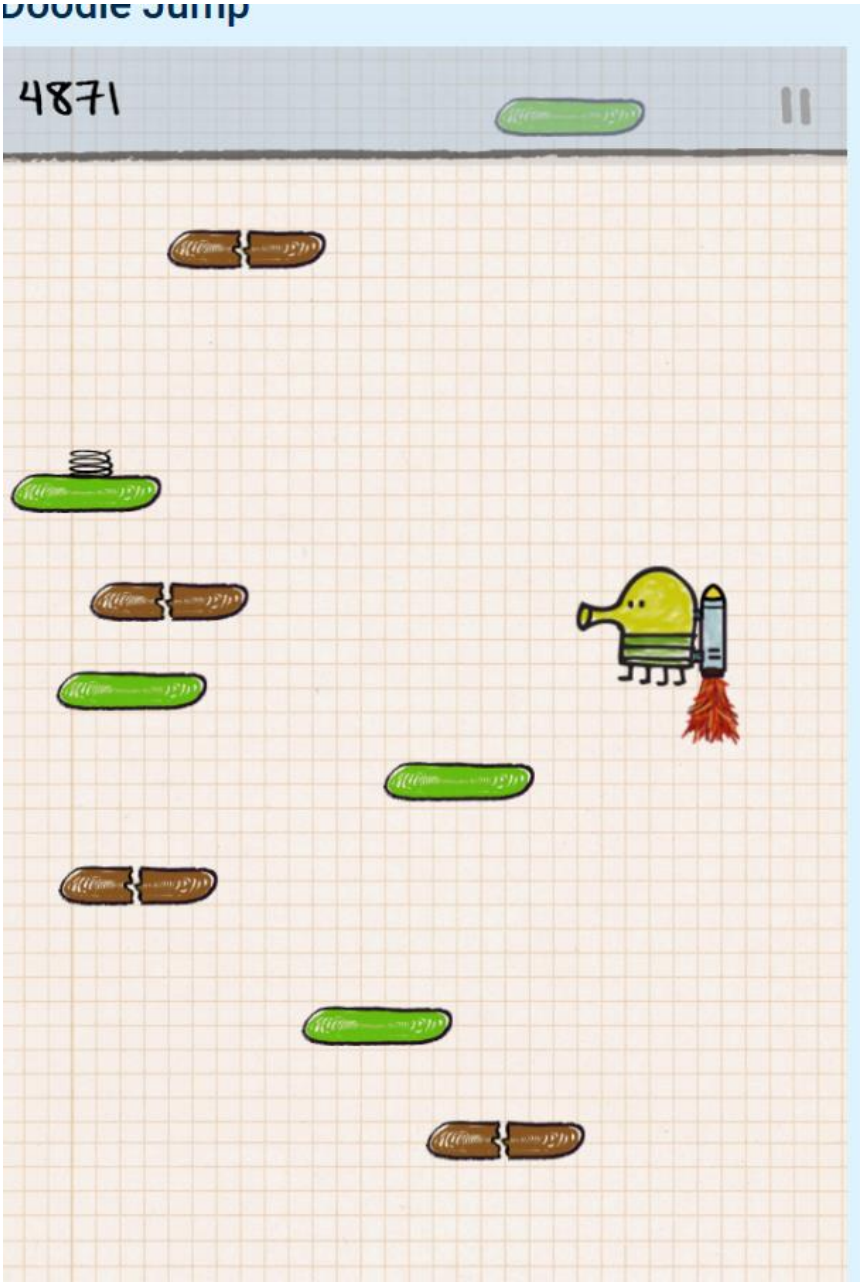
7. **Buttons – Pause, Play Again, Menu**
   Pause button pauses the game and play button resumes the game. Play again restarts the game and resets all points. Menu takes you to the main menu where you have options such as to start the game.




Doodle Jump
2430
game over!
your score: 2430
your high score: 7115
your name:Doodler
TAP TO CHANGE
play again
menu
ANDROID APP ON
Google play
Available on the
App Store



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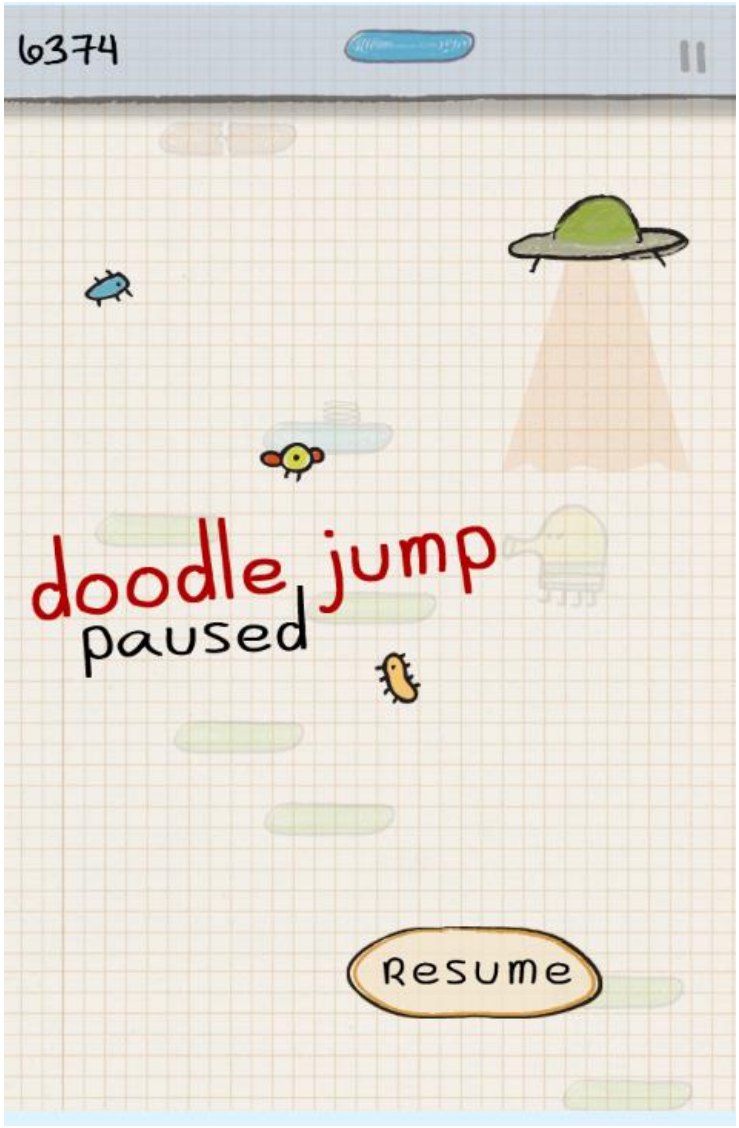

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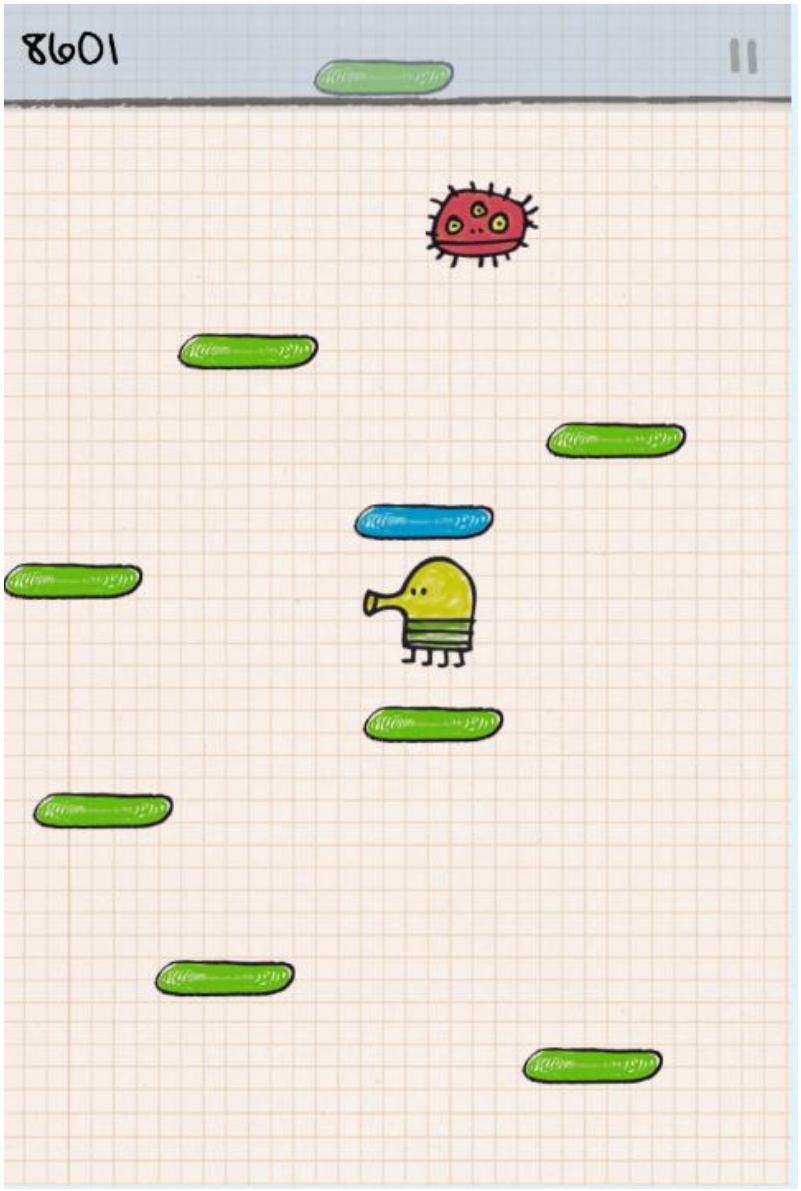

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