

Signature effects for banknotes

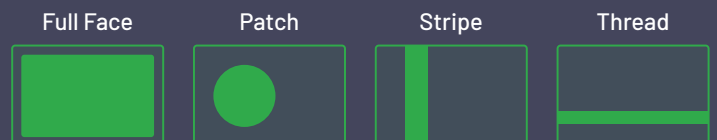
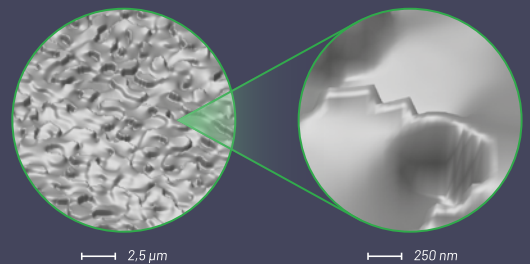
nanoDOVID®








High-security technology for identity documents

nanoDOVID® is an advanced diffractive optically variable image device (DOVID) based on nanostructures, offering the highest level of protection for IDs, banknotes, and documents against counterfeiting on a global scale.

nanoDOVID® provides multi-level authentication, including overt, covert, and forensic. It also allows for digital authentication using a smartphone.

nanoDOVID® can be applied in various formats, including full face, patch, stripe, and thread.



EFFECTS CATEGORIZATION	Category	Level	Effects	
	Higher	1	White Bas-relief	
	Deeper		Swap	
			Morph	
			Magnify	
	Keyhole			
	Hidden	2	Ghost	
Smaller	3	Nanograf		
Robotic	4	Robotic Ghost		

Banknotes signature effects description

Higher	<div data-bbox="162 181 416 219" data-label="Section-Header"> <h2>White Bas-relief</h2> </div> <div data-bbox="162 224 422 322" data-label="List-Group"> <ul style="list-style-type: none"> • 3D object as a sculpture • Rising above the plane • No haptic response (feels flat) • Achromatic (colorless) • Visible under all lighting conditions </div> <div data-bbox="451 349 488 378" data-label="Image"> </div> <div data-bbox="549 181 748 378" data-label="Image"> </div> <div data-bbox="791 181 991 378" data-label="Image"> </div> <div data-bbox="1034 181 1233 378" data-label="Image"> </div> <div data-bbox="1276 181 1476 378" data-label="Image"> </div>
Deeper	<div data-bbox="162 421 250 459" data-label="Section-Header"> <h2>Swap</h2> </div> <div data-bbox="162 463 462 616" data-label="List-Group"> <ul style="list-style-type: none"> • Moving wireframe (3D object outline) in counterintuitive movement • Tilt the banknote around the vertical axis to observe objects moving up and down, and tilt it around the horizontal axis to observe objects moving left and right • This movement, counter-intuitive for the human brain, creates a unique effect </div> <div data-bbox="451 627 488 656" data-label="Image"> </div> <div data-bbox="501 584 528 748" data-label="Text"> <p>single parallax</p> </div> <div data-bbox="549 430 748 604" data-label="Image"> </div> <div data-bbox="617 620 679 642" data-label="Caption"> <p>Left tilt</p> </div> <div data-bbox="791 430 991 604" data-label="Image"> </div> <div data-bbox="855 620 925 642" data-label="Caption"> <p>Right tilt</p> </div> <div data-bbox="1034 430 1233 604" data-label="Image"> </div> <div data-bbox="1096 620 1171 642" data-label="Caption"> <p>Down tilt</p> </div> <div data-bbox="1276 430 1476 604" data-label="Image"> </div> <div data-bbox="1351 620 1409 642" data-label="Caption"> <p>Up tilt</p> </div> <div data-bbox="162 674 263 712" data-label="Section-Header"> <h2>Morph</h2> </div> <div data-bbox="162 716 461 891" data-label="List-Group"> <ul style="list-style-type: none"> • Morphing wireframe (3D object outline) • Object animates or changes shape when the banknote is tilted vertically • Hovering under the plane • Tilt the banknote around the vertical axis to observe the 3D object • Tilt the banknote around the horizontal axis to observe the object morphing </div> <div data-bbox="451 884 488 911" data-label="Image"> </div> <div data-bbox="549 685 748 860" data-label="Image"> </div> <div data-bbox="617 875 679 898" data-label="Caption"> <p>Left tilt</p> </div> <div data-bbox="791 685 991 860" data-label="Image"> </div> <div data-bbox="855 875 925 898" data-label="Caption"> <p>Right tilt</p> </div> <div data-bbox="1034 685 1233 860" data-label="Image"> </div> <div data-bbox="1096 875 1171 898" data-label="Caption"> <p>Down tilt</p> </div> <div data-bbox="1276 685 1476 860" data-label="Image"> </div> <div data-bbox="1351 875 1409 898" data-label="Caption"> <p>Up tilt</p> </div> <div data-bbox="162 929 288 969" data-label="Section-Header"> <h2>Magnify</h2> </div> <div data-bbox="162 974 419 1108" data-label="List-Group"> <ul style="list-style-type: none"> • Magnified wireframe (3D object outline) • Letters, numbers, and shapes enlarge under the magnifying area • Hovering under the plane • Tilt the banknote in all directions to observe the magnified object </div> <div data-bbox="451 1120 488 1146" data-label="Image"> </div> <div data-bbox="549 945 748 1120" data-label="Image"> </div> <div data-bbox="791 945 991 1120" data-label="Image"> </div> <div data-bbox="1034 945 1233 1120" data-label="Image"> </div> <div data-bbox="162 1164 290 1202" data-label="Section-Header"> <h2>Keyhole</h2> </div> <div data-bbox="162 1207 410 1303" data-label="List-Group"> <ul style="list-style-type: none"> • Wireframe (3D object outline) larger than the display area • Hovering below the plane • Tilt the banknote in all directions to observe the whole object </div> <div data-bbox="451 1348 488 1375" data-label="Image"> </div> <div data-bbox="549 1180 748 1355" data-label="Image"> </div> <div data-bbox="791 1180 991 1355" data-label="Image"> </div> <div data-bbox="1034 1180 1233 1355" data-label="Image"> </div>
Hidden	<div data-bbox="162 1422 256 1458" data-label="Section-Header"> <h2>Ghost</h2> </div> <div data-bbox="162 1462 392 1520" data-label="List-Group"> <ul style="list-style-type: none"> • Objects visible under red light • 3D objects, letters, or symbols • Hovering below the plane </div> <div data-bbox="451 1590 488 1619" data-label="Image"> </div> <div data-bbox="501 1415 748 1619" data-label="Image"> </div> <div data-bbox="791 1415 991 1619" data-label="Image"> </div> <div data-bbox="1034 1415 1233 1619" data-label="Image"> </div>
Smaller	<div data-bbox="162 1668 311 1706" data-label="Section-Header"> <h2>Nanograf</h2> </div> <div data-bbox="162 1711 470 1845" data-label="List-Group"> <ul style="list-style-type: none"> • Grayscale image at the nano or micro scale • Bitmap structure with a resolution of 254,000 DPI • Visible under a magnifying lens - contains finer details only visible with a forensic microscope </div> <div data-bbox="451 1836 488 1865" data-label="Image"> </div> <div data-bbox="549 1664 748 1839" data-label="Image"> </div> <div data-bbox="606 1850 691 1874" data-label="Caption"> <p>100 μm</p> </div> <div data-bbox="791 1664 991 1839" data-label="Image"> </div> <div data-bbox="845 1850 935 1874" data-label="Caption"> <p>50 μm</p> </div> <div data-bbox="1034 1664 1233 1839" data-label="Image"> </div> <div data-bbox="1088 1850 1176 1874" data-label="Caption"> <p>100 μm</p> </div> <div data-bbox="1276 1664 1476 1839" data-label="Image"> </div> <div data-bbox="1331 1850 1425 1874" data-label="Caption"> <p>20 μm</p> </div>
Robotic	<div data-bbox="162 1915 384 1953" data-label="Section-Header"> <h2>Robotic Ghost</h2> </div> <div data-bbox="162 1957 430 2033" data-label="List-Group"> <ul style="list-style-type: none"> • Machine-readable effect • Recognition of hidden 3D object • Authenticated by smartphone using the IQ Check application </div> <div data-bbox="451 2089 488 2119" data-label="Image"> </div> <div data-bbox="501 1908 748 2119" data-label="Image"> </div> <div data-bbox="791 1908 991 2119" data-label="Image"> </div>