AALAMI ALSSAGHIR

عالمي الصغير

UMM AL-QURA UNIVERSITY · جامعة أم القرى

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INTRODUCTION

Virtual reality (VR) is a promising educational tool for children with autism spectrum disorder (ASD) that has the potential to support and achieve the Kingdom of Saudi Arabia's vision of providing the highest quality of services to all members of society. VR can provide a safe, repeatable, and diversified learning environment, as well as simplified and controlled environments that are tailored to the individual's needs. Moreover, VR can provide a safer learning situation, where mistakes are less catastrophic and stimuli can be adjusted to reduce or increase the level of difficulty.
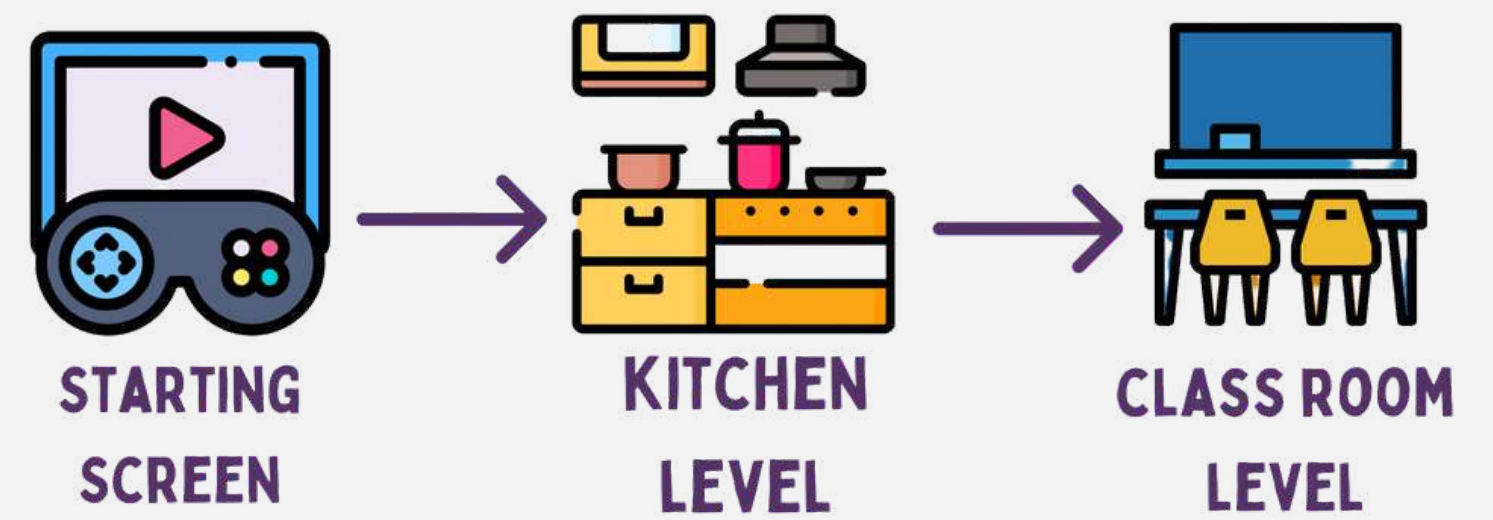
OBJECTIVES

1. Enhancing the methods of teaching autistic children in Saudi Arabia.

2. Utilize Virtual Reality (VR) technology to improve essential skills of autistic children.
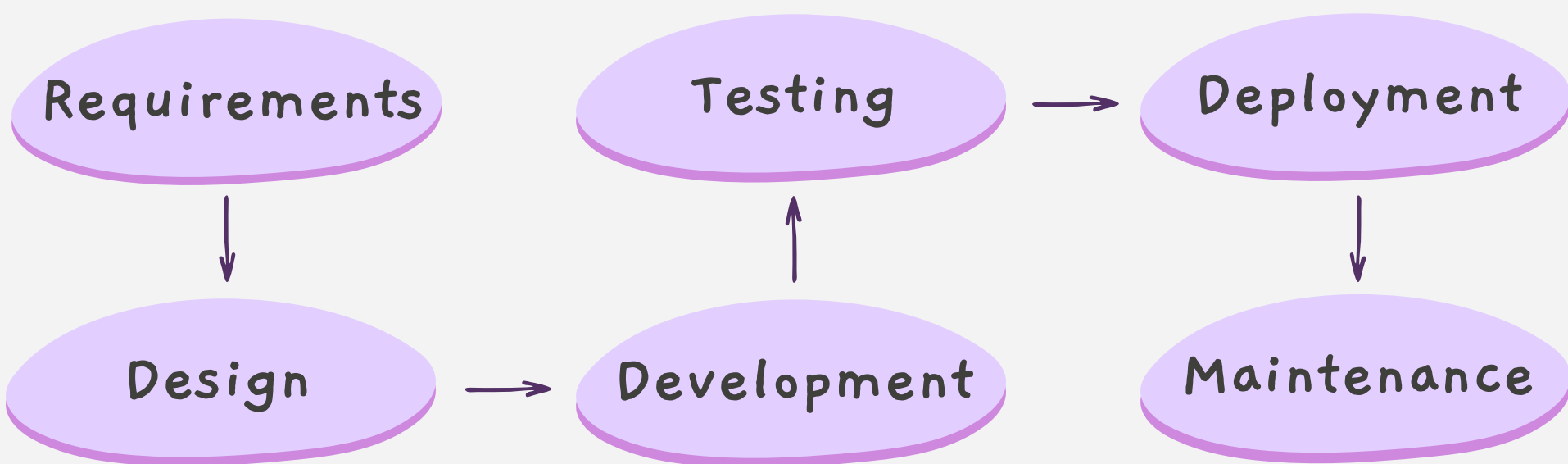
GAME CHARACTERS

THE GREETER KID (STARTING SCREEN)

THE MOTHER (KITCHEN)

THE TEACHER (CLASS ROOM)

METHODOLOGY

THE WATERFALL METHODOLOGY

Requirements → Design → Development → Testing → Deployment → Maintenance

GAME WORKFLOW

STARTING SCREEN → KITCHEN LEVEL → CLASS ROOM LEVEL

PROGRAMMING TOOLS

OCULUS

RESULTS AND FUTURE WORK
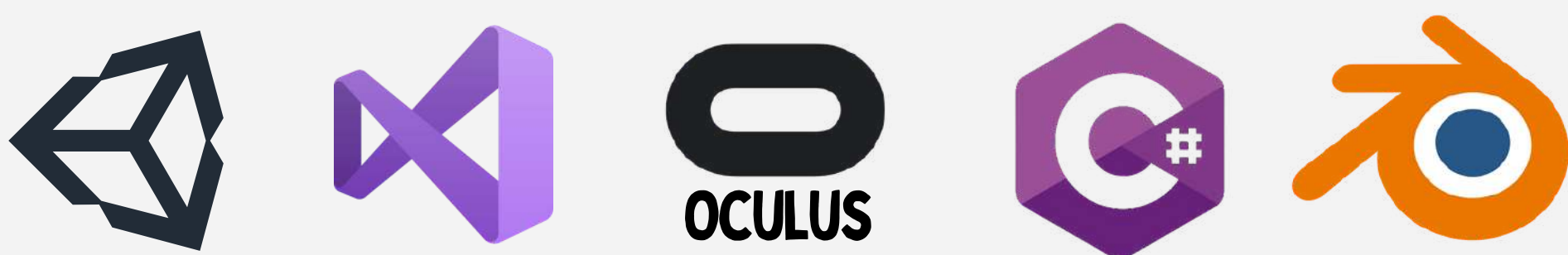
AS PRELIMINARY RESULTS :

In order to optimize the results, we have to familiarize the children on the use of the VR set. This may take quite sometimes.
In the first step, we had a group of 10 children in the training session, where we want them have the device, use it, play with it, and enjoy using it. So, they accept it during the experiment.
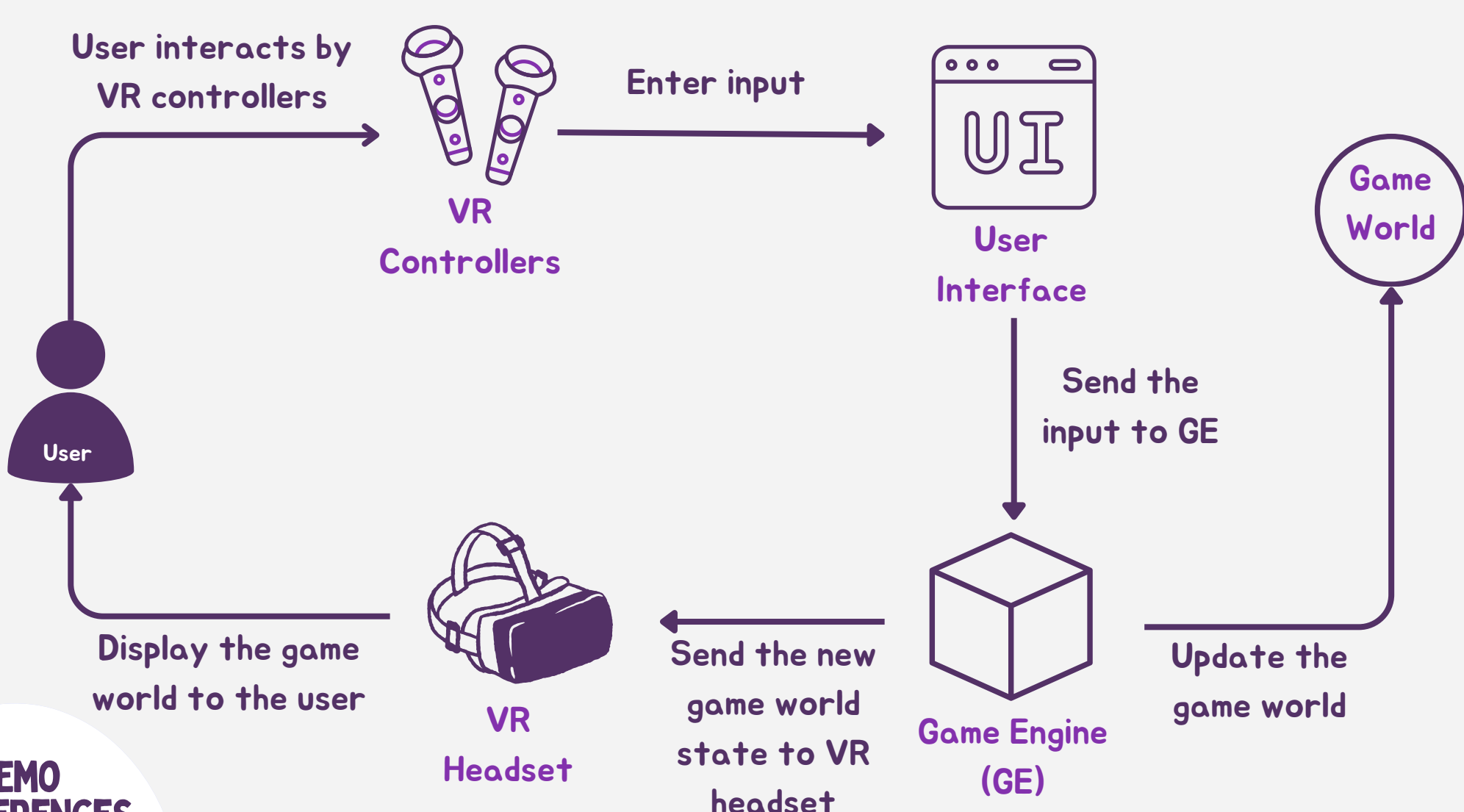
FUTURE WORK:

1. Add a new level (Park) with social skills.

2. Scale up our user target to cover more types of autism and a larger age group such as adults.

SYSTEM ARCHITECTURE

User interacts by VR controllers

Enter input

VR Controllers

User Interface

Game World

Send the input to GE

User

Display the game world to the user

VR Headset

Send the new game world state to VR headset

Game Engine (GE)

Update the game world